

Julie Evans, Sue Ziebland, John I MacArtney, Clare R Bankhead, Peter W Rose and Brian D Nicholson

GPs' understanding and practice of safety netting for potential cancer presentations:

a qualitative study in primary care

Abstract

Background

Safety netting is a diagnostic strategy used in UK primary care to ensure patients are monitored until their symptoms or signs are explained. Despite being recommended in cancer diagnosis guidelines, little evidence exists about which components are effective and feasible in modern-day primary care.

Aim

To understand the reality of safety netting for cancer in contemporary primary care.

Design and setting

A qualitative study of GPs in Oxfordshire primary care.

Method

In-depth interviews with a purposive sample of 25 qualified GPs were undertaken. Interviews were recorded and transcribed verbatim, and analysed thematically using constant comparison.

Results

GPs revealed uncertainty about which aspects of clinical practice are considered safety netting. They use bespoke personal strategies, often developed from past mistakes, without knowledge of their colleagues' practice. Safety netting varied according to the perceived risk of cancer, the perceived reliability of each patient to follow advice, GP working patterns, and time pressures. Increasing workload, short appointments, and a reluctance to overburden hospital systems or create unnecessary patient anxiety have together led to a strategy of selective active follow-up of patients perceived to be at higher risk of cancer or less able to act autonomously. This left patients with low-risk-but-not-no-risk symptoms of cancer with less robust or absent safety netting.

Conclusion

GPs would benefit from clearer guidance on which aspects of clinical practice contribute to effective safety netting for cancer. Practice systems that enable active follow-up of patients with low-risk-but-not-no-risk symptoms, which could represent malignancy, could reduce delays in cancer diagnosis without increasing GP workload.

Keywords

diagnosis; diagnostic errors; general practice; neoplasms; patient safety.

INTRODUCTION

Safety netting is a diagnostic strategy used when necessary in primary care to ensure that patients are monitored throughout the diagnostic process until their symptoms or signs are explained.¹ It is widely regarded as best practice in UK primary care to protect against inaccurate working diagnoses.¹⁻⁴ It is especially important where diagnostic uncertainty exists or there is potential for a serious underlying diagnosis, such as cancer. Several communication models include it as a core component of every GP consultation since Roger Neighbour laid out three core safety-netting questions in his GP communication book *The Inner Consultation*.⁵⁻⁹ It has since become a broader construct also including a range of clinician responsibilities and health system functions, such as developing systems to identify consultations for persistent or recurrent symptoms despite a negative initial evaluation, in order to ensure that all tests are performed, referrals are completed, and results are followed up.¹

Inadequate safety netting is a recognised cause of diagnostic error in primary care.^{4,10,11} Marked variation is reported when it is utilised, uncertainty exists about the most effective way of implementing it, especially for vague symptoms, and there is no evidence about which safety-netting strategies are feasible.^{1,8,12,13} Significant event audits (SEAs) of emergency cancer presentations expose ineffective or non-existent safety netting as a potential driver of

late cancer presentation.^{11,14,15} Safety-netting advice may not always be given or it may get minimal uptake from patients.¹³ Patients may underestimate the significance of symptoms, hesitate to re-consult, be concerned about wasting the doctor's time, or may be unaware of their responsibility to follow up investigations.¹⁶⁻¹⁹ Variable processes for test follow-up in primary care have been described.²⁰ International comparisons show a reliance on individual GPs' bespoke inconsistent strategies to overcome system failures.²¹

The authors aimed to understand the reality of safety netting for symptoms that could suggest cancer. They interviewed GPs about their knowledge and experience of safety netting, and sought to elucidate factors that enable and detract from safety-netting practice.

METHOD

Recruitment

Purposive sampling was used to achieve variation in age of GP, years in practice, and rural and urban practices in Oxfordshire. The study was advertised to general practices via the local National Institute for Health Research Clinical Research Network (CRN) and the local clinical commissioning group (CCG) bulletin. Volunteers who contacted the study team were sent an invitation letter, information sheet, and reply slip to return if they wished to participate. These documents were also sent directly to GPs known to the

J Evans, MSc, senior quality researcher; **S Ziebland**, MSc, professor of medical sociology; **JI MacArtney**, PhD, senior qualitative researcher; **CR Bankhead**, MSc, DPhil, associate professor; **PW Rose**, MD, FRCP, senior lecturer; **BD Nicholson**, MSc, MRCP, clinical researcher, Nuffield Department of Primary Care Health Sciences, University of Oxford, Oxford, UK.

Address for correspondence

Brian D Nicholson, Nuffield Department of Primary Care Health Sciences, Radcliffe

Observatory Quarter, Oxford OX2 6GG, UK.

Email: brian.nicholson@phc.ox.ac.uk

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How this fits in

Safety netting is recommended in primary care to guard against delays in diagnosis, but little evidence exists about which aspects of safety netting are effective. This study reveals uncertainty among English GPs about which aspects of clinical practice are considered safety netting. Increasing workload has caused GPs to adopt a selective safety-netting strategy favouring patients considered at higher risk of cancer or less able to act autonomously. Practice systems to enable active follow-up of patients with low-risk-but-not-no-risk symptoms without adding to GP workload could reduce delays in cancer diagnosis.

authors through the authors' institutions or personally. A total of 25 qualified GPs were recruited. Recruitment and interviewing continued until data saturation was reached.

Interviewing

A flexible interview topic guide was developed based on: published literature; Bankhead's Delphi study;²² secondary analyses of survey data; and a dataset of patient accounts of bowel or lung cancer diagnosis (accessed via the Health Experiences Research Group). An experienced, female, qualitative social science researcher specialising in cancer experiences contacted willing GPs to arrange an interview at a time to suit them, either at their surgery, home, or the author's office. Participants signed a consent form before the interview. The interviewer began by enquiring: '... how safety netting for cancer symptoms works in your practice.' Specific questioning followed about their safety-netting practices and opinions. GPs were also invited to describe real-life cases where safety netting had worked well or fallen down. To facilitate a reflexive discussion around what safety netting may, or may not, encompass, GPs were not explicitly asked to offer a formal definition of it. Interviews lasted about an hour and were digitally recorded and transcribed verbatim.

Analysis

Qualitative analysis was carried out on the GP interviews: transcripts were imported into NVivo 10, qualitative data analysis software, and coded by two authors according to anticipated and emergent themes using the constant comparison method.²³ Data on key themes discussed in this article — what is safety netting?; responsibility; and continuity of care — were read by several members of the research team individually before being discussed at an analysis workshop and the contents further analysed using the 'one sheet of paper' method.²⁴

RESULTS

In-depth, face-to-face interviews were conducted between 16 November 2016 and 14 June 2017 with 25 qualified GPs working in Oxfordshire (see Table 1 for participant characteristics). GPs' understanding of safety netting and how they carried it out in practice were explored. Direct quotes from the interviews are presented here, with hesitations and repetitions removed to aid readability.

What is safety netting?

The authors did not ask GPs to define safety netting in their interview, yet a key theme of 'What is safety netting?' emerged. Reflecting on their clinical practice revealed some taken-for-granted interpretations and behaviours:

'It's such a throw-away phrase, occasionally you even find in the notes, "Patient safety netted", and actually stepping back to think what are we trying to communicate, what does it mean? And if it means that much and it's important, how do we do it? It's been really interesting ... to step back and think this is a word I use almost every day but actually what does it mean?' (GP01, female [F], aged 45 years, part-time [PT])

Participants commonly recognised safety netting as a ubiquitous element of (good) clinical practice. GP02 said:

'I think of safety netting as a part of every single consultation ... It's just something you do.' (GP02, F, aged 52 years, PT)

The same GP also said that most patients should go away from consultations about new symptoms '... with an idea of what the doctor thinks is going on and, therefore, what should probably happen next, and also what to do if that isn't what happens.' (GP02, F, aged 52 years, PT)

However, GPs often struggled to isolate a clear description of safety netting, revealing uncertainty over which aspects of practice contributed to safety netting. For instance, after describing how they would explain their thinking to a patient when ordering tests — a behaviour often regarded as part of safety netting — GP14 said:

'That's not quite safety netting is it?' (GP14, F, aged 44 years, PT)

And GP01 said:

'I don't know if that counts as safety netting,

Table 1. Sample GP characteristics, N = 25

GP characteristics	n
Sex	
Female	9
Age group, years	
34–38	7
39–43	2
44–48	5
49–53	6
54–59	5
Time as a qualified GP, years	
0–9	9
10–19	7
20–29	9
Type of employment	
Part-time (<8 clinical sessions/week)	16
Full-time	7
Locum	2
Ethnicity	
White British	21
Location	
Urban (in Oxford city)	13
Rural (outside Oxford city)	12
Method of recruitment	
TVCRN	10
CCG	7
Direct invitation	8

CCG = clinical commissioning group.

TVCRN = Thames Valley Clinical Research Network.

that's probably not.' (GP01, F, aged 45 years, PT)

The authors were struck by the competing narratives about safety netting, what it is, how it is done, and where the responsibility lies. Contradictions were sometimes evident within the same GP's account. At one point in his interview GP15 said:

'... we probably have different concepts about what safety netting means ... [and] I think we do it all very differently within our consultations ...' (GP15, male [M], aged 38 years, full-time [FT])

He explained that in the absence of a practice policy for how it should be done:

'... it's left up to the GP to decide what they wish to record in the notes and how they wish to recall the patient back if they've asked them to do something.' (GP15, M, aged 38 years, FT)

However, later GP15 also suggested that if he wrote *'I have safety netted'* in the notes his colleagues would know what they meant. When the interviewer queried this, the GP responded:

'I guess my assumption is if one of my colleagues has written that, that they've safety netted in the same way I have.' (GP15, M, aged 38 years, FT)

Factors affecting safety-netting practice

Workload. Time pressure was commonly cited as a barrier to safety netting. GPs consulting in 10-minute appointments particularly felt this was insufficient to deal with everything thoroughly, especially where patients had complex needs or consulted about multiple problems:

'Time's always a barrier to everything. But actually, I think if there's a patient you're concerned about I do spend quite a bit of time safety netting and making sure people understand the importance of it. So, I mean time is all well and good, but I don't keep to my 10 minutes because it's not enough.' (GP18, F, age 44 years, PT)

Several explained that actively following up every patient would be impossible because it would (unnecessarily) create extra work and anxiety for the patient:

'I don't know how you would start with keeping a note of all those patients you were slightly worried about, because it would soon be longer than your arm and, you know, I

think at the end of the day patients do have to take some responsibility for following up on symptoms.' (GP21, M, aged 48 years, PT)

Patients perceived as young and intelligent or with the capacity to advocate for themselves were considered reliable enough to follow safety-netting advice and consult again at an appropriate interval. For such patients, a key ingredient of safety netting was often a reliance on them to take responsibility for re-consulting:

'The best safety net is an informed patient who can advocate for themselves. And we're quite fortunate with our population that most of our patients are reasonably intelligent and in control of their lives.' (GP19, M, aged 49 years, FT)

By contrast, GPs suggested they, and the wider practice team, retained more responsibility for patients who were: unknown to the GP; vulnerable due to advanced age, cognitive or mental health issues; or reluctant or unable to engage with the diagnostic process. For these patients, GPs reported booking a follow-up appointment there and then, while the patient was still present, to increase the likelihood of the patient returning, or involving carers or relatives with consent. Some GPs used personal reminders or asked administrative staff to contact the patient if they did not attend:

'You just have to remember that there are some patients who take no responsibility for themselves because they can't ... They're in the minority, but then you have to put in place a system for safety netting that's watertight.' (GP04, M aged 53 years, PT)

Though a strategy of selective follow-up was deemed necessary to control their workload, GPs accepted it was not ideal due to the increased likelihood that patients might fall through the net:

'I accept that there's a risk to all these things. If you don't have a system of checking on everything then it's possible that someone will slip through the net. But on the other hand, if you spend all day every day checking on everything you'll never get any work done. So, it's got to be a balance.' (GP19, M, aged 49 years, FT)

In deciding whether and when patients warranted a referral for cancer investigations, GPs reported a responsibility to ease the current strain on specialist care and to ensure investigation was in the patients' best physical

and psychological interests. Limited time and resources resulted in a balance being struck, using robust safety netting as backup:

'I think as well the balance of resources in the NHS, and the kind of gatekeeping role we have as GPs. Now whether that's something that's going to continue or not ... in the existing climate and the way the government seems to be working things, I don't know. But I think it's something I take quite seriously.' (GP12, M, aged 37 years, FT)

Low concern about cancer. Safety-netting practice varied depending on the GP's level of concern that cancer might be causing a patient's symptoms:

'I never don't use safety netting at some level. I think the question is how much do you use? And I think that depends on what I think the risk is.' (GP09, M, aged 52 years, PT).

However, GPs struggled to explain their rationale for deciding which cases raised concern:

'It's then picking the cases where there's a possibility or a real chance that it might be relevant, versus the ones where I think, actually, it's just run of the mill stuff. And deconstructing that decision-making process is really hard. I'm not sure I could even tell you how I do it.' (GP12, M, aged 37 years, FT)

GP15 described a patient with bowel symptoms who he had not actively followed up because *'... I wasn't worried about cancer at the time.'*

Eventually they referred the patient non-urgently for investigations that led to a cancer diagnosis. With hindsight, the GP wondered whether they had safety netted well enough, saying:

'I guess because I wasn't worried about cancer then maybe I'd safety netted a bit more casually than I would have if I had, for example, seen a woman who I felt a breast lump, which I felt was benign but I wanted to see her again in a month.' (GP15, M, aged 38 years, FT)

GP21 had been surprised when a male in his 20s whose gastric symptoms he had been investigating turned out to have stomach cancer, saying:

'I mean it's so rare in that age group. But it does happen ... But you can't go and scope every 25-year-old with these kind of symptoms.' (GP21, M, aged 48 years, PT)

Similarly, GP04 had been caught out after dismissing a lump on a patient's nose, which was later diagnosed as an amelanotic melanoma. The GP said:

'It hadn't occurred to me that it could be cancer at the time.' (GP04, M, aged 53 years, PT)

Others had learnt from experience that they needed to be mindful of the potential risk of cancer even when they would not naturally suspect it:

'You always have to be prepared to be wrong-footed by something that you're not expecting.' (GP23, F, aged 38 years, PT)

GP08 (M, aged 50 years, FT) explained that safety netting *'... should aim to rule out the worst-case scenario'*. GP16 suggested that GPs might not take safety netting seriously enough until they had experienced something going wrong:

'I think your attitude to safety netting changes once you've done it wrongly. I think that's the way we learn: hard and fast. And people that haven't had that I don't know whether they can take it as seriously, all the documentation and everything.' (GP16, F, aged 39 years, PT)

Work patterns and documentation. The detail that GPs said they wrote in the clinical record varied widely. At one end of the spectrum GP18 explained:

'I write as much as I can remember. So, I write the history of all the questions that I remember asking them, and the full examination, and hopefully a plan, so that if somebody sat and read that they would understand what level of assessment had been done.' (GP18, F, aged 44 years, PT)

At the opposite end, GP05 revealed:

'Although I'm saying all these things to you, I don't always write it down.' (GP05, F, aged 53 years, PT)

The GP had not previously considered the implications of that, saying:

'... so I suppose it does present a problem if someone else picks up the case and not knowing whether you've mentioned it or not.' (GP05, F, aged 53 years, PT)

Other GPs aimed to strike a balance between writing such detailed notes that a colleague might be deterred from reading them, and writing enough so that what had

been done could be understood:

'When we keep notes we don't want to write everything down if it's got to be read in the future, and we've got a limited amount of time. So, I'll try and put my thoughts down so that if someone else sees it or I see the patient again then I can pick it up from there.' (GP08, M, aged 50 years, FT)

Accounts from GPs who worked part-time or as locums suggested that they were especially mindful that a patient they had seen in consultation could be seen next by a different GP. It was, therefore, important that what they wrote in the patient's notes could be understood by their colleagues to ensure continuity of care. Sufficient detail was needed to follow the previous GP's line of thought and know what had been discussed with the patient:

'And because I work part-time, I do 3 days and other people work part-time, it's important that we're documenting what we've done and what the plan is, because often they'll phone and it will be another doctor that's picking up that question. So, it's really important that the plan is written down.' (GP18, F, aged 44 years, PT)

Adequate documentation was also seen as important medico-legally, as GP06 explained:

'It's critical, obviously, what you write there and then. It could be held up in a court of law, couldn't it, a year or two later, and you've got to be certain that what you put down is adequate.' (GP06, M, aged 42 years, FT)

Interviewed GPs who were working as short-term locums felt an added responsibility to ensure that patients they saw did not fall through the net if they knew they would not see them again. They were also anxious not to create unnecessary extra work for their permanent colleagues. GP22 said he would be:

'... playing it safer, particularly where I don't know the practice well, and particularly where I don't know the communication systems well.' (GP22, M, aged 38 years, locum)

These locums said they were more inclined to refer at the first appointment if they thought it unlikely they would see the patient again, and tried to put robust follow-up plans in place for those not referred straight away:

'I tend to either make it a specific decision and decide that they're being referred, or clearly

outline when I'd want to see them next and the conditions associated with it.' (GP24, M, aged 36 years, locum)

Both full- and part-time GPs said they sometimes made reminders or, if they knew they would be away, asked a colleague to check that follow-up had happened for some patients:

'My system is that I send myself a note to either think about this patient a little bit more deeply in terms of what's gone on in the past, or to make sure they have come back at a certain time ... if I see they're coming back to see the nurse I can write a message underneath their name and say, "Please make sure this patient understands that they need to ..."' (GP03, F, aged 54 years, PT)

DISCUSSION

Summary

GPs in England considered safety netting as best practice to avoid missed opportunities for cancer diagnosis, yet this study found a mismatch between best practice and reported clinical practice, and uncertainty about what is considered safety netting. Approaches to safety netting varied according to the GPs' suspicion of underlying cancer, working patterns, workload and time pressures, and the perceived reliability of the patient to follow advice. GPs retain responsibility for following up patients they perceive at risk of cancer or unlikely to take responsibility for their own follow-up, leaving lower-risk (but-not-no-risk) patient groups, and groups for whom the GP does not suspect cancer, without robust safety netting. Following up all patients with symptoms would create extra work at a time when GPs already feel overburdened. In this context, GPs reported that patients competent to do so should hold responsibility for their own follow-up.

Accounts of the documentation of safety netting also varied. Some GPs described documenting less for patients they considered at low risk and those they felt confident of seeing again. GPs working part-time described an awareness of the need to document their actions in case the patient consulted a different doctor next. The locums said they handled risk differently, choosing to safety net more meticulously or referring at a lower threshold to ensure that patients are followed up in their absence. GPs assumed that their colleagues safety net in a similar way, yet they work in isolation using personal approaches in the absence of practice protocols or policies on safety netting, and rarely discuss it.

GPs would benefit from clearer guidance

about which aspects of normal clinical practice contribute to achieving timely and accurate cancer diagnoses and thus form part of safety netting. Practice systems designed to facilitate the proactive follow-up of patients presenting with non-specific or low-risk-but-not-no-risk symptoms that may represent malignancy could help to prevent avoidable late cancer diagnoses.

Strengths and limitations

To the authors' knowledge this is the first study to explore GPs' practice of safety netting in relation to symptoms of cancer in primary care. A varied sample of GPs was obtained despite limiting the study to one county in England. The authors have elucidated and defined some of the issues surrounding safety netting, some of the unknowns, and issues for in-practice communication (rather than just the doctor-patient axis). By choosing not to provide an *a priori* definition of safety netting or asking participants to define it, the reflexive discussion allowed description of the range of strategies, practices, and procedures used. Data analysis by a multidisciplinary team of clinical and non-clinical authors allowed for varying perspectives and assumptions to result in a richer understanding.

As actual primary care consultations were not observed the authors cannot know the extent to which participants carry out safety netting in the way they described at interview. However, they were asked to describe anonymised real-life cases to illustrate their clinical behaviour, affording credibility to their accounts. It is unlikely they offered only socially desirable responses because they were open about their own inconsistencies and experiences of late diagnoses where safety netting had been found inadequate with hindsight. GP participants were self-selected and may have had a stronger commitment to safety netting than those who declined to take part. A wider geographical sample with greater socioeconomic deprivation may have illuminated additional issues.

Comparison with existing literature

The study findings help to contextualise international survey data demonstrating variation in the way GPs retain responsibility for follow-up.²¹ They resonate with Jones *et al*, who found that safety netting varied according to clinician preference and experience, and was poorly documented.²⁵ Lyratzopoulos *et al* also described time pressures, reassurance from normal test results, reluctance to refer to avoid lowering the diagnostic conversion rate, and low suspicion of cancer as potential causes of missed opportunities for cancer diagnosis.² Mitchell *et al* concluded

that delays in referral could be explained by the complexity of earlier primary care presentations or by coexisting patient factors: the most complex cases (those with persistent vague symptoms in the context of comorbidity) being most at risk requiring the most robust safety netting.¹¹ Findings in this study corroborate that these patients present the most difficulty for GPs and may not be prioritised for active safety netting. Examples of when relying on patients to minimise the risk of missed opportunities may not work in practice have been described in detail, and the development of resilient fail-safe systems for follow-up have been recommended.² To this end, the concept of empowering patients to take responsibility for aspects of their follow-up has been endorsed by several authors.^{8,26,27} However, the authors suggest that this does not allow for cases where the GP judges the patient to be competent to take responsibility but they do not re-consult when appropriate.

Implications for research and practice

Within the constraints of increasing workload and time pressures in English primary care, GPs' accounts demonstrated a complacency towards safety netting and an uncertainty about the components of clinical behaviour that are part of it. This reveals that clearer guidance and education on the practice of safety netting is required. Furthermore, as more GPs work part-time, patients are less well known to a single doctor; thus, clear, structured documentation of safety netting would facilitate continuity of care and patient follow-up between clinical personnel.

Patients with non-specific or low-risk-but-not-no-risk cancer symptoms will remain vulnerable to missed opportunities for cancer diagnosis unless safety netting is consistently conducted. A proactive, consistent approach is required to ensure the safe follow-up of all patients. Any innovation must support clinicians without increasing their workload. The interviews in the present study made clear that practice systems for safety netting, utilising the electronic health record, are underused. Further research is therefore required to develop and evaluate which interventions are efficient in terms of reduced workload and delays in (cancer) diagnosis. Potential solutions may include improved methods of communicating safety-netting actions, automated fail-safe systems to ensure safe follow-up is conducted, and novel strategies for delegation of responsibilities between members of the healthcare team. Further research to better understand why some patients do not follow the advice given or fail to re-consult for persistent or worsening symptoms is also required.

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Ethical approval

The study was approved by the South East Coast-Brighton and Sussex Research Ethics Committee [reference: 16/LO/1468].

Provenance

Freely submitted; externally peer reviewed.

Competing interests

The authors have declared no competing interests.

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