'The problem with…': a new series on problematic improvements and problematic problems in healthcare quality and patient safety

Kaveh G Shojania,[1] Ken Catchpole[2]

[1]University of Toronto, Centre for Quality Improvement and Patient Safety (C-QuIPS), Toronto, Ontario, Canada
[2]Department of Surgery, Cedars-Sinai Medical Center, Los Angeles, California, USA

Correspondence to
Dr Kaveh G Shojania, University of Toronto, Centre for Quality Improvement and Patient Safety (C-QuIPS), Sunnybrook Health Sciences Centre, Room H468, 2075 Bayview Avenue, Toronto, Ontario, Canada M4N 3M5; kaveh.shojania@sunnybrook.ca

Accepted 3 February 2015

To cite: Shojania KG, Catchpole K. *BMJ Qual Saf* 2015;**24**:246–249.

Who has not attended an organisational meeting focused on some quality problem and not groaned in response to a suggestion of the type 'We should just …have a new policy', '…send out performance reports', '… create a checklist', 'go after the low-hanging fruit', or any of a number of other commonly suggested strategies for dealing with quality-related problems. Whether the groan occurs audibly or just internally depends on one's self-control and role in the organisation. Following the groan, one may even launch into a short speech beginning with the phrase 'The problem with… new policies [or checklists or whatever the case may be] is…' Whether this monologue occurs internally or externally again depends on one's self-control and willingness to risk alienating others at the meeting.

With this editorial, we announce the launch of a new series of articles in *BMJ Quality & Safety* giving voice to these groans and monologues in response to frequently espoused but problematic improvement strategies, as well as problems that seem never to go away. Entitled 'The problem with…', each article will discuss controversial topics related to efforts to improve healthcare quality, including widely recommended but deceptively difficult strategies for improvement ('problematic solutions') and pervasive problems that seem to resist solution.

Table 1 lists some example topics and briefly outlines the motivations for including them. We have commissioned some articles already, but encourage uninvited submissions as well (ideally in discussion with one of the editors before embarking on writing the full article).

WHAT MAKES ANY IMPROVEMENT (OR ITS TARGETED PROBLEM) 'PROBLEMATIC'?

Something can be difficult without being 'problematic'. When we know what work needs to be done to achieve a goal, we knuckle down and do the work. That is not problematic. If we do not have the time or resources to invest in this work, we walk away ('I can't afford to do that'). Or, if we regard the goal as worthwhile, we make the time, find the money, or invest whatever other resources are required to achieve it.

But, what if we make these investments of effort and resources, yet fail to achieve our goal? Then, we have a problem. If it happens just to us, we ask for advice from someone who has succeeded. When we find, however, that many people have failed to achieve the same goal despite efforts similar to ours, then we have a deeper, shared problem.

PROBLEMATIC IMPROVEMENTS

An improvement we expect to work can fail to deliver satisfactory results in a number of ways.

1. *The intervention may commonly be implemented inadequately: the correct way is known, but not widely appreciated.* The surgical checklist comes to mind in this regard. Non-experts often do not recognise that achieving improvement can require changes to teamwork, culture or workflow that make the overall effort far from simple or easy,[1 2] and perhaps not even effective at all,[3 4] when unaccompanied by these other more labour-intensive changes.
2. *The intervention requires much more effort or expertise than generally recognised.* Medication reconciliation presents an example of this type. Studies that report

Table 1 Example topics and the basis for their inclusion

	Motivation for inclusion
Problematic improvements	
Checklists	Deceptively simple, but often require other more substantive changes (teamwork, workflow, attention to design issues)[1 2 4]
Incident reporting	Makes sense in principle as a means of capturing incidents worth investigating to identify system problem, but misapplied in practice as a source of trend data and pie charts
Standardised hospital mortality ratios	The title of one commentary says it all: 'a bad idea that just won't go away'[13]
Targeting 'low hanging fruit'	Meant to refer to improvement targets that will not require much effort to achieve worthwhile gains. In practice, these fruit are often further out of reach than they at first appear (or are not as worth picking as one might have thought)
Audit and feedback of performance ('report cards')	A large literature shows modest benefits. Probably more substantial improvements are possible. But, feedback initiatives routinely occur with little consideration of what seems to work best (eg, that feedback should occur from a supervisor or respected colleague, should occur frequently, and be accompanied by a goal or action plan[14])
Problematic problems	
Falls	Most falls produce no injury; interventions that reduce fall-related injuries remain elusive, and focusing on fall rates risks reducing mobilisation[8]
Interruptions	Not all interruptions are bad and simply counting them all serves little purpose. The desirability of preventing an interruption depends on a complex interplay between the content of the interruption, the task being performed, and the potential for recovery strategies, among others[9 10]
Readmission rates	Widely targeted and make sense in principle, but the proportion of preventable readmissions is probably much lower than generally stated, especially when one considers preventability by a hospital level as opposed to changes that might occur in the whole health system
Hand hygiene compliance	Hospitals invest considerable time measuring and attempting to improve rates of hand hygiene compliance. We do not know the threshold rate at which tangible infection control benefits begin to occur. And, hand hygiene audits almost certainly overestimate performance[15]
'Low value care'	Inappropriate or low value medical care is common and makes good sense to target.[16] The problem is that the easy cases are not common. It is unusual to have an aspect of medical care that is usually inappropriate and also consumes substantial resources

meaningful improvements in medication safety almost all involve medication reconciliation carried out by pharmacists.[5] Yet, the vast majority of hospitals cannot afford to employ enough pharmacists to carry out this activity. Instead, most hospitals create new forms to support doctors or nurses performing medication reconciliation as part of their workflow. Without any deeper efforts to create the time for staff to do anything differently, 'the best possible medication history' supposedly generated by this medication reconciliation process may well consist of the same old error-ridden medication history as before.

3. *The intervention is commonly misused—it achieves one goal well, but is more commonly misapplied to another goal.* Incident reporting systems provide an example of this type. Incident reporting is meant to capture 'critical incidents' that shed light on system problems. The rate at which such events occur does not matter. What matters is why they happened and if careful characterisation of the contributing factors reveals changes that could lower the risk of similar incidents in the future. In practice, however, incident reporting systems serve to generate pie charts and bar graphs. 'We had X medication incidents this year and Y incidents last year'. Or, 'As you can see, the most common type of incident is falls, followed by medication problems'. Incident reporting systems do not quantify the frequency or rate at which a problem occurs. Variations in the number of incidents and the relative frequencies of different event categories say more about changes in reporting behaviour than they do about the rate at which harm occurs.[6]
4. *The solution can work, but frequently fails to deliver in practice.* Electronic health records and computerised order entry easily come to mind in this category. But other examples might include root cause analysis, standardisation, and efforts to reduce alarm fatigue, to name a few.

PROBLEMATIC PROBLEMS

Problems can require substantial effort to solve without being 'problematic'. When an elegant solution to a mathematical problem is not apparent, mathematicians sometimes say that it can be solved through 'brute force'. Application of well-known methods will produce a solution eventually. But sometimes applying known methods and substantial effort fails to deliver any useful solution. In such cases, the problem sometimes lies not with our solutions per se, but rather with our formulation of the problem itself.

Conceptually, one might apply the framework of Glouberman and Zimmerman[7] and say that problematic problems arise when we misconstrue which type of problem we face—simple (cooking from a recipe), complicated (building a rocket to the moon), and complex (raising a child). Many persistent health policy problems (eg, reducing overcrowding in

emergency departments and lowering rates of readmission to hospital) probably reflect a failure to distinguish complicated from complex problems.[7] In the case of preventing readmissions, the hospital side of the equation has usually been characterised as simple (albeit effortful), involving bundles of strategies, many of which appear fairly simple in themselves—patient education about discharge plans, medication reconciliation, having follow-up appointments in place prior to discharge, checking in with patients by phone to ensure no problems with medications or follow-up appointments, and various other strategies. Where it becomes much more complicated, possibly even truly complex, is determining how care delivery needs to change in the outpatient setting, possibly including policy and funding decisions affecting all sectors of the health system, not just hospitals, but clinics, home care services, nursing homes and rehabilitation facilities.

Less conceptually interesting but still practically important instances of problematic problems include:

1. Focusing on a problem out of proportion to its importance.
2. Faced with any persistent problem, one can rationally ask the question: 'Is this problem really so worth solving after all?' Maybe it is important after all and we just need to remind ourselves why before returning to the fray. Alternatively, maybe our efforts to articulate the importance of the problem leads us to shift our focus to something else. Inpatient falls strikes us a commonly targeted quality problem that would benefit from consideration in this way.
3. Or course, it is unfortunate when a patient has a serious fall. But, the rate of injury is very low, interventions that reduce fall-related injuries remain elusive, and focusing on falls reduction risks interfering with improving mobility, which is probably a more important goal for hospitalised elders.[8] Our point is not that falls should be abandoned entirely as a target of improvement efforts, just that the field would benefit from an article clearly articulating the pros and cons of focusing on this problem.
4. Failing to appreciate the complexity of a problem.
5. Not all interruptions are bad and simply counting how frequently they occur in various clinical settings serves little purpose. The desirability of preventing an interruption depends on a complex interplay between the content of the interruption, the task being performed, and the potential for recovery strategies, among others.[9 10]
6. Strategies that sound like solutions but still haven't been worked out, so are really unsolved problems. For instance, it is fine to say we should engage patients or the public in designing improvement strategies or playing roles on committees, but how to do so as more than a token exercise remains unclear. How does one patient (or even several) stand in for all patients? How do we assess the degree to which the intended benefits are occurring or even something as basic as the degree to which patients have been usefully involved in the process? Improving culture might provide another such example. We've all heard the line that 'culture eats strategy for breakfast', so it seems quite reasonable to say we have to improve culture. But, we know so little about how to achieve this goal[11] that 'improving culture' is currently a problematic problem as much as it is an intervention.

OPEN FOR DEBATE

Of course, we recognise that many of these topics will generate some controversy. Unnecessary controversy can perhaps be avoided if we clarify that any given 'The problem with X' article in the series might just as easily be called 'Beware of X' or 'Pitfalls to avoid when undertaking X'. In other words, 'The problem with incident reporting' does not equate with 'Stop bothering with incident reporting altogether'. But, we would want readers to have in one place a concise summary of the myriad barriers that prevent accomplishing anything useful with incident reporting systems.

That said, advances in human understanding benefit from controversy and debate. So, we welcome debate on the topics included in this series. We hope to publish most responses to articles in the series on the journal's website. And, we will undoubtedly publish some counterarguments as formal letters to the editor. In cases where we anticipate strong arguments for and against calling something problematic, we will invite a pair of authors for a point–counterpoint debate. One recent example (submitted and accepted for publication before we decided to launch the series) involved a debate by two experts in patient safety for and against the 'no blame' approach to improving patient safety.[12]

VENTING VERSUS ADVANCING THE FIELD

We all have pet peeves or topics that make us wince due to disastrous experiences. Some of us are wont to vent over external regulations, performance measures, or various others topics. And, sometimes working in quality improvement full-time can make one sick of hearing about certain recurring strategies or problems. We hope to avoid choosing topics that speak only to personal peeves, but rather represent compelling cases of needing to broaden our thinking in the field on these topics. We frequently find in complex sociotechnical systems that our assumptions about causes and solutions are wrong. Contention and debate can challenge such assumptions and prompt reconceptualising the problems we target or how we tackle them.

Even if you know you cannot really wave goodbye to incident reporting systems, a narrow focus on hand hygiene compliance, standardised mortality ratios, or hospital readmission rates among other topics potentially covered in the series, reading why you might be

justified in doing so may at least provide an enjoyable diversion from your efforts. More substantively, though, we hope the material covered by articles in the series will arm you with new ideas and insights that will make future efforts with these deceptively difficult solutions and problematic problems more likely to succeed.

Competing interests None.

Provenance and peer review Not commissioned; internally peer reviewed.

REFERENCES

1 Bosk CL, Dixon-Woods M, Goeschel CA, *et al*. Reality check for checklists. *Lancet* 2009;374:444–5.
2 Chopra V, Shojania KG. Recipes for checklists and bundles: one part active ingredient, two parts measurement. *BMJ Qual Saf* 2013;22:93–6.
3 Reames BN, Krell RW, Campbell DA Jr, *et al*. A checklist-based intervention to improve surgical outcomes in Michigan: evaluation of the keystone surgery program. *JAMA Surg* 2015. Published Online First: 14 Jan 2015. doi:10.1001/jamasurg.2014.2873
4 Urbach DR, Govindarajan A, Saskin R, *et al*. Introduction of surgical safety checklists in Ontario, Canada. *N Engl J Med* 2014;370:1029–38.
5 Kwan JL, Lo L, Sampson M, *et al*. Medication reconciliation during transitions of care as a patient safety strategy: a systematic review. *Ann Intern Med* 2013;158:397–403.
6 Abramson EL, Pfoh ER, Barron Y, *et al*. The effects of electronic prescribing by community-based providers on ambulatory medication safety. *Jt Comm J Qual Patient Saf* 2013;39:545–52.
7 Glouberman S, Zimmerman B. Complicated and Complex Systems: What Would Successful Reform of Medicare Look Like? Commission on the Future of Health Care in Canada, Discussion Paper No. 8. http://publications.gc.ca/collections/Collection/CP32-79-8-2002E.pdf (accessed 21-Jan-20152002).
8 Inouye SK, Brown CJ, Tinetti ME. Medicare nonpayment, hospital falls, and unintended consequences. *N Engl J Med* 2009;360:2390–3.
9 Coiera E. The science of interruption. *BMJ Qual Saf* 2012;21:357–60.
10 Westbrook JI. Interruptions and multi-tasking: moving the research agenda in new directions. *BMJ Qual Saf* 2014;23:877–9.
11 Morello RT, Lowthian JA, Barker AL, *et al*. Strategies for improving patient safety culture in hospitals: a systematic review. *BMJ Qual Saf* 2013;22:11–18.
12 McTiernan P, Wachter RM, Meyer GS, *et al*. Patient safety is not elective: a debate at the NPSF Patient Safety Congress. *BMJ Qual Saf* 2015;24:162–6.
13 Lilford R, Pronovost P. Using hospital mortality rates to judge hospital performance: a bad idea that just won't go away. *BMJ* 2010;340:c2016.
14 Ivers NM, Grimshaw JM, Jamtvedt G, *et al*. Growing literature, stagnant science? Systematic review, meta-regression and cumulative analysis of audit and feedback interventions in health care. *J Gen Intern Med* 2014;29:1534–41.
15 Srigley JA, Furness CD, Baker GR, *et al*. Quantification of the Hawthorne effect in hand hygiene compliance monitoring using an electronic monitoring system: a retrospective cohort study. *BMJ Qual Saf* 2014;23:974–80.
16 Levinson W, Kallewaard M, Bhatia RS, *et al*. 'Choosing Wisely': a growing international campaign. *BMJ Qual Saf* 2015;24:167–74.