

Primary care evidence in clinical guidelines:

a mixed methods study of practitioners' views

Abstract

Background

Clinical practice guidelines are widely used in primary care, yet are not always based on applicable research.

Aim

To explore primary care practitioners' views on the applicability to primary care patients of evidence underpinning National Institute for Health and Care Excellence (NICE) guideline recommendations.

Design and setting

Delphi survey and focus groups in primary care, England, UK.

Method

Delphi survey of the perceived applicability of 14 guideline recommendations rated before and after a description of their evidence base, followed by two focus groups.

Results

GPs significantly reduced scores for their perceived likelihood of pursuing recommendations after finding these were based on studies with low applicability to primary care, but maintained their scores for recommendations based on highly applicable research. GPs reported they were more likely to use guidelines where evidence was applicable to primary care, and less likely if the evidence base came from a secondary care population. Practitioners in the focus groups accepted that guideline developers would use the most relevant evidence available, but wanted clearer signposting of those recommendations particularly relevant for primary care patients. Their main need was for brief, clear, and accessible guidelines.

Conclusion

Guidelines should specify the extent to which the research evidence underpinning each recommendation is applicable to primary care. The relevance of guideline recommendations to primary care populations could be more explicitly considered at all three stages of guideline development: scoping and evidence synthesis, recommendation development, and publication. The relevant evidence base needs to be presented clearly and concisely, and in an easy to identify way.

Keywords

Delphi survey; evidence base; focus groups; guidelines; National Institute for Health and Care Excellence; primary care.

INTRODUCTION

Clinical practice guidelines are recommendations intended to improve the quality of patient care and should be based on a systematic review of the current relevant available evidence and an assessment of the benefits and harms of alternative care options.¹ Guidelines are seen as one of the key foundations for quality improvement in England and internationally,² but their impact on clinical practice has been variable.^{3,4}

GPs do not always follow guidelines,⁵⁻⁸ attributing their decisions to concerns about relevance and feasibility, and that strict exclusion criteria in clinical trials may reduce generalisability to the broader primary care patient population.⁹⁻¹² Some guidelines have been found to have limited applicability to general practice settings.^{10,11,13,14} Other identified barriers to guidelines adherence by primary care practitioners include lack of awareness, unfamiliarity, and disagreement with recommendations,¹³⁻¹⁶ and concern that the increasing use of guidelines as performance measures can distort patient-centred clinical practice.¹⁷ GPs were more likely to follow evidence-based guideline recommendations than those not based on research evidence, and wanted more transparency about the research base.^{9,15,18} However, barriers and consequent efforts to improve uptake of guidelines may be

different in different settings.¹⁹

The National Institute for Health and Care Excellence (NICE) is the chief national source of clinical guidance for England and Wales.²⁰ NICE makes considerable efforts to assist primary care practitioners to use relevant evidence for their patients, including web-based guidance for general practice and primary care professionals about keeping abreast of new NICE guidelines, and monthly summaries of guidelines that are particularly relevant for primary care. NICE provides different versions of its guidelines, with the full, detailed guideline being clearly differentiated from briefer versions for clinicians, the public, and commissioners. More recently, NICE has been responsible for managing the Quality and Outcomes Framework (QOF), a pay-for-performance scheme for British general practice, which takes clinical guidelines as the starting point for the development of clinical indicators.²¹

The authors have previously reported that NICE guideline recommendations for primary care were not always based on research conducted on, or generalisable to, primary care populations.^{22,23} This study aimed to find out whether that mattered to primary care practitioners. This study therefore aimed to explore primary care practitioners' views of the applicability of primary care evidence in NICE guidelines.

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How this fits in

Clinical practice guidelines are intended to improve the quality of patient care, but GPs do not always follow guidelines. The evidence base for most guidelines is derived from research conducted on secondary care populations in secondary care settings. This study shows that GPs regard the setting of evidence for guidelines as relevant to their use, and are more likely to use guideline recommendations where the evidence is applicable to their population. Clearer description of the applicability of research to primary care patients in a brief, accessible guideline format may result in improved implementation in primary care, and help to maintain the currently high levels of trust in National Institute for Health and Care Excellence guidance.

METHOD

There were two main stages: a two-round online Delphi survey of GPs to test the impact of additional information on practitioners' views,²⁴ followed by two focus groups, one with GPs and the other with nurses, to explore the findings from the Delphi survey in more detail.

Recruitment

For the online Delphi survey, the aim was to recruit 30 GPs nationally through adverts placed in the Society for Academic Primary Care and Royal College of General Practitioners newsletters, and regionally through the Primary Care Research Network in the East of England. This population was targeted for their likely interest and expertise in the study topic.

For the two focus groups the aim was to recruit eight to 10 participants for each focus group, excluding those who had already responded to the Delphi survey. A total of 115 practices in Norfolk and Waveney were invited by the Primary Care Research Network. Participants were purposively sampled for their professional background and expertise,^{25,26} and all consenting responders (totalling 48 — 28 for Delphi and 20 for focus groups) were used in the study.

Online Delphi survey

Delphi techniques allow experts to express individual views on complex material in a structured and systematic way, and test the extent of change of view (or not) as a consequence of additional feedback; this can be used to develop consensus but can also be used to test the stability and range

of expert views.²⁷ The survey was piloted on a small group of GPs. Two rounds of the final survey were administered online using SurveyMonkey (www.surveymonkey.com) between November 2012 and January 2013. The survey (available from the authors on request) included demographic questions including involvement with guidelines and then two main sections, first about the applicability of primary care evidence, and then about attributes that might affect guideline use.

All recommendations used in the survey had been previously assessed as clinically relevant to primary care by at least two GP reviewers, as described elsewhere.²³ First, participants were presented with the full text of 14 primary care-relevant recommendations taken from various NICE guidelines, and asked to rate each recommendation on a scale of 1 to 9 for applicability to their primary care patients, with 1 being not likely to use with their patients, and 9 being highly likely to use. An electronic link to each full NICE guideline was given for reference. After participants had rated each recommendation, they were given a brief summary of the applicability to primary care of the supporting evidence, and were then asked to rate the recommendation again.

The recommendations were purposively selected to include a range of high, medium, and low applicability of the evidence base to primary care patients. The applicability of evidence for each recommendation was rated as low if evidence for the recommendation was supported by no studies conducted on primary care or community populations, medium if supported by up to half of the studies, and high if the majority of the studies cited as evidence had their participants selected from primary care or the community, as described elsewhere.²³ Recommendations were presented in the survey in a random order.

In the second component of the Delphi, participants were asked to rate on a scale of 1 to 5 (with 1 being 'strongly disagree that this attribute is most likely to encourage use of clinical guideline' and 5 being 'strongly agree') a list of 16 attributes affecting guideline use, collated from the literature and arranged under four categories: guideline topic, guideline characteristics, accessibility of the guideline, and the evidence on which the recommendations are based. The participants were also asked to provide free-text comments, which were analysed thematically.

After the first round, each participant

was sent the mean scores, as well as their own scores, and then asked to re-rate both the recommendations and the attributes in a second round. The difference in mean scores before and after reading the evidence summary was tested using a paired *t*-test, after tests for normality, in Stata (version 12).

Focus groups

Results from the Delphi panel were used to develop a focus group topic guide (Appendix 1). Guideline attributes identified as important for the implementation and applicability of primary care recommendations, including the importance of primary care research, were explored with two focus groups: one with GPs and the other with primary care nurses. The focus groups were held separately to allow free expression of views, particularly from practice nurses who are usually employees of GPs, but the data from both groups were analysed together.

The focus groups were conducted during January 2013 and February 2013, and were facilitated by an independent researcher to ensure impartiality, assisted by a member of the research team. They were taped and transcribed, and then analysed thematically using NVivo software (version 10) by two of the researchers using the framework approach.^{28,29}

RESULTS

Online Delphi survey

Twenty-eight GPs agreed to take part in the Delphi panel, of whom 10 were recruited through national and 18 through regional approaches. Of these GPs, 25 out of 28 (89%) completed the first round and 21 out of 25 (84%) completed the second round. The participants represented a broad range of experience in general practice, with most being service GPs (80%, *n* = 20), with no experience of guideline development (88%, *n* = 22) (Table 1).

Recommendation ratings for applicability to primary care patients

Mean ratings for the recommendations' applicability to primary care patients were lower after presentation of evidence for those recommendations where the summary disclosed that fewer than half of the studies were applicable to primary care populations. Mean ratings remained the same or increased for recommendations where most cited publications were applicable to primary care populations (Table 2). While most responders altered their ratings modestly (raising or lowering

by 1 or 2 points) after reading the evidence summary, few responders did not change their initial ratings. Ratings did not change substantially in the second round and are not given here.

Participants' free-text comments included that the wording of some recommendations was complex or not clearly defined, and that a GP 'user' perspective should be included at all stages of guideline development. Some were concerned about the UK applicability of the studies, and not just primary care applicability. Many responders considered that having some evidence is better than having no evidence, and others commented on the importance of clinical experience when implementing guidelines:

'Overall it appears that I am less critical [than other responders to the Delphi] of guidelines that do not originate specifically from primary care — but my reasons for this are "laissez-faire" rather than believing other sources are more important. Overall, I considered whether the guideline was in keeping with what, for other reasons, I believe to be good practice, and/or whether it complies with the old adage "first, do no harm". Most of the recommendations considered met these criteria (for example, prescription of thiamine): if the guidelines were suggesting radical change to practice or invasive treatments I would be much less likely to give them credence without rigorous evidence.' (GP, Delphi)

Attributes affecting guideline use

GPs rated nearly all 16 factors as likely to encourage guideline use, including 'Study outcomes used are relevant and important to primary care population' (Table 3). The notable exception was 'Evidence underpinning recommendation comes from secondary care population', which was the only attribute with a mean score of less than 3 out of 5. Attributes relating to guideline accessibility, such as clarity, brevity, and accessible format, scored highly. Scores did not change in the second round.

Focus groups

Ten GPs and 10 primary care practice nurses agreed to take part, and six GPs (three male and three female) and 10 nurses (all female), all from different practices, attended. Four themes were identified: guideline use, evidence base, barriers to use, and pay for performance.

Overall, NICE guidelines were viewed favourably as a major source of practice guidance. Participants commented on the

Table 1. Characteristics of participants undertaking the Delphi survey

Characteristic	<i>n</i> (%)
Sex	
Male	12 (4)
Female	12 (48)
Prefer not to say	1 (4)
Years as a GP	
<5	5 (20)
5–15	5 (20)
15–25	8 (32)
25–35	7 (28)
Primary role	
Service GP	20 (80)
Academic GP	1 (4)
Other	4 (16)
Practice host research	
Yes	18 (72)
No	6 (24)
Don't know	1 (4)
Postgraduate degree	
Yes	5 (20)
No	20 (80)
Guideline development involvement	
Yes	3 (12)
No	22 (88)

Table 2. Delphi ratings for the recommendations' applicability to primary care patients, before and after reading a summary of relevance of the evidence base to primary care patients

NICE guideline and recommendation number	PC relevant/total studies (n)	Mean rating before evidence (range) ^a	Mean rating after evidence (range) ^a	Difference after seeing evidence, range (95% CI)
Low PC relevance of studies^c				
CG100/R17 (Alcohol & thiamine)	0/2	7.2 (4–9)	5.6 (2–9)	-1.6 ^b [1.14 to 2.22]
CG101/U4 (Long acting muscarinic antagonist in COPD)	0/1	7.7 (5–9)	6.0 (2–9)	-1.7 ^b [1.00 to 2.44]
CG101/U1 (Post bronchodilator spirometry in COPD)	0/2	7.5 (5–9)	6.0 (2–9)	-1.5 ^b [0.86 to 2.18]
CG108/R27 (Offer ACE inhibitors and β blockers for heart failure)	0/7	7.8 (3–9)	6.9 (1–9)	-0.9 ^b [0.35 to 1.49]
CG116/R11 (Trial elimination of the suspected food allergen)	0/10	6.2 (3–9)	4.6 (2–9)	-1.6 ^b [1.08 to 2.17]
CG122/R1.1.2.1 (Serum CA125 in PC in ovarian cancer)	0/6	7.9 (5–9)	5.8 (2–9)	-2.1 ^b [1.34 to 2.90]
Medium PC relevance of studies^d				
CG127/R15 (Ambulatory BP to confirm hypertension)	20/50	7.5 (2–9)	6.5 (2–9)	-1.0 ^b [0.24 to 1.76]
CG127/R16 (Home BP to confirm hypertension)	3/8	7.4 (4–9)	6.4 (2–9)	-1.0 ^b [0.56 to 1.52]
CG122/R1.1.1.2 (Test women with persistent symptoms for ovarian cancer)	9/16	7.7 (5–9)	7.1 (3–9)	+0.6 ^b [0.05 to 1.23]
CG123/R1.3.1.1 (Ask people who may have depression 2 questions)	11/20	6.6 (1–9)	6.6 (1–9)	0 [-0.38 to 0.46]
High PC relevance of studies^e				
CG108/R3 (Measure serum natriuretic peptides in heart failure)	2/3	8.2 (6–9)	8.3 (6–9)	+0.1 [-0.27 to 0.27]
CG95/R1.2.1.3 (Acute coronary syndrome)	3/4	7.8 (5–9)	7.8 (4–9)	0 [-0.18 to 0.26]
CG102/R1.2.2 (Children and meningitis without rash and antibiotics)	4/5	7.1 (2–9)	7.4 (2–9)	+0.3 [-1.02 to 0.54]
CG101/U2 (Consider alternative diagnosis if FEV1/FVC is <0.7)	4/4	7.2 (4–9)	7.6 (3–9)	+0.4 [-1.1 to 0.28]

^aScores were on a scale from 1–9, where 1 = completely irrelevant recommendation, not likely to implement; 9 = trusted recommendation, likely to use, highly relevant to patients. ^bStatistically significant using paired t-test. ^cNone of the studies cited as evidence for the recommendation had population selected from PC or the community.

^dUp to half of the studies cited as evidence had their participants selected from PC or the community. ^eMajority of the studies cited as evidence had their participants selected from PC or the community. ACE = angiotensin-converting-enzyme. BP = blood pressure. COPD = chronic obstructive pulmonary disease. FEV = forced expiratory volume. FVC = forced vital capacity. PC = primary care.

large numbers of guidelines, their need for concise summaries, the advantages of user-friendly web-based versions, and the need to identify relevant guidelines quickly when uncertainty drove usage. The groups felt they had to trust the process of derivation and the comprehensive uploading of relevant guidelines, as they had little time to check either background or the availability of guidance. There was considerable evidence of individuals and practice teams trying to be systematic about updating local protocols and templates in line with new guidance, but with concern about the time and feasibility of this given the pressures of work and numbers of guidelines. Streamlining of local protocols across the team, between practices, and with secondary care, and the requirement to meet multiple guidelines as well as QOF indicators all presented additional challenges.

Guideline use. Primary care practitioners in general, and nurses in particular, were positive about guidelines and used them where there was clinical uncertainty, often in short formats:

'When you want to find something out or you're unsure of something, you might go in retrospect and then look at the guidelines and see what you perhaps should have

done but to learn from the guideline.' (GP)

'I actually no longer read what NICE has got to say about it, I go to one of those ... digest websites which condenses it into one screen and I can read it off of there and if I detect anything that I would do differently, then I go back and I will expose myself to the whole guideline which is otherwise too hard work to read.' (GP)

'... just use the quick reference. And we get e-mail alerts with the new guidance that's come out or been updated and we usually see if there's anything relevant ... if there's anything I need to use, I go and have a look at it then.' (Nurse)

Evidence base. Primary care practitioners rarely looked at the evidence behind the recommendations unless the recommendation seemed very different from their normal practice:

'So where there is evidence, I'm sure they do a fab job and I don't need to read the evidence myself to believe them.' (GP)

'I've looked once at the ... behind the guidance, I think it was for cardiovascular risk screening and I have to say I really wouldn't look forward to doing it again

Table 3. Scores for attributes affecting guideline use

	Mean rating (range)
Factors related to the guideline topic:	
Primary care setting indicated in guideline title	4.2 (2–5)
Priority in a primary care setting	4.3 (2–5)
Focus of guideline recommendations on clinical presentation and diagnosis	3.8 (2–5)
Perceived need for change in clinical practice in a certain area	4.2 (3–5)
Factors related to guideline characteristics:	
Produced by a reputable body or authority	4.5 (3–5)
GPs involved in development of guideline	4.4 (3–5)
An organisation of which I am a member was involved in the guideline production	3.5 (2–5)
Guidance consistent with other available sources or my previous practice	3.9 (2–5)
Factors related to the accessibility of the guideline:	
Easy to access or in a format I recognise so I can find key information quickly	4.7 (4–5)
Recommendations are written in a clear, logical, and well-organised manner	4.7 (4–5)
Executive summary or clear algorithm showing clinical recommendations	4.6 (4–5)
Not too long	4.4 (3–5)
Factors related to the evidence on which the recommendations are based:	
Study outcomes used are relevant and important to primary care population	4.5 (2–5)
Evidence underpinning recommendation comes from secondary care population	2.8 (1–5)
Link from evidence to recommendation is clear, logical and easy to find	4.0 (2–5)
Applicability to primary care population, for example severity of disease and comorbidity, is taken into consideration and discussed	4.5 (2–5)

because there were 382 pages to trawl through and it pulled every aspect of each screening tool to bits. (GP)

'Well you might do, that's a point ... if it was something completely different, you might just want to look at the evidence base I think. If it was quite a different way of treating somebody I think I would have a look at the evidence base then.' (Nurse)

Few had detailed understanding of guidelines formulation with regard to wording and how it's used to reflect strength of evidence:

'I think as time goes on and more research is done in primary care that that evidence needs to contribute towards the guidelines so it's not just secondary care.' (Nurse)

'I've been happy to rely on the NICE guidelines for the evidence that they've reviewed. And I'm sure they did a great job of reviewing that with the best-available methods to rate evidence but what you can't see is the gap, which bit is the bit that they just picked out of thin air because they have to cover that area because there is no evidence? And if there is no evidence, then they can say whatever they think is necessary, which is no better than what I can say on the subject.' (GP)

Participants were aware of the need to

interpret research findings for primary care and were pragmatic about this, and hopeful that future guidelines would have more primary care evidence and greater clarity about inevitable gaps in evidence. There was support for clearer labelling of primary care-based evidence:

'Certainly where you're using NICE guidance, it would be nice to know that they've been done with the thought of general practice in mind.' (GP)

Some participants argued that good evidence from secondary care could not be realistically implemented in a primary care population:

'... think if you're doing it, again depending on the subject area, if you did look at all the evidence you'd not find much ... it's so skewed towards what's being done in secondary and tertiary centres and not again what's happening in the real world with GP patients and what's ... like say the number of patients that are not taking their [drug name], I mean how many people have probably done little audits on that? But there's probably not a research paper out there that NICE would be able to get their hands on to say "Well look, the evidence there" but people don't take ... if they haven't got the evidence, they can't do ...' (GP)

'I was the only GP on that guideline. And the problem that we'd got, we had with the guideline, was that NICE were brilliant at looking at all of the evidence but a lot of the evidence was from America, a lot of the evidence was from various European countries. There was very, very little research from the UK and even less of any research from primary care populations. So there was no evidence to base a primary care guideline on. So we had to go with what was available and had to keep adapting. But you were only there as the one GP trying to bring it back to the real world, well actually you know, what's realistic and what sounds realistic and what they think is an ideal and what is actually realistic is very different.' (GP)

Barriers to use. Participants saw the number of guidelines, time available, and limits of evidence as constraints on their practical use and appraisal of guidelines. They highlighted that guidelines mostly addressed the management of specific conditions post-diagnosis, while primary care practitioners predominantly deal with comorbidities and symptoms pre-

diagnosis. They wanted guidelines to be short and clear:

'I think there's just too many for us to follow any more than just 1% if you like.' (GP)

'So you wouldn't ever go to the guideline unless you'd had that diagnosis in your head.' (GP)

'I think the problem is if you've got somebody who's got several comorbidities and you're trying to do one but it doesn't sit well with another one maybe.' (Nurse)

'And also keeping it to sort of one sheet of A4 format or a flow chart, a flow chart with a patient pathway.' (GP)

'I don't think it's dealt with by NICE particularly. I don't think it's dealt with by NICE, comorbidity.' (Nurse)

Pay for performance. The UK's national primary care pay-for-performance scheme or QOF was identified as a key driver for compliance with guideline recommendations, although some concerns were expressed about the impacts of this on professional practice and the associated opportunity cost. Limited resources may impede on primary care practitioners' ability to explore aspects of clinical care beyond QOF-incentivised practice, and this could be a hindrance to implementation of non-QOF guidelines:

'With the diabetes you know, the NICE recommendations on ACE inhibitors and statins and things like this, GPs have tended to go to do because they have their QOF box to tick that they've done these things.' (GP)

'I think to be fair, a lot of it's targeted towards QOF when you're writing a template.' (Nurse)

DISCUSSION

Summary

Delphi survey participants considered that recommendations based on evidence from primary care populations were more applicable to their patients than those with no or little primary care evidence. Focus groups wanted clearer signposting of how applicable guideline evidence was for primary care, and expected significant involvement of primary care practitioners in scoping and developing guidelines. Primary care practitioners were constructively critical of the lack of evidence and lack of explicit declaration of this, and took a

pragmatic view of implementing guidance. Brevity, clarity, and accessibility were important guideline attributes.

Strengths and limitations

This study is the first systematic interrogation of primary care practitioners' views on the applicability of primary care evidence in NICE guidelines for primary care. The study demonstrates that there are ways in which primary care practitioners perceive that these guidelines could be made more relevant and thus have more impact on clinical practice. The participants were likely to be interested in guideline work or they would not have volunteered to take part in the study, and so the results of this study are likely to represent a relatively well-informed and 'guideline positive' set of responders.

Comparison with existing literature

This study's findings about attributes that influence the use of guidelines in primary care concur with previous research, which highlighted clarity and clinical applicability of a guideline as important.^{9,18,30,31} NICE recommends exploring and assessing the applicability to primary care patients under the 'indirectness domain' of the modified GRADE criteria, 'assessing the degree of differences between the population, intervention, comparator for the intervention and outcome of interest'.³² This exploration of generalisability to the target population is also described in the AGREE II tool criteria,³³ which national clinical guideline developers are expected to use, and NICE's *The guidelines manual*.³⁴ Despite these intentions and efforts to make guideline evidence applicable to primary care, this study has shown that primary care practitioners would like clearer descriptions of the applicability of evidence to primary care patients.

Other countries have used different approaches to developing guidelines for primary care, some of which may have potential benefit internationally. The *New Zealand primary care handbook* compiles relevant recommendations from several guidelines,³⁵ producing a type of 'umbrella guideline' that has been recommended to NICE by the World Health Organization review programme.³⁶ The Dutch College of General Practitioners also produces national clinical guidelines that are dedicated to primary care.³⁷ These models have potential to improve the accessibility of relevant guidance for primary care.

Implications for research and practice

The authors suggest that primary care

relevance should be more explicitly considered at all three main stages of guideline development: scope and evidence synthesis, recommendation development, and publication. This builds on the guidance NICE issues to its guideline developers as part of their quality assurance process.³⁴ At the stage of scoping the content of the guideline and evidence synthesis, primary care relevance should be considered from the outset of the initial scoping exercise and be clearly reported to the guideline development group. Ideally, there would be input from primary care professionals with relevant content expertise and contextual understanding to interpret the existing evidence and its applicability to their patients. If the scope identified that the guideline had primary care relevance, then the initial review questions for the evidence search and the early findings should be specifically considered for applicability to primary care, with primary care routinely considered as a sub-group in the search. When an initial review question is relevant to primary care, the relevant population should be defined by primary care setting, severity of illness, or risk group in the search strategy and data extraction, and findings reported if evidence is not located.

At the stage of recommendation development, any limitations or lack of evidence in relevant populations (for example, defined by primary care setting, severity of illness, or risk group) should be specified in the summary of evidence tables. The 'evidence to recommendations' statement should be specific about where primary care research has or has not been reported, and recommendations where applicable primary care evidence

was lacking should be clearly labelled. Recommendations should be concise, with a clear pathway back from recommendations to research evidence, to allow users to 'drill down' into the detail more easily.

In the final published guideline, the target population should be clearly stated (for example, defined by primary care setting, severity of illness, or risk group), and the relevance to that population of all recommendations and intended users clearly described. The published guideline should show which recommendations are supported by consensus, and which by research. It should specify the extent to which the research is applicable to specific populations including primary care, openly acknowledging uncertainty where present in the guideline development group or the available evidence. All guidelines should be peer reviewed with respect to the clarity with which the relevance of recommendations to primary care is described. The authors acknowledge that primary care evidence is often limited and that evidence from other settings should then be used but, if this is the case, this should be highlighted as a research recommendation in the final guideline.

Primary care practitioners have a high level of trust for NICE guidelines, but were less likely to trust and want to use those recommendations with low applicability of evidence to primary care. Clearer description of the applicability of research to primary care patients, ideally within a brief, accessible guideline format, may result in improved guideline implementation in primary care, and help to maintain the currently high levels of trust in NICE guidance.

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Ethical approval

The study was approved by Cambridge Central Research Ethics Committee (Ref 11-EE-0213).

Provenance

Freely submitted; externally peer reviewed.

Competing interests

The authors have declared no competing interests.

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REFERENCES

1. Graham R, Mancher M, Wolman DM, *et al.* *Clinical practice guidelines we can trust*. Washington, DC: The National Academies Press, 2011.
2. Department of Health. *Equity and excellence: liberating the NHS*. London: DoH, 2010.
3. Grimshaw JM, Thomas RE, MacLennan G, *et al.* Effectiveness and efficiency of guideline dissemination and implementation strategies. *Health Technol Assess* 2004; **8(6)**: iii-iv, 1-72.
4. Carlsen B, Glenton C, Pope C. Thou shalt versus thou shalt not: a meta-synthesis of GPs' attitudes to clinical practice guidelines. *Br J Gen Pract* 2007; **57(545)**: 971-978.
5. Bray A, Griffiths C, Pickard R, *et al.* Do primary care practitioners comply with NICE guidelines? *BJU Int* 2013; **111(53)**: P103.
6. Ekesbo R, Midlöv P, Gerward S, *et al.* Lack of adherence to hypertension treatment guidelines among GPs in southern Sweden: a case report-based survey. *BMC Fam Pract* 2012; **13**: 34.
7. Gyani A, Shafran R, Rose S. Are the NICE guidelines for obsessive compulsive disorder being used in primary care? *Prim Health Care Res Dev* 2012; **13(1)**: 92-97.
8. Perianayagam GR, Newey M, Sell P. NICE guidelines in the management of non-specific back pain in primary care: are they being used? *Bone Joint J* 2013; **95-B Suppl 1**: 184.
9. Carlsen B, Norheim OF. 'What lies beneath it all?': an interview study of GPs' attitudes to the use of guidelines. *BMC Health Serv Res* 2008; **8**: 218.
10. Hegarty K, Gunn J, Blashki G, *et al.* How could depression guidelines be made more relevant and applicable to primary care? A quantitative and qualitative review of national guidelines. *Br J Gen Pract* 2009; DOI: 10.3399/bjgp09X420581.
11. Mant J, McManus RJ, Hare R. Applicability to primary care of national clinical guidelines on blood pressure lowering for people with stroke: cross sectional study. *BMJ* 2006; **332(7542)**: 635-637.
12. Cranney M, Warren E, Barton S, *et al.* Why do GPs not implement evidence-based guidelines? A descriptive study. *Fam Pract* 2001; **18(4)**: 359-363.
13. Gunther S, Guo F, Sinfield P, *et al.* Barriers and enablers to managing obesity in general practice: a practical approach for use in implementation activities. *Qual Prim Care* 2012; **20(2)**: 93-103.
14. Salinas GD, Williamson JC, Kalhan R, *et al.* Barriers to adherence to chronic obstructive pulmonary disease guidelines by primary care physicians. *Int J Chron Obstruct Pulmon Dis* 2011; **6**: 171-179.
15. Abrahamson KA, Fox RL, Doebbeling BN. Facilitators and barriers to clinical practice guideline use among nurses. *Am J Nurs* 2012; **112(7)**: 26-35.
16. Addington D, Kyle T, Desai S, Wang J. Facilitators and barriers to implementing quality measurement in primary mental health care: systematic review. *Can Fam Physician* 2010; **56(12)**: 1322-1331.
17. Maisey S, Steel N, Marsh R, *et al.* Effects of payment for performance in primary care: qualitative interview study. *J Health Serv Res Policy* 2008; **13(3)**: 133-139.
18. Grol R, Dalhuijsen J, Thomas S, *et al.* Attributes of clinical guidelines that influence use of guidelines in general practice: observational study. *BMJ* 1998; **317(7162)**: 858-861.
19. Cabana MD, Rand CS, Powe NR, *et al.* Why don't physicians follow clinical practice guidelines? A framework for improvement. *JAMA* 1999; **282(15)**: 1458-1465.
20. National Institute for Health and Care Excellence. *What we do*. http://www.nice.org.uk/aboutnice/whatwedo/what_we_do.jsp [accessed 11 Sep 2014].
21. Sutcliffe D, Lester H, Hutton J, Stokes T. NICE and the Quality and Outcomes Framework (QOF) 2009-2011. *Qual Prim Care* 2012; **20(1)**: 47-55.
22. Scullard P, Abdelhamid A, Steel N, Qureshi N. Does the evidence referenced in NICE guidelines reflect a primary care population? *Br J Gen Pract* 2011; DOI: 10.3399/bjgp11X561177.
23. Steel N, Abdelhamid A, Stokes T, *et al.* A review of clinical practice guidelines found that they were based on evidence of uncertain relevance to primary care patients. *J Clin Epidemiol* 2014; **Sep 5**. pii: S0895-4356(14)00329-1. doi: 10.1016/j.jclinepi.2014.05.020. [Epub ahead of print].
24. Denzin NK, Lincoln YS, eds. *The discipline and practice of qualitative research*. In: *The SAGE handbook of qualitative research*. 4th edn. Thousand Oaks, CA: Sage, 2011. 1-20.
25. Patton MQ. *Qualitative evaluation and research methods*. 3rd edn. Thousand Oaks, CA: Sage Publications, 2002.
26. Coyne IT. Sampling in qualitative research. Purposeful and theoretical sampling; merging or clear boundaries? *J Adv Nurs* 1997; **26(3)**: 623-630.
27. Landeta J. Current validity of the Delphi method in social sciences. *Technol Forecast Soc Change* 2006; **73(5)**: 467-482.
28. Ritchie J, Spencer L, O'Connor W. Carrying out qualitative analysis. In: Ritchie J, Lewis J, eds. *Qualitative research practice. A guide for social science students and researchers*. London: Sage Publications, 2014: 295-346.
29. Gale NK, Heath G, Cameron E, *et al.* Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Med Res Methodol* 2013; **13**: 117. DOI: 10.1186/1471-2288-13-117.
30. Grol R. Development of guidelines for general practice care. *Br J Gen Pract* 1993; **43(369)**: 146-151.
31. Shekelle PG, Kravitz RL, Beart J, *et al.* Are nonspecific practice guidelines potentially harmful? A randomized comparison of the effect of nonspecific versus specific guidelines on physician decision making. *Health Serv Res* 2000; **34(7)**: 1429-1448.
32. Guyatt GH, Oxman AD, Kunz R, *et al.* GRADE guidelines: 8. Rating the quality of evidence — indirectness. *J Clin Epidemiol* 2011; **64(12)**: 1303-1310.
33. Brouwers MC, Kho ME, Browman GP, *et al.* AGREE II: advancing guideline development, reporting and evaluation in health care. *CMAJ* 2010; **182(18)**: E839-E842.
34. National Institute for Health and Care Excellence. *The guidelines manual*. London: NICE, 2012. <http://www.nice.org.uk/article/PMG6/> [accessed 11 Sep 2014].
35. New Zealand Guidelines Group. *New Zealand primary care handbook*. 3rd edn. Wellington: New Zealand Guidelines Group, 2012. <http://www.health.govt.nz/publication/new-zealand-primary-care-handbook-2012> [accessed 11 Sep 2014].
36. de Joncheere K, Hill S, Klazinga N, *et al.* *The clinical guideline programme of the National Institute for Health and Clinical Excellence (NICE). A review by the World Health Organization*. Geneva: WHO, 2006.
37. The Dutch College of General Practitioners. *Summary cards*. <https://guidelines.nhg.org/summary-cards> [accessed 6 Oct 2014].

Appendix 1. NICE guidelines — focus group topic guide

Welcome and introduction of researchers

Purpose of focus group

Telling participants the general purpose of the focus group and the time estimated will be 1 hour.
Reminding participants that their answers will be used for research, will remain confidential, and that their names will remain anonymous.
Get them to sign consent form.

Starting (warm up) questions

Do you ever read a guideline? Do you use guidelines? How many times do you think you referred to guidelines in the last month?
What do you think of NICE guidelines?
Can you think of any recent examples where you referred to NICE to guidelines for consultation? And how did you find that?

Main discussion topic

What is your first reaction when you receive a new NICE guideline?
How do you identify recommendations that are relevant to you?
What do you consider when you decide to adopt or use a certain guideline or recommendation? (Prompts here will be the list of factors identified from the literature and rated by the Delphi panel: characteristics, accessibility, evidence base).
How do you access guidelines and which version do you read (if you do)? Do you ever check the GP representation on the development group? Do you ever read the evidence to recommendation section?
If the evidence for a recommendation for use in primary care comes from studies done on secondary care, does this change your mind?
Going back to the earlier examples of good or bad recommendations encountered recently, why do you think these particular recommendations were good/bad?
If you were to change something about current guidelines, what would you change?
What would make NICE guidelines more usable in general practice?