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PRACTICE

UNCERTAINTIES

Can safety-netting improve cancer detection in patients with vague symptoms?

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Patients present daily about symptoms that could represent a new diagnosis of cancer.¹ Some will present with easily recognised high risk symptoms such as dysphagia (5% likelihood of cancer if age >55 years), postmenopausal bleeding (4% likelihood if age >55 years), or haemoptysis (2% likelihood if age >40 years). But most will have vague or non-specific symptoms such as cough, fatigue, or abdominal pain.²⁻⁴ As these symptoms are shared with benign, chronic, or self limiting conditions, the likelihood of cancer is low (mostly under 0.5%).¹ The clinical consequence is that diagnosis of cancers with vague symptoms tend to be delayed: for example, about half of patients in England with multiple myeloma have to consult three or more times before referral,⁵ and over a third present to hospital as emergencies.⁶ Depending on the cancer site, reducing diagnostic delay can lead to improved survival, earlier stage at diagnosis, and improved quality of life.⁷

The answer to this diagnostic problem is not to investigate every low risk symptom at first consultation.⁸ Doctors have a responsibility to avoid causing unnecessary alarm and wasting scarce resources through over-investigation, which may result in harm to the patient. Teasing out serious disease by following up patients over time, with planned sequential investigation, is usually the best approach for exploring non-specific symptoms.⁹ However, taking time is not without hazard. Patients want to be reassured they do not have cancer.¹⁰ They may not re-consult to report unresolved symptoms, particularly if a repeat appointment is difficult to make or incurs a cost. If initial testing is driven by an incorrect preliminary diagnosis, resulting in reassuringly negative results, both patient and doctor may be reluctant to investigate further.¹¹ Safety-netting has come to be regarded as “best practice” in relation to cancer diagnosis in non-specialist settings.¹² Its aim is to ensure patients do not drop through the healthcare net but are monitored until symptoms

are explained. We searched for evidence on how safety-netting can be done effectively in this context (see table 1).¹³

What is the evidence of uncertainty?

We conducted a broad search (box 1). We found no systematic reviews or trials of safety-netting interventions: there is no apparent evidence on whether safety-netting is effective. However, we did retrieve evidence from the investigation of diagnostic delays and expert opinion on three main issues: the necessary components of safety-netting, the roles of patient and doctor, and the problems arising from miscommunication or misinterpretation of initial test results.

What is safety-netting when the diagnosis is uncertain?

Clinicians might ask themselves when they make a working diagnosis:

- If I’m right what do I expect to happen?
- How will I know if I’m wrong?
- What would I do then?

These three questions were set out by clinical communication expert Roger Neighbour.¹⁴ Effective safety-netting requires clinicians to share these thoughts with their patients, explaining how the questions relate to their problem. For example, patients should be informed of:

- The anticipated time frame for symptom resolution
- The potential “alarm symptoms” for which they should re-consult
- How, when, and where to re-consult
- The presence of diagnostic uncertainty.¹⁵⁻¹⁸

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This is one of a series of occasional articles that highlight areas of practice where management lacks convincing supporting evidence. The series advisers are Sera Tort, clinical editor, and David Tovey, editor in chief, the *Cochrane Library*. To suggest a topic for this series, please email us at uncertainties@bmj.com

What you need to know

- Safety-netting is best practice, but there is an absence of evidence on whether it improves cancer detection and how best to do it in patients with vague symptoms
- Explain the uncertainty about the cause of symptoms to patients, ensuring they understand why, when, and with whom they should re-consult about which concerning symptoms
- Establish systems to ensure test results are reviewed by somebody with knowledge of cancer guidelines and that positive and negative results are communicated to the patient promptly

Box 1: Search for existing evidence

- #1 early detection of cancer[MeSH Terms]
- #2 delay[Title] OR symptom[Title] OR symptoms[Title] OR diagnosis[Title] OR diagnosing[Title] OR safety net*[Title]
- #3 cancer[Title] OR malignancy[Title] OR malignant[Title] OR tumour[Title] OR tumor[Title]
- #4 #1 OR #3
- #5 #4 AND #2
- #6 (general practice) OR primary care
- #7 #5 AND #6

There are some data on actions which may be associated with poor safety-netting, and others that give clues on how to make it more effective. Significant event audits of emergency cancer presentations highlight lack of practitioner continuity, poor record keeping, and false reassurance as key issues.¹⁹

Does giving responsibility to patients work?

There is consensus that involving patients in self monitoring is important, but some evidence shows that this may be associated with longer delays if:

- Patients fail to recognise the significance of symptoms (qualitative interview studies with UK patients with lung and pancreatic cancer)^{20 21}
- Patients are reluctant to re-consult with ongoing symptoms (telephone survey with US patients after acute care visits, including to family practice)^{22 23}
- Patients don't want to waste doctors' time (qualitative study of UK patients reporting cancer "alarm symptoms")²⁴
- Re-appointment in direct payment healthcare systems is costly or a timely appointment in free access systems is difficult (ecological study of primary care structure and cancer outcomes).²⁵

There can be problems in communicating the results of tests requested to investigate non-specific symptoms—such as overreliance on patients to seek results, difficulties in accessing results by telephone, and a lack of fail-safes.²⁶ A qualitative study found that some patients say they were unaware of their responsibility to follow up investigations.²⁷ Some patients assume that "no news is good news," taking no action to chase test results even if they do not feel better or develop new symptoms.²³

How might clinicians conduct safety-netting?

There is little evidence to guide clinicians. For example, it is unclear whether passive (ask patients to request an appointment as needed) or active (fixed appointment) follow-up works better,¹⁵ nor whether follow-up need be face to face.²⁸ There is a debate about whether a formal, practice-level safety-netting system would best prevent failures in follow-up, but little evidence to help.^{12 13} The National Institute for Health and Care Excellence (NICE) guideline panel for suspected cancer recently removed some timescales for deciding when persistent

symptoms become worrisome because these may sometimes delay appropriate referral.²¹

Apart from cancer diagnosis, the greatest evidence base for safety-netting comes from assessment of acute childhood illness. In this context, some clinicians are reluctant for safety-netting to be a formalised process because they see it as an intuitive part of patient communication which is tailored to the specific situation.^{29 30} Parents, however, would value more explicit written guidance on what symptoms to monitor in their children and when to re-consult.³¹

Offer patients a review to discuss ongoing symptoms even if initial tests are reassuring. There is qualitative evidence that patients later diagnosed with cancer have felt over-reassured by negative test results and under-supported by their healthcare teams, causing them to decide not to consult with persistent or new "alarm" symptoms.^{11 32} Normal or unequivocal chest x rays have been reported in 23% of primary care patients in the year leading up to a diagnosis of lung cancer,³³ and a third of colorectal cancers present with mild anaemia.³⁴

Is ongoing research likely to provide relevant evidence?

We identified no ongoing research to address whether safety-netting is effective for patients with low risk, but not no risk, symptoms of cancer, nor how it should be done (box 2). We found no research on how best to share responsibility for monitoring ongoing symptoms and to facilitate re-consultation. In the UK the Early Diagnosis Advisory Group of Cancer Research UK has initiated qualitative research with patients and general practitioners to investigate current safety-netting practice in primary care and is investigating the use of text messaging to prompt re-consultation.

What should we do in the light of the uncertainty?

In the UK, NICE includes three key recommendations in their guidance on suspected cancer:

- Offer patients with low risk (but not no risk) symptoms review in an agreed timeframe
- Healthcare professionals retain responsibility for reviewing and acting on the results of investigations they have requested

Box 2: Search for forthcoming studies

We searched ClinicalTrials, PROSPERO, *Cochrane Library*, National Cancer Research Institute portfolio, Cancer Research UK, and Macmillan websites.

Because of the paucity of relevant literature, we also performed more extensive searches—including grey literature and literature on diagnostic error, quality, and safety—using Trip Database, NHS Evidence, National Patient Safety Agency, Cancer Research UK, Macmillan, National Cancer Intelligence Network, and Google.

- Be alert to the possibility of false negative test results and review patients even when tests are negative.³⁵

The suggestions in box 3 are based on an online Delphi process involving UK general practitioners.³⁶ They focus on how responsibility for monitoring symptoms might be shared with patients and what systems healthcare providers might consider in an attempt to stop people falling through the net. The infographic shows the recommended safety-netting process.

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Box 3: Suggestions how to make safety-netting more effective*With the patient*

- Explain the expected time course of symptoms
- Describe any specific warning symptoms or signs of serious disease or cancer
- Give specific information about when and how best to re-consult, including specifying who is responsible for making the appointment
- If the working diagnosis is uncertain, explain the uncertainty to the patient together with the reasons for tests, investigations, watchful waiting, or a trial of management
- Ensure patients understand safety-netting advice, with written instructions if needed, and clearly document the advice in the medical record

Clinician actions

- Keep up to date with urgent referral guidelines for suspected cancer
- If symptoms do not resolve, or persist intermittently, further investigations should be conducted even if previous tests were negative and referral considered (such as "three strikes and you are in")
- Perform an annual audit of new cancer diagnoses and conduct significant event analysis of delayed and emergency cancer diagnosis
- Participate in cancer awareness campaigns and screening

Improved systems

Consider developing systems to ensure:

- Up to date contact details for all patients
- Results are viewed and acted on by someone with knowledge of cancer guidelines
- Patients receive test results even if they do not attend for follow-up
- Consultations for unexplained recurrent symptoms are highlighted

Education into practice

- Have you read the updated NICE guidance on the duration of symptoms that should trigger referral for suspected cancer in the UK?
- When you have asked a patient to monitor their condition or a symptom, did you explain fully what they should do?
- Has your organisation reviewed the cases of cancer diagnosed in the past year and considered whether the patients' diagnostic journeys could have been improved?

How patients were involved in the creation of this article

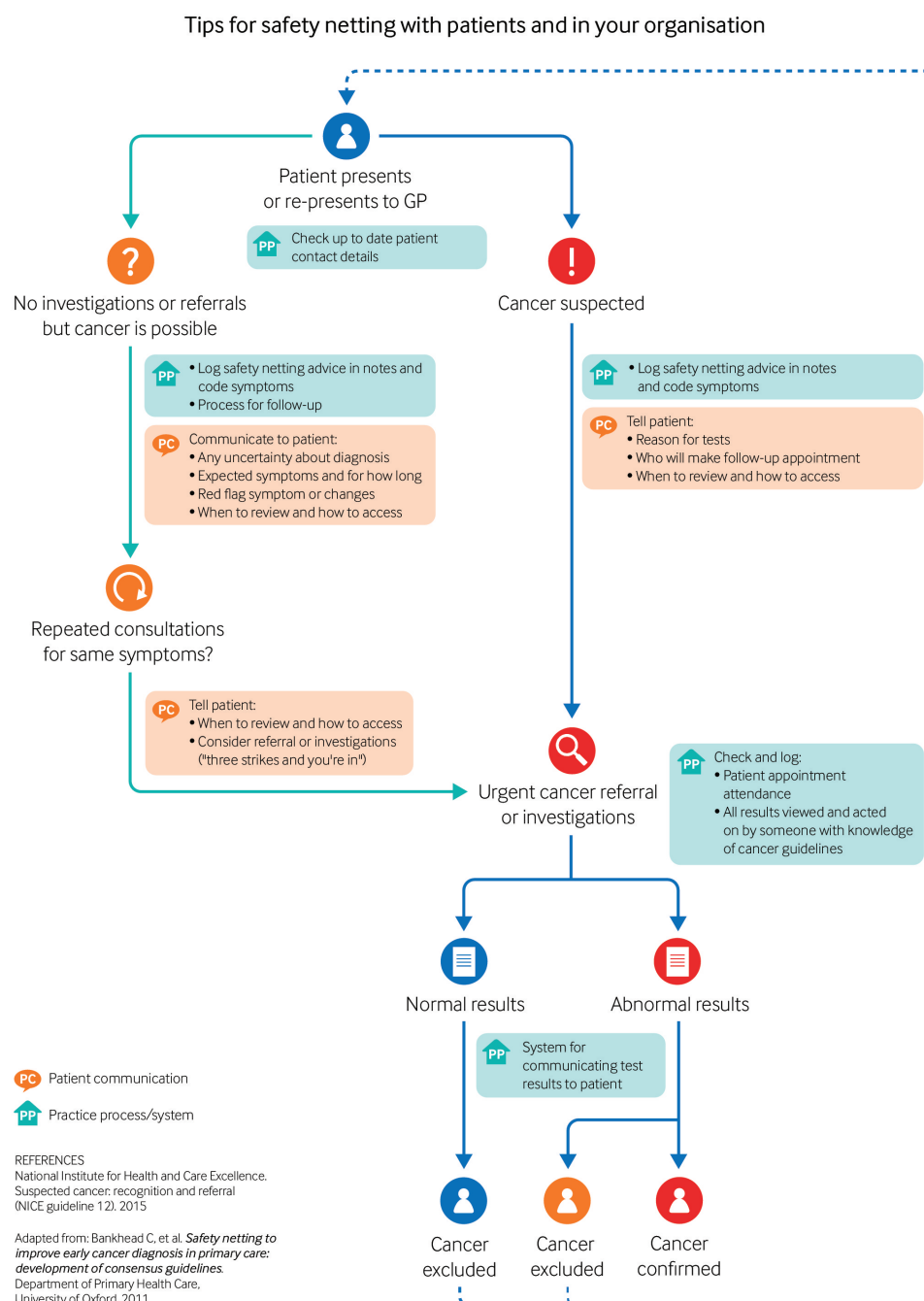
Three patients commented on earlier versions of this article.

Table

Table 1 | The research evidence we looked for

Population	Patients presenting with low risk, but not no risk, symptoms of cancer
Intervention	Specific safety-netting mechanisms
Control	Usual care
Outcome	Reduction in diagnostic delay

Figure



Infographic of the recommended safety-netting process