Practitioners’ views on primary care evidence in clinical guidelines: mixed methods study

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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: Delphi survey and focus groups.

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: General practitioners (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 easy to identify way.

How this fits in:

Clinical practice guidelines are intended to improve the quality of patient care, but general practitioners 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 NICE guidance.
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 generalizability 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 centered clinical practice (17). General practitioners were more likely to follow evidence based guideline recommendations rather 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 which are particularly relevant for primary care. NICE provides different versions of their 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).

We 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), and in this study we aimed to find out whether that mattered to primary care practitioners. We therefore aimed to explore primary care practitioners’ views of the applicability of primary care evidence in NICE guidelines.

Methods

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

Recruitment

For the online Delphi we aimed to recruit 30 GPs nationally through adverts placed in the Society for Academic Primary Care (SAPC) and Royal College of General Practitioners (RCGP) 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 we aimed to recruit 8-10 participants for each focus group, and excluded those who had already responded to the Delphi. A total of 115 practices in Norfolk and Waveney were invited by the Primary Care Research Network (PCRN). Participants were purposively sampled
for their professional background and expertise (25, 26), and then all consenting respondents were utilised 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 general practitioners. Two rounds of the final survey were administered online using *SurveyMonkey* (28) between November 2012-January 2013. The survey (Appendix 1) 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 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 from NICE guidelines and asked to rate each recommendation on a scale of 1-9 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 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 (Appendix 1).

In the second component of the Delphi, participants were asked to rate on a scale of 1-5 (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. 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/SE (29).

**Focus groups**

Results from the Delphi panel were used to develop a focus group topic guide (SEE APPENDIX 2). 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 and February 2013 and were facilitated by an independent researcher to ensure impartiality, assisted by a member of the research team (AA).
They were taped and transcribed, and then analysed thematically using NVivo software (30) by two of the researchers (AA, AH) using the framework approach (31, 32).

Results

Online Delphi survey

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

Insert 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 less than half of the studies were applicable to primary care populations. Mean ratings remained the same or increased for recommendations where the majority of cited publications were applicable to primary care populations (Table 2). While the majority of respondents altered their ratings modestly (raising or lowering by 1-2 points) after reading the evidence summary, few respondents didn’t 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 respondents considered 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 respondents 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 (e.g. 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 3/5. Attributes relating to guideline accessibility such as clarity, brevity and accessible format scored highly. Scores did not change in the second round.

Insert table 2

Focus groups
Ten GPs and ten primary care practice nurses agreed to take part, and six GPs (three men and three women) and ten nurses (all women), all from different practices, attended. Four themes were identified: ‘guideline use’, ‘evidence base’, ‘barriers to use’, and ‘pay for performance’.

1. 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.

Insert quotes

2. Evidence base

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

Insert quotes

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

Insert quotes

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.

Insert quotes

Applicability of evidence

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

Insert quotes

3. 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.

Insert quotes

4. Pay for performance

The UK’s national primary care pay for performance scheme or ‘quality and outcomes framework’ (QoF) was identified as a key driver for compliance with guideline recommendations, though 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.

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

Discussion

Delphi 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 practitioner 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 upon 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 respondents.

Comparison with existing literature and implications for research and practice

Our findings about attributes that influence the use of guidelines in primary care agree with previous research, which highlighted clarity and clinical applicability of a guideline as important (9, 18, 33, 34). 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” (35). This exploration of generalisability to the target population is also described in the AGREE II tool criteria (36) which national clinical guideline developers are expected to use, and the NICE guidelines manual (37). 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 handbook for primary care compiles relevant recommendations from several guidelines (38) producing a type of “umbrella guideline” that has been recommended to NICE by the WHO review programme (39). The Dutch College of General Practitioners also produces national clinical guidelines that are dedicated to
primary care (40). These models have potential to improve the accessibility of relevant guidance for primary care.

We suggest that primary care relevance should be more explicitly considered at all three main stages of guideline development: scope & evidence synthesis, recommendation development, and publication. This builds on the guidance NICE issues its guideline developers as part of their quality assurance process (37). 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 (e.g. 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 badged. 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 (e.g. 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, and openly acknowledge 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. We acknowledge 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.

Acknowledgements

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**Ethical approval**

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

**References**


30. NVivo qualitative data analysis software. 10 ed: Version 10, QSR International Pty Ltd; 2012.


40. The Dutch College of General Practitioners. Available from: https://www.nhg.org/
Guideline use:
“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 email 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 (a): “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 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).

Evidence base (b):
“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).

Evidence base (c) “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).

Applicability of evidence:
“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 Adacal, 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
“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
“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).
Table 1: Delphi survey participants’ characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>$n$ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>12 (48%)</td>
</tr>
<tr>
<td>Female</td>
<td>12 (48%)</td>
</tr>
<tr>
<td>Prefer not to say</td>
<td>1 (4%)</td>
</tr>
<tr>
<td><strong>Years as a GP</strong></td>
<td></td>
</tr>
<tr>
<td>&lt;5 yrs</td>
<td>5 (20%)</td>
</tr>
<tr>
<td>5-15</td>
<td>5 (20%)</td>
</tr>
<tr>
<td>15-25</td>
<td>8 (32%)</td>
</tr>
<tr>
<td>25-35</td>
<td>7 (28%)</td>
</tr>
<tr>
<td><strong>Primary role</strong></td>
<td></td>
</tr>
<tr>
<td>Service GP</td>
<td>20 (80%)</td>
</tr>
<tr>
<td>Academic GP</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>Other</td>
<td>4 (16%)</td>
</tr>
<tr>
<td><strong>Practice host research</strong></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>18 (72%)</td>
</tr>
<tr>
<td>No</td>
<td>6 (24%)</td>
</tr>
<tr>
<td>Don’t know</td>
<td>1 (4%)</td>
</tr>
<tr>
<td><strong>Postgraduate degree</strong></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5 (20%)</td>
</tr>
<tr>
<td>No</td>
<td>20 (80%)</td>
</tr>
<tr>
<td><strong>Guideline development involvement</strong></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3 (12%)</td>
</tr>
<tr>
<td>No</td>
<td>22 (88%)</td>
</tr>
</tbody>
</table>
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 (PC) patients.

<table>
<thead>
<tr>
<th>NICE guideline &amp; recommendation number</th>
<th>PC relevant /total studies (n)</th>
<th>Mean rating before evidence (range)*</th>
<th>Mean rating after evidence (range)*</th>
<th>Difference after seeing evidence (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low PC relevance of studies</strong>¹</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CG100/R17(Alcohol &amp; thiamine)</td>
<td>0/2</td>
<td>7.2 (4-9)</td>
<td>5.6 (2-9)</td>
<td>-1.6**(1.14-2.22)</td>
</tr>
<tr>
<td>CG101/U4(Long acting muscarinic antagonist in COPD)</td>
<td>0/1</td>
<td>7.7 (5-9)</td>
<td>6.0 (2-9)</td>
<td>-1.7**(1-2.44)</td>
</tr>
<tr>
<td>CG101/U1(Post bronchodilator spirometry in COPD)</td>
<td>0/2</td>
<td>7.5 (5-9)</td>
<td>6.0 (2-9)</td>
<td>-1.5**(0.86-2.18)</td>
</tr>
<tr>
<td>CG108/R27(Offer ACE inhibitors &amp; β blockers for heart failure)</td>
<td>0/7</td>
<td>7.8 (3-9)</td>
<td>6.9 (1-9)</td>
<td>-0.9**(0.35-1.49)</td>
</tr>
<tr>
<td>CG116/R11(Trial elimination of the suspected food allergen)</td>
<td>0/10</td>
<td>6.2 (3-9)</td>
<td>4.6 (2-9)</td>
<td>-1.6**(1.08-2.17)</td>
</tr>
<tr>
<td>CG122/R 1.1.2.1(Serum CA125 in PC in ovarian cancer)</td>
<td>0/6</td>
<td>7.9 (5-9)</td>
<td>5.8 (2-9)</td>
<td>-2.1**(1.34-2.90)</td>
</tr>
<tr>
<td><strong>Medium PC relevance of studies</strong>²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CG127/R15(Ambulatory BPM to confirm hypertension)</td>
<td>20/50</td>
<td>7.5 (2-9)</td>
<td>6.5 (2-9)</td>
<td>-1.0**(0.24-1.76)</td>
</tr>
<tr>
<td>CG127/R16(Home BPM to confirm hypertension)</td>
<td>3/8</td>
<td>7.4 (4-9)</td>
<td>6.4 (2-9)</td>
<td>-1.0**(0.56-1.52)</td>
</tr>
<tr>
<td>CG122/R 1.1.1.2(Test women with persistent symptoms for ovarian cancer)</td>
<td>9/16</td>
<td>7.7 (5-9)</td>
<td>7.1 (3-9)</td>
<td>0.6**(0.05-1.23)</td>
</tr>
<tr>
<td>CG123/R1.3.1.1(Ask people who may have depression 2 questions)</td>
<td>11/20</td>
<td>6.6 (1-9)</td>
<td>6.6 (1-9)</td>
<td>0 (-0.38-0.46)</td>
</tr>
<tr>
<td><strong>High PC relevance of studies</strong>³</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CG108/R3(Measure serum natriuretic peptides in heart failure)</td>
<td>2/3</td>
<td>8.2 (6-9)</td>
<td>8.3 (6-9)</td>
<td>+0.1 (-0.27-0.27)</td>
</tr>
<tr>
<td>CG95/R1.2.1.3(Acute coronary syndrome)</td>
<td>3/4</td>
<td>7.8 (5-9)</td>
<td>7.8 (4-9)</td>
<td>0 (-0.18-0.26)</td>
</tr>
<tr>
<td>CG102/R 1.2.2(Children &amp; meningitis without rash &amp; antibiotics)</td>
<td>4/5</td>
<td>7.1 (2-9)</td>
<td>7.4 (2-9)</td>
<td>+0.3 (-1.02-0.54)</td>
</tr>
<tr>
<td>CG101/U2(Consider alternative diagnosis if FEV1/FVC is &lt;0.7)</td>
<td>4/4</td>
<td>7.2 (4-9)</td>
<td>7.6 (3-9)</td>
<td>+0.4 (-1.1-0.28)</td>
</tr>
</tbody>
</table>

*Scores were on a scale from 1-9. ** Statistically significant using paired t-test
1 = completely irrelevant recommendation, not be likely to implement
9 = trusted recommendation, are likely to use, highly relevant to patients
1. Low PC relevance of studies= none of the studies cited as evidence for the recommendation had population selected from primary care or the community.
2. Medium PC relevance = Up to half of the studies cited as evidence had their participants selected from PC or the community.
3. High PC relevance = Majority of the studies cited as evidence had their participants selected from PC or the community.
Table 3: Scores for attributes affecting guideline use

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

Online Delphi Survey
NICE Delphi- revised 20/11

To change the look of your survey, select a theme below.

Aqua  Create Custom Theme

TITLE & LOGO

NICE guideline online Delphi - Round 1

Background

Many thanks for agreeing to take part in our 2 stage Delphi panel. We appreciate you completing the questionnaire, which should not take more than 15 minutes. The aim of the study is to improve NICE guideline development and the relevance of guideline recommendations to managing patients seen in primary care settings. The evidence base used for guidelines is not always derived from research in primary care, and the relevance and applicability of recommendations for patients in primary care settings has been questioned. This Delphi process is looking into your views on this, using specific guidelines as examples.

In the first round, we are asking you to rate some NICE guideline recommendations, as well as some factors related to your guideline use. After this round we will be collating responses and providing feedback to you and all our panellists, testing consensus across the group of panellists.

General information

The following section asks some details about you and your current role. Any contact details you provide will be confidential, and will only be used by the researcher to feedback results to you. Your individual details or responses will not be identified by any of the other panellists.

Q1

Personal details
Q2  Gender
   - Male
   - Female
   - Prefer not to say

Q3  Years since qualified as a general practitioner
   - Other (please specify)

Q4  Would you describe your primary role as:
   - Service GP
   - Academic GP
   - Other (please specify)

Q5  Do you hold a postgraduate academic degree? i.e. Master, MD, PhD
   - Yes (if yes give details)
   - No
   - If yes (please specify)

Q6  Does the practice where you work regularly host research?
   - Yes
   - No
   - I don't know
   - Any details
In this section we will be asking you to rate a sample of NICE recommendations from various guidelines that have been specifically selected by a panel of GPs as relevant to patient groups/conditions managed in primary care. Please rate each recommendation according to the relevance of each recommendation to your practice/patients. By "relevant" we mean how much you would trust the advice or guidance contained in the recommendation to be applicable to your typical primary care patient.

Rate each recommendation on a scale from 1 - 9. A score of 9 would mean a recommendation that you trust, are likely to use, and find highly relevant to your patients, while a score of 1 means the recommendation is completely irrelevant and you would not be likely to implement it with your patients. You are asked to rate each recommendation twice: first after reading the recommendation, and then again after reading a very brief summary of the evidence base for the recommendation. At the end of each recommendation there is a link to the full guidance for you to consult if you feel you need to.

Q8

1a) CG 95 (Chest pain of recent onset):

Recommendation 1.2.1.3:

"Initially assess people for any of the following symptoms which may indicate an ACS (acute coronary syndrome), pain in the chest and/or other areas (for example, the arms, back or jaw) lasting longer than 15 minutes, chest pain associated with nausea and vomiting, marked, sweating, breathlessness, or particularly a combination of these, chest pain associated with haemodynamic instability, new onset chest pain, or abrupt deterioration in previously stable angina, with recurrent chest pain occurring frequently and with little or no exertion, and with episodes often lasting longer than 15 minutes."

If you require any more information, the full guidance can be viewed here.
Evidence: Four studies including 3 systematic reviews and one cohort study. Two of the systematic reviews and the cohort study used patients from primary care and emergency care.

Q9

1b) Having read a summary of evidence source, can you please rate the same recommendation?

- Not relevant
- (2) (3) (4) (5) (6) (7) (8) (9) Highly relevant

Any comments

Recommendation rating (cont.)

Q10

2a) CG100 (Alcohol-use disorders- Diagnosis and clinical management of alcohol-related physical complications):

R17:

“Offer thiamine to people at high risk of developing, or with suspected, Wernicke’s encephalopathy. Thiamine should be given in doses toward the upper end of the ‘British national formulary’ range. It should be given orally or parenterally as described in recommendations 1.2.1.2 to 1.2.1.4.”

If you require more details, the full guidance can be viewed here.

- Not relevant
- (2) (3) (4) (5) (6) (7) (8) (9) Highly relevant

Any comments

Any additional notes or comments related to the evidence base and recommendation rating are welcome.
Evidence: Two studies that recruited cases of Wernicke's encephalopathy admitted to hospital for treatment. Neither study included patients from primary care setting.

<table>
<thead>
<tr>
<th>Q11</th>
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<tbody>
<tr>
<td>2b) Having read a summary of evidence source, can you please re rate the same recommendation?</td>
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<td>(1) Not relevant</td>
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<td>Any comments</td>
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Recommendation rating (cont.)

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<tr>
<td>3a) CG101 (Chronic obstructive pulmonary disease-Management of chronic obstructive pulmonary disease in adults in primary and secondary care):</td>
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<tr>
<td>U4: “Offer once-daily long-acting muscarinic antagonist (LAMA) in preference to four-times-daily short-acting muscarinic antagonist (SAMA) to people with stable COPD who remain breathless or have exacerbations despite using short-acting bronchodilators as required, and in whom a decision has been made to commence regular maintenance bronchodilator therapy with a muscarinic antagonist.”</td>
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Evidence base

Evidence: One study of patients over 40 years of age from secondary care centres in the Netherlands and Belgium, which excluded patients with asthma, allergic rhinitis, atopy, elevated eosinophils, supplemental oxygen, a recent upper respiratory tract infection, or a significant disease other than COPD.

3b) Having read a summary of evidence source, can you please re rate the same recommendation?

Evidence base

(1) Not relevant (2) (3) (4) (5) (6) (7) (8) (9) Highly relevant N/A

Any comments

Recommendation rating (cont.)

4a) CG101 (Chronic obstructive pulmonary disease- Management of chronic obstructive pulmonary disease in adults in primary and secondary care):

U1: “Measure post-bronchodilator spirometry to confirm the diagnosis of COPD”.

If you require more details, the full guidance can be viewed here

(1) Not relevant (2) (3) (4) (5) (6) (7) (8) (9) Highly relevant N/A

Any comments
Evidence base

Evidence: Two observational studies of patients over 40, one of patients from five Latin American cities and the other of patients from UK hospitals

**4b) Having read a summary of evidence source, can you please re rate the same recommendation?**

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<th>(8)</th>
<th>(9) Highly relevant</th>
<th>N/A</th>
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</thead>
</table>

Any comment

**5a CG101 (Chronic obstructive pulmonary disease- Management of chronic obstructive pulmonary disease in adults in primary and secondary care):**

**U2:**

“Consider alternative diagnoses or investigations in: older people without typical symptoms of COPD where the FEV1/FVC ratio is < 0.7, younger people with symptoms of COPD where the FEV1/FVC ratio is ≥ 0.7”.

If you require more details, the full guidance can be viewed [here](http://www.surveymonkey.net/MySurvey_EditorFull.aspx?sm=2GUgDb9WZvO5V9... 22/11/2012)
Evidence base

Evidence: Four cross sectional studies, all included patients from community and primary care.

Q17

5b) Having read a summary of evidence source, can you please re rate the same recommendation?

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<th>(9) Highly relevant</th>
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Any comments

Recommendation rating (cont.)

Q18

6a) CG102 (Bacterial meningitis and meningococcal septicaemia- Management of bacterial meningitis and meningococcal septicaemia in children and young people younger than 16 years in primary and secondary care):

Recommendation 1.2.2:

“Transfer children and young people with suspected bacterial meningitis without non-blanching rash directly to secondary care without giving parenteral antibiotics”.

If you require more details, the full guidance can be viewed [here](http://www.surveymonkey.net/MySurvey_EditorFull.aspx?sm=2GUgDb9WZvO5V9...).
Evidence base

Evidence: Five studies, three of which included patients in primary care or pre hospital. One systematic review with two thirds of its included studies restricted to primary care patients.

Q19

6b) Having read a summary of evidence source, can you please re rate the same recommendation?

(1) Not relevant (2) (3) (4) (5) (6) (7) (8) (9) Highly relevant

Any comment

Q20

7a) CG108 (Chronic heart failure- Management of chronic heart failure in adults in primary and secondary care):

R3:

“Measure serum natriuretic peptides (B-type natriuretic peptide [BNP] or N-terminal pro-B-type natriuretic peptide [NTproBNP]) in patients with suspected heart failure without previous MI”.

If you require more details, the full guidance can be viewed here

(1) Not relevant (2) (3) (4) (5) (6) (7) (8) (9) Highly relevant N/A

Any comment
Evidence base

Evidence: Three systematic reviews, two included many studies from primary care, and one of the two was specifically about diagnosis of heart failure, with modelling of implications of different diagnostic strategies in primary care.

Q21

7b) Having read a summary of evidence source, can you please re rate the same recommendation?

<table>
<thead>
<tr>
<th>1) Not relevant</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9) Highly relevant</th>
<th>N/A</th>
</tr>
</thead>
</table>

Any comments

Q22

8a) CG108 (Chronic heart failure- Management of chronic heart failure in adults in primary and secondary care):

R27:
“Offer both angiotensin-converting enzyme (ACE) inhibitors and beta-blockers licensed for heart failure to all patients with heart failure due to left ventricular systolic dysfunction. Use clinical judgement when deciding which drug to start first”.

If you require more details, the full guidance can be viewed here

<table>
<thead>
<tr>
<th>1) Not relevant</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9) Highly relevant</th>
<th>N/A</th>
</tr>
</thead>
</table>

Any comments
Evidence: Seven clinical trials that all recruited patients with moderate to severe heart failure from secondary care.

**8b) Having read a summary of evidence source, can you please re rate the same recommendation?**

- (1) Not relevant
- (2) (3) (4) (5) (6) (7) (8) (9) Highly relevant

Any comments

**9a) CG116 (Food allergy in children and young people- Diagnosis and assessment of food allergy in children and young people in primary care and community settings):**

Recommendation 1.1.11:

“Based on the results of the allergy-focused clinical history, if non-IgE-mediated food allergy is suspected, trial elimination of the suspected allergen (normally for between 2–6 weeks) and reintroduce after the trial. Seek advice from a dietician with appropriate competencies, about nutritional adequacies, timings of elimination and reintroduction, and follow-up”.

If you require more details, the full guidance can be viewed [here](http://www.surveymonkey.net/MySurvey_EditorFull.aspx?sm=2GUb9WZvO5V9... 22/11/2012)
Evidence: Ten studies and expert consensus. All the studies were low quality, secondary care and non-UK. The guideline acknowledged that evidence for patch testing was all taken from secondary or specialist settings and may not be directly applicable to a diverse primary care population.

**9b) Having read a summary of evidence source, can you please re-rate the same recommendation?**

<table>
<thead>
<tr>
<th></th>
<th>(1) Not relevant</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8) Highly relevant</th>
<th>N/A</th>
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<tbody>
<tr>
<td>Any comments</td>
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**Recommendation rating (cont.):**

**10a) CG122 (Ovarian cancer: The recognition and initial management of ovarian cancer):**

**Recommendations 1.1.2.1:**

“Measure serum CA125 in primary care in women with symptoms that suggest ovarian cancer (see section 1.1.1).”

If you require more details, the full guidance can be viewed [here](http://www.surveymonkey.net/MySurvey_EditorFull.aspx?sm=2GUgDb9WZvO5V9).
Evidence:

Six systematic reviews of secondary care studies. There was no direct evidence about the performance of serum CA125 test, ultrasound and pelvic examination in primary care.

10b) Having read a summary of evidence source, can you please re rate the same recommendation?

(1) not relevant (2) (3) (4) (5) (6) (7) (8) (9) highly relevant N/A

Any comments

11a) CG122 (Ovarian cancer- The recognition and initial management of ovarian cancer):

Recommendation 1.1.1.2:

“Carry out tests in primary care (see section 1.1.2) if a woman (especially if 50 or over) reports having any of the following symptoms on a persistent or frequent basis – particularly more than 12 times per month: - persistent abdominal distension (women often refer to this as ‘bloating’) - feeling full (early satiety) and/or loss of appetite - pelvic or abdominal pain - increased urinary urgency and/or frequency”

If you require more details, the full guidance can be viewed here

(1) Not relevant (2) (3) (4) (5) (6) (7) (8) (9) Highly relevant N/A

Any comments
Evidence base:

Evidence: Sixteen studies most were retrospective. Eight of the studies plus a systematic review, included women presenting in primary care or population based surveillance studies. The remaining seven studies were secondary care based.

<table>
<thead>
<tr>
<th>11b) Having read a summary of evidence source, can you please re rate the same recommendation?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(1)</strong> Not relevant</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Any comments</th>
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</thead>
</table>

Recommendation rating (cont.)

<table>
<thead>
<tr>
<th>12a) CG123 (Common mental health disorders- Identification and pathways to care): Recommendation 1.3.1.1:</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Be alert to possible depression (particularly in people with a past history of depression, possible somatic symptoms of depression or a chronic physical health problem with associated functional impairment) and consider asking people who may have depression two questions, specifically: • During the last month, have you often been bothered by feeling down, depressed or hopeless? • During the last month, have you often been bothered by having little interest or pleasure in doing things? If a person answers ‘yes’ to either of the above questions consider depression and follow the recommendations for assessment”.</td>
</tr>
</tbody>
</table>

| (1) Not relevant | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) Highly relevant | N/A |

| Other (please specify) |
Evidence: Twenty studies, 11 of which included patients seen in primary care or community clinics. The rest of the studies were secondary care based.

Q31  Having read a summary of evidence source, can you please re rate the same recommendation?

Recommendation rating (cont.)

13a) CG127 (Hypertension- The clinical management of primary hypertension in adults):
Recommendation 15:
“When using ABPM to confirm a diagnosis of hypertension, ensure that at least two measurements per hour are taken during the person’s usual waking hours (for example, between 08:00 and 22:00). Use the average value of at least 14 measurements taken during the person’s usual waking hours to confirm a diagnosis of hypertension”
If you require more details, the full guidance here

Any comments
Evidence: Over 50 studies, of which 20 recruited patients from primary care or the general population. However, none of the primary care studies were UK based. The two UK studies were secondary and tertiary care.

13b) Having read a summary of evidence source, can you please re rate the same recommendation?

Evidence base:

* 1) Not relevant
   2) (3) (4) (5) (6) (7) (8) Highly relevant
   N/A

Any comments

14a) CG127 (Hypertension- The clinical management of primary hypertension in adults):

Recommendation 16:

“When using HBPM to confirm a diagnosis of hypertension, ensure that: for each blood pressure recording, two consecutive measurements are taken, at least 1 minute apart and with the person seated and blood pressure is recorded twice daily, ideally in the morning and evening and blood pressure recording continues for at least 4 days, ideally for 7 days. Discard the measurements taken on the first day and use the average value of all the remaining measurements to confirm a diagnosis of hypertension”.

If you require more details, the full guidance can be viewed here

(1) Not relevant (2) (3) (4) (5) (6) (7) (8) (9) Highly relevant N/A

Any comments
Evidence: Eight studies, all non UK. Three of these studies included population based cohorts and the rest were secondary care patients.

Q35

14b) Having read a summary of evidence source, can you please re rate the same recommendation?

Evidence base: (1) Not relevant (2) (3) (4) (5) (6) (7) (8) (9) Highly relevant N/A

Any comments

Q36

How often would you ESTIMATE that you refer to NICE guidelines during your clinical practice?

Never Weekly Less than once a month

More than once a week Monthly Other (please specify)
Below is a list of guideline attributes identified from the literature that could affect primary care practitioners’ use of guidelines. The attributes have been divided into different categories presenting various aspects of the guideline. With a specific focus on NICE guidelines, please rate each factor on a scale of 1-5 (5 being you strongly agree that this attribute is mostly likely to encourage you to use a clinical guideline and 1 being least likely to encourage you to use a guideline). Each section also allows you to opt for ‘don’t know/unsure’. At the end of each section there is a space for you to provide any comments or add any other factors you think are relevant.

### Guideline topic:

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<thead>
<tr>
<th>Attribute</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree or disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>Not sure/don’t know</th>
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<td>Any comments or other factors</td>
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### Guideline characteristics:

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**Accessibility of the guideline**

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<td>Not too long</td>
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</tbody>
</table>

Any comments or other factors

**The evidence on which the recommendations are based:**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>Not sure/don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study outcomes used are relevant and important to primary care population</td>
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<tr>
<td>Evidence underpinning recommendation comes from secondary care population</td>
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<tr>
<td>Link from evidence to recommendation is clear and logical and easy to find</td>
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<tr>
<td>Applicability to primary care population e.g. severity of disease and co-morbidity is taken into consideration and discussed</td>
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</table>

Any comments or other factors

**Other attributes:**

In the space below please describe any factors that you think are relevant which are not mentioned in the above list.
Appendix 2

NICE guidelines- Focus group topic guide

Welcome & introduction of researchers

Purpose of focus group

Telling participants the general purpose of the focus group and the time estimate will be 1 hour
Reminding participants that their answers will be used for research 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 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 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 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?