PRO: confronting resistance to rule-based medicine is essential to improving outcomes

John D Blakey,1 Michael Brown,2,3 James Pinchin,2 Mark Barley,4 Sarah Sharples5

ABSTRACT
The past 20 years have seen two great changes in the practice of medicine: the widespread adoption of evidence-based medicine, and the increasing challenge of managing complex multimorbid patients. Both these developments have resulted in clinical rules and protocols becoming ever more abundant and increasingly critical to delivering safe and effective patient care. These evidence-based clinical rules perform at least as well as expert opinion, and the increasing volume and quality of available clinical data suggests their performance could continue to improve. This article considers why clinicians deviate from effective rules, highlighting key issues such as the persisting culture of heroism, institutional inertia, deference to authority and personal heuristics. We argue that better rules can be created, and that clinical improvements will follow if there is a “common knowledge” of these rules. Furthermore, we argue that there is a ceiling to the effectiveness of any rule, even one as simple as ensuring hand hygiene, unless individuals are held accountable for transgressions.

INTRODUCTION
Ask yourself if medical dramas such as ‘House’ would be as popular if we watched a large team complete checklists and work through flow charts. Is your house officer more impressed by a registrar who ‘bangs fi’ large bore chest drains or the one who follows page 114 of the guidelines? Perhaps you know learned clinicians who feel protocols are for lesser intellects. In this context, it might be surprising that there are a growing number of medical guidelines and protocols. This abundance of rules represents a marked change in our approach to medicine when compared with previous generations, and generates debate questioning their worth. This article discusses why we need rules, suggests how we can make them more effective, and debunks arguments against their use.

SO FAR, SO GOOD
The reason rules proliferate in medicine is because they usually work well. Meta-analyses show clinical acumen alone is usually inferior to mechanical (statistical or algorithmic) prediction1 or rule-based action. Indeed, we have seen much greater improvements in morbidity and mortality in those specialties that adopt a more mechanical approach, including halving of mortality from myocardial infarction since the adoption of statistically derived risk scores.2 Rules need not be specialty specific: a simple patient handover protocol applying practice from motorsport and aviation reduces handover duration, technical errors and omissions.3 Evidence from multiple sources should not be confused by counterarguments supported by anecdote or special circumstances.

RULES ARE BECOMING INCREASINGLY IMPORTANT
Current trends in clinical practice mean that rules are becoming more critical to delivering safe, effective patient care. Modern-day clinical practice involves specialists who are becoming increasingly specialised; it is commonplace for secondary care physicians to have a single organ or single disease focus in response to the growing complexity of clinical practice. Simultaneously, patients are becoming more complex: as mortality for individual conditions falls, comorbidity is on the rise.4 Couple this with the choice of treatments for common conditions and doctors are becoming more likely to face conditions or therapies outside their specialist interest. The authors are increasingly aware of our reliance on rules that other experts produce. Finally, better data is driving better rules: as digital technologies become embedded in clinical work, activity is becoming easier to capture and with an increasing depth and breadth.5 6 It is therefore more straightforward to identify and codify best practice. Advances in information technology mean it is straightforward to disseminate large volumes of rules, and to carry them around in an accessible format such as on smartphones or through wearable technology like Google Glass.

WHY DON’T SOME PEOPLE FOLLOW THE RULES?
We acknowledge clinicians deviate from rules or protocols. For example only half of high early warning scores were escalated in accordance with written protocols in a recent study at a thoracic centre.7 Beyond ignorance, or a lack of resources, there are five key reasons why people stray from evidence-based practice.

1. Pet theories: people tend to interpret personal experience as supportive of current practices, and overemphasise the positive effects of personal factors such as judgement calls. In a phenomenon which human factors practitioners term ‘self-serving bias’ we usually remember when playing hunches went well, but not the occasions where sticking to guidelines was beneficial. Equally we don’t see the improved outcomes that would have happened if we had not deviated from rules: You remember the physician who won the Nobel prize after giving himself Helicobacter pylori,8 but not the many self-experimenters who simply ended up unwell.

2. Heroism: In our opening paragraph, we implied that medicine delivered outside the rules can be compelling viewing. This reflects a culture of heroism where clinicians respond to system stress or deficiencies by circumventing problems, and resolve any uncertainty by immediate action. It is preferable, though less entertaining, to adopt robust strategies that minimise the responsibility of individuals, emphasise the importance of systems and teams, and advocate methodical action in well-defined circumstances. Medical students might recount the story of a pneumothorax treated on a plane with a coat hanger and some whisky,9 but are less likely to be enthused by a corporate system that would have identified and treated the injured passenger before the plane took off. We realise this systems-based approach is a challenging concept for some of our colleagues (and their egos).

3. Inertia: Studies investigating organisational change management in business reflect the experience in medicine: established ways of working can be
CREATING BETTER RULES

The thoughtful creation, dissemination, embedding and revision of high quality rules can facilitate best practice, and combat the issues highlighted above.

The first barrier to overcome is ensuring rules have credibility among those who interact with them. This can be done if there is transparency and rigour in their formulation through an inclusive peer-reviewed process, and if there is clarity as to their limitations. This ideal is something the BTS guidelines aspire to and frequently achieve. Elsewhere there can be less clarity around when rules are just extended from sources such as clinical trial inclusion criteria (eg, yearly spirometry in asthma). Robust, transparent construction and responsive review should ensure the cries of “my patient doesn’t fit in the guideline!” and “what do they know?” grow steadily fainter.

IMPROVING AWARENESS OF RULES

It is insufficient to have a high quality process for creating rules. Once derived, they must be made known to all who might use them, and others must know they exist. The advanced life support guidelines are an example of such ‘common knowledge’ facilitating strangers working together in an emergency setting, and those who are not trained at least know that there are rules to follow. More complex or specialist rules are unlikely to achieve the same penetration, and therefore need to be visibly present at the point of decision-making or action. For instance, the ‘Can’t Intubate, Can’t Ventilate’ guideline13 is available in most anaesthetic rooms, just as checklists in aviation reside in the cockpit. In contrast, medical guidelines are too often only accessible away from the patient via slow NHS computers that require multiple logins to get to a poorly signposted intranet page.

ACCOUNTABILITY

Increasing the awareness of rules and monitoring their application also means it is clear when they are being transgressed. Peer review may be rigorous for academic grants and journals, but we do not appraise our colleagues’ clinical activity so diligently.

As a simple example, we all agree hand hygiene is essential. To counter poor hand hygiene in recent years, institutions have introduced additional sinks and alcohol gels, and disseminated concordance rates; that is, they have addressed the system problem. Any persisting issues relate to individuals not taking personal responsibility, so those that don’t wash their hands should be challenged. Historically patients and junior professionals have not felt empowered to challenge those they perceive as more senior, fearing repercussions.

Healthcare providers are beginning to encourage this culture of speaking up, for example by using the Centers for Disease Control Hand Hygiene Saves Lives videos. It has been suggested that institutions should also consider remote surveillance of such vital aspects of healthcare provision, in the same way that red light cameras reduce transgressions at junctions.12

Persistent offenders should also be held accountable for their actions with clear penalties for contravention,13 requiring a cultural shift in medicine. If a pilot turned up late for a flight then taxied off without undertaking thorough checks they would be suspended, whereas a medic rushing into an accident area would not be.

REFERENCES

5 Blakey JD, Fearn A, Shaw D. What drives the ‘August effect’? A observational study of the effect of junior doctor changeover on out of hours work. JRSM Short Rep 2013;4:2042533133489823.
8 Watts G. Nobel prize is awarded to doctors who discovered H pylori. BMJ 2005;331:795.
PRO: confronting resistance to rule-based medicine is essential to improving outcomes

John D Blakey, Michael Brown, James Pinchin, Mark Barley and Sarah Sharples

Thorax 2015 70: 110-111 originally published online July 21, 2014
doi: 10.1136/thoraxjnl-2014-205986

Updated information and services can be found at:
http://thorax.bmj.com/content/70/2/110

These include:

References
This article cites 11 articles, 5 of which you can access for free at:
http://thorax.bmj.com/content/70/2/110#BIBL

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Topic Collections
Articles on similar topics can be found in the following collections

Patients (131)

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/