

Avoiding medical errors in general practice

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The two main types of error in general practice are diagnostic and prescribing errors. The authors consider how they might arise and suggest ways in which they may be avoided.

The spectre of medical error has always been with us, but seems to be looming ever larger over recent years. Lately, we have seen the Francis report¹ into the Mid Staffordshire scandal, and the subsequent Berwick report to distil lessons learned.² In October 2014, Jeremy Hunt made a speech quoting a report³ that outlined costs of £1–2.5 billion incurred by the NHS as a result of preventable adverse events. But as we all know, in our profession, the price of error goes way beyond the financial. Patients must surely always be the central focus of any discussion on this subject. For healthcare professionals meanwhile, there are the perils of litigation, exposure, even humiliation. Undeniable high levels of distress, as well as newly overdefensive practice, can ensue.⁴ As was recently highlighted in this publication, we can even face custodial sentences.⁵

Away from the headlines, medical errors are happening all the time. In our honest moments, we can all instantly recall our own. There is doubtless less emphasis on errors occurring in general practice, where the stakes are often not as high. But as we know, 90% of NHS patient interactions occur in our care, within an increasingly pressurised workload. Clearly, there is ample and growing opportunity for mistakes to arise. Whatever the costs that we fear, do we understand how often we are making errors, what they are, and

indeed which are more likely to result in malpractice claims? Hopefully, armed with some of that knowledge, we can learn more about how we might avoid them.

PREVALENCE OF MEDICAL ERROR

Error is probably inevitable in situations of high complexity (human illness), limited information (medical knowledge) and complex systems (modern healthcare).⁶ It is not, however, easy to define medical error or to measure its extent accurately. For various reasons, any reliance on reporting for a true picture would certainly be misplaced. As was stated in the 2014 *Review of candour*, 'primary care shows particularly low rates of reporting considering the level of activity in this sector'.⁷ This serves as an instant reminder that we should probably all be reporting and sharing more of our adverse events. Much patient safety evidence points to a link between greater incident reporting and a more effective safety culture within organisations.⁶

Before we start to take comfort from some reported low levels of adverse events, we can look elsewhere. We start to get more of an idea of how commonly we are making mistakes when we turn to retrospective studies that look specifically at the two most common types of error: diagnosing and prescribing. Diagnostic errors are in fact thought to occur at a rate of around 10–15%.^{8,9} To that, we can add

VIDEO

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BLOG

Do you have any tips to share on helping to avoid medical error, in or out of general practice?
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the finding from a recent large GMC study that 5% of GPs' prescriptions in England contain an error, with one in 550 being deemed 'serious'.¹⁰

MALPRACTICE CLAIMS

Work looking at medical litigation, solely within primary care, reflects those same two most common types of error. The commonest cause for claims, accounting for 26–63%, is indeed failure of, or delay in, diagnosis.¹¹ In wishing to avoid our own significant events, it is helpful to have

in the back of our minds those (eventual) diagnoses most likely to lead to claims. Table 1 lists some of those conditions that seem to crop up most frequently, and for which we should probably be particularly vigilant.

One study on diagnostic errors resulting in claims showed that, while we may think of diagnosis as lonely work, errors often involved more than one individual: in 43%, two or more clinicians contributed; in 16%, three or more.¹² As ever, then, communication is key.

Medication error was found to account for 6–20% of all claims in primary care.¹⁰ Common mistakes are inappropriate prescribing, unsafe monitoring, and failing to warn about or recognise side-effects.

As there seems to be good consensus that these two types of error represent particular areas of concern (through litigation or not), it is worth considering how they might arise and therefore how we can help avoid them.

DIAGNOSTIC ERRORS

Diagnostic errors are more likely to be preventable and more likely to result in patient harm than other types. They may result from faulty clinical reasoning, misinterpreting investigations, or be related to or exacerbated by system failures. They are often multifactorial.

A lot of work in this area focuses on those cognitive processes that underlie our defective decision-making, particularly where we take mental shortcuts – more formally known as failed heuristics. The full scope of these forms of biased thinking is beyond the limits of this article, but some are summarised in Table 2.¹³ We can highlight some of the more common pitfalls. Certainly, *availability heuristics* seem to be a key issue¹⁴ – namely the tendency we have quickly to attribute a clinical presentation to an obvious, readily available or recent diagnosis. Similarly, *anchoring heuristics* can play a crucial role, whereby we may find it hard to break away from initial impressions, made by ourselves or others. *Premature closure* of the diagnostic process is often found to be the most common cognitive error.¹⁵

As with others, these natural thought processes have to be recognised and challenged: the blinkers have to be diligently removed. There is general agreement that we often form hypotheses very early on in our consultations. Hypotheses are essential, but must be interrogated. Should more time be dedicated to this vital psychology in our training and continual professional development?

Condition	Learning point
Subarachnoid haemorrhage	Ask about (sudden?) onset of headache. Beware ache at back of neck
Pulmonary embolism	Always consider unexplained breathlessness (may present with this alone)
Cauda equina syndrome	Ask and warn about urinary symptoms and altered saddle sensation
Acute appendicitis	Remember less classical presentations: urinary symptoms, diarrhoea, no right iliac fossa tenderness
Ischaemic foot	Check pulses: may need to reconsider gout or cellulitis in the red, painful foot
Malignant melanoma	If some uncertainty, consider rechecking
Breast cancer	Arrange re-examination if no lump found, remember examination can still miss small cancers
Colorectal cancer	Review/safety-net borderline or mild symptoms: anaemia, rectal bleeding, looser stools
Cervical cancer	Beware breakthrough bleeding that persists, <i>eg</i> after change of contraceptive pill
Diabetic ketoacidosis	Always check the urine for ketones in unwell type 1 diabetic
Achilles tendon rupture	For ankle injuries: ask re 'snap', check standing on tiptoe, do 'calf squeeze test'
Septicaemia	Measure and record temperature, pulse and blood pressure in febrile patient. Beware rapidly progressing urinary tract infection
Unexpectedly abnormal result	If not overly deranged, ensure it is repeated

Table 1. Conditions that occur frequently in negligence cases¹⁹

Bias or heuristic	Definition
Anchoring	The tendency to lock on to salient features of the patient's presentation too early in the diagnostic process, failing to adjust in the light of later information
Availability	The disposition to judge things as being more likely to be frequently occurring, if they readily come to mind
Premature closure	The decision-making process ends too soon; the diagnosis is accepted before it has been fully verified
Base-rate neglect	The tendency to ignore the true prevalence of a disease, either inflating or reducing its base rate and distorting Bayesian reasoning
Representativeness restraint	The physician looks for prototypical manifestations of disease (pattern recognition) and fails to consider atypical variants
Search satisficing	The tendency to call off a search once something is found
Unpacking principle	The failure to elicit all relevant information in establishing a differential diagnosis
Context errors	The critical signal is distorted by the background against which it is perceived

Table 2. Cognitive biases and failed heuristics¹³

How else can we try to prevent these recognised cognitive errors? Perhaps some cultural shift is required to lay the right foundations. There is some engrained mutual respect in our profession for creating full differential diagnoses from memory, but how well does that ethos serve the patient? As we know (and when travelling we are grateful for), airline pilots do not rely on memory. Perhaps we have a lot to learn from some aspects of their approach.¹⁶

Checklists have of course become commonplace in the operating theatre. Some will rightly argue that the variability and unpredictability of general practice does not lend itself to checklists in the same way – that thoughts are less tangible than actions. But others will respond that that doesn't mean we shouldn't be trying. Valiant efforts have indeed been made, for example a group creating 46 differential diagnosis checklists designed to cover 99% of

those patients who present diagnostic challenges.¹³ As general practice continues to lead the way in embracing novel IT solutions to streamline healthcare, should we be looking to incorporate more of the diagnostic systems that are already available?

Whether or not through formal checklists, it is crucial that we make more effort to briefly step back from what is in front of us, and challenge the thought processes that have preceded the current situation. It may be a little depressing to ensure this always includes at least thinking the worse, even if only to discount it, but that simple strategy can often prove invaluable. This approach, sometimes known as the 'restricted rule out', is often appropriate for rare but more serious potential diagnoses (eg subarachnoid haemorrhage).¹⁷

We should not be afraid to declare that a firm diagnosis has not yet been possible, keeping it 'open' rather than 'closed'.

There is an undeniable longitudinal, time-dependent aspect to the art of diagnosis. It probably pays to involve the patient in that uncertainty – that is not always easy, but it will encourage doctor and patient alike to act accordingly thereafter. Tests to rule out alternatives can often be more helpful than tests that look to confirm our pre-formed suspicions.

PRESCRIBING ERRORS

As with their diagnostic counterparts, it is useful to know where prescribing errors are being made. In its 2012 study,¹⁰ the GMC found that mistakes were almost twice as likely among children and the elderly.

A recent large European study, focusing on serious prescribing errors, found that nearly half were caused by just seven drugs or drug classes.¹⁸ Within those, methotrexate stood out, accounting for 26% of fatal and 11% of non-fatal events. The others were digoxin, warfarin, aspirin, and the drug classes beta-blockers, NSAIDs and opioids. It naturally follows that any prescription for these medicines should at least wave its own red flag.

Peter Rubin, previously chairman of the GMC, described several organisational changes that practices could make to improve prescribing safety. These include:

- working with a local pharmacist to track and learn from prescribing errors
- ensuring that senior GPs retain responsibility for complex or challenging patients
- including medication errors in significant event reports and cascading any learning.

Many of us probably feel that prescribing activity is an area where our available time is most squeezed from mounting workload pressures. As difficult as it may seem, it will remain vital that we fight to protect the time to do this safely, with minimal distraction and maximum support from IT systems with which we are fully conversant.

Consideration	Good practice
History taking	Listen: give time to gather all symptoms (further appointments if necessary)
Examination	Remember simple focused examinations, reduce short-cuts
Telephone consultations	Compare to default standard of seeing and examining. How well can you visualise the patient?
Communication	Check notes, including all correspondence. Do not rely on patients to pass on concerns to colleagues
Knowledge	Admit to limitations. Be open about checking – during a consultation or after
Abnormal results	When unexpected and borderline, arrange a repeat. Beware those that do not regress to the mean
Note keeping	Subsequent clinicians should be able to reconstruct the essentials. Record duration, relevant negatives
Consent	Ensure fully informed and documented patient decisions – especially when treatment/referral declined

Table 3. Summary of some other considerations to help reduce error¹⁹

OTHER STRATEGIES

While we have focused on limited characteristics of the two main types of error, there are a host of other considerations that we can bear in mind as we seek to reduce adverse events in our practice. Some of these are summarised in Table 3.¹⁹

Furthermore, in 2009, the NHS National Patient Safety Agency gave some detailed guidance on steps towards safety in general practice;²⁰ these are summarised in Box 1.

WHEN ERRORS OCCUR

The title of this article may suggest that to consider actions to take after an error has occurred is to consider actions taken rather too late. However, when a medical error has not been avoided, how we respond is unquestionably of paramount importance. As last year's *Review of candour*⁷ reminded us, when things do go wrong, patients and their families expect three things: to be told honestly what happened, what can be done to deal with any harm caused, and what will be done to stop it recurring. It is

a helpful consequence that the work we do (and then share) to achieve those goals will inevitably provide us with our own essential learning opportunities, helping to prevent us falling into the same trap again. It will enable us to offload some of the burden that errors can bring, help us to gain advice from colleagues, and encourage us to scrutinise the systems we work in. It also allows the potential for forgiveness or understanding from patients, which may permit us more space for the mental clarity that the learning process deserves and requires.

It can often be helpful to move away from the traditional blame culture, or 'person approach' to error analysis. While gross negligence cannot be ignored, a 'systems approach' is likely to unearth more value. This accepts that humans are fallible, and that fruitful investigation will often be into how and why organisational defences failed.²¹

CONCLUSION

We know, whether or not we are later forgiven, that 'to err is human'. We cannot

realistically aim to eliminate all mistakes from our practice. However, some knowledge of where and how they are made (particularly those that are more common or serious), bolstered by thorough analysis when they do arise, can help reduce them.

As we strive to avoid medical errors, or to act as best we can should they transpire, a few succinct elements from *The duties of a doctor*, within the GMC's *Good medical practice*²² encapsulate a great deal: 'Make the care of the patient your first concern'; 'Recognise and work within the limits of competence'; 'Take prompt action if you think that patient safety is being compromised'; and 'Be honest and open and act with integrity'.

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Box 1. Seven steps to patient safety in general practice²⁰

STEP 1: BUILD A SAFETY CULTURE

- Carry out audits to assess safety culture
- Highlight safety successes, be open and honest when things go wrong

STEP 2: LEAD AND SUPPORT YOUR PRACTICE TEAM

- Emphasise the importance of patient safety, show you are trying to improve it (eg in practice reports)
- Include patient safety in in-house staff training; encourage it as part of continuing education outside the practice
- Discuss safety issues in team meetings, make it a standing agenda item

STEP 3: INTEGRATE YOUR RISK MANAGEMENT ACTIVITY

- Regularly review patient records so that areas of common harm such as delayed or missed diagnoses/treatment can be identified
- Keep a good significant event analysis (SEA) record that can be used for the GMS contract, clinical governance, appraisals and revalidation
- Involve wider primary healthcare team members in improving patient safety

STEP 4: PROMOTE REPORTING

- Share patient safety incidents and SEAs with the National Reporting and Learning Service, for dissemination of learning
- Record events, risks and changes, and include them in your annual practice report
- Cascade safety incidents and lessons learned to all your staff and other local practices

STEP 5: INVOLVE AND COMMUNICATE WITH PATIENTS AND THE PUBLIC

- Seek patient views, and use complaints as a vital part of a modern, responsive practice
- Encourage feedback (eg patient surveys, websites such as NHS Choices)
- Involve your practice population via various meetings

STEP 6: LEARN AND SHARE SAFETY LESSONS

- Hold regular SEA meetings
- Make the discussion of significant events and the national analyses of patterns of risk everybody's business, and act on your findings

STEP 7: IMPLEMENT SOLUTIONS TO PREVENT HARM

- Ensure that agreed actions to improve safety are documented, actioned and reviewed
- Involve both patients and staff, as they can be key to ensuring proposed changes are the right ones

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