Choosing Wisely for quality improvement: more is not always better

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It is not an entirely original observation that critical care medicine can be divided into two eras: a ‘maximalist’ era and a ‘minimalist’ era. From its founding as a specialty in 1952, critical care practice and research focused on increasingly invasive interventions to support patients’ failing organs. The reflex response to a problem was generally a new intervention. However, since the early 2000s, there is a growing weight of evidence suggesting that excessive and burdensome interventions are not good for patients (or staff).

High volume ventilation, unsuitably invasive haemodynamic monitoring, excessively aggressive filtration and liberal sedation are all associated with—at best—no benefit and—at worst—poorer outcomes. The international Choosing Wisely campaign champions avoiding wasteful, or even potentially harmful, interventions. The multiple discipline-specific campaigns help clinicians pare back or de-implement interventions that are considered low-value care—those for which there is little evidence for patient benefit or potentially more harm than benefit. There have now been two rounds of recommendations of Choosing Wisely campaign goals: reducing unnecessary blood tests in critical care.

This multimodal intervention used an education campaign, audit and feedback, a bedside rounds checklist and electronic order set modification to achieve a significant and sustained reduction in volume of blood draws from patients. There was an immediate postintervention decrease in total daily phlebotomy volume of 6.6 mL/patient-day (95% CI 1.8 to 11.4 mL/patient-day), which was sustained. Blood collection tube consumption decreased by 1.4 tubes/patient-day (95% CI 0.4 to 2.4 tubes/patient-day), which was sustained during the 11-month postintervention period and amounts to an estimated 13,276 tubes (95% CI 4,602 to 22,127 tubes) saved. Importantly, it is not the cost-saving here that is relevant; rather each tube saved represents a low-value blood test averted—good for both patients and clinicians. The intention was not to throttle blood tests with true diagnostic yield, but to prevent those begotten by action bias and routine or ‘just in case’ investigations that represent low-value care for the patient and the healthcare system. As such, one could argue that this is a ‘minimalist’ approach to critical care, ensuring that patients receive the appropriate care that they need without the risks posed by overuse of diagnostic blood testing. The most direct patient risk

To cite: Stephens TJ, Thomson WRN. BMJ Qual Saf 2023;0:1–3. doi:10.1136/bmjqs-2022-015574
in this situation is iatrogenic anaemia and the investigators identified that their intervention resulted in a decreased number of red blood cell transfusions, from 10.5±5.2 transfusions/100 patient-days to 8.3±4.4 transfusions/100 patient-days (incident rate ratio 0.56, 95% CI 0.35 to 0.88).

Although Bodley and colleagues’ study was a single-centre study, with an uncontrolled study design, it has several key strengths. First, the in-depth, mixed-methods system diagnostics used to inform development of the QI intervention, including interdisciplinary focus groups, observations of care and process mapping, are particularly notable. Data are a crucial aspect of any QI study, but these are too often centred about quantitative process data to ascertain baseline performance. Delving deeper to really understand the drivers of this baseline performance allows teams to choose QI strategies that address the identified barriers, rather than picking generic strategies and hoping for the best.9 Intervention mapping and/or logic models are not new concepts but their explicit and systematic use in QI efforts remain far from universal.10 11 Second, the improvement goal of reducing unnecessary, routine blood tests in critical care was based on evidence and a discipline-wide practice recommendation from the Choosing Wisely campaign. This is important as it can often be easier to get colleagues to coalesce around, and give support to, recommendations coming from or endorsed by professional bodies and societies. Although they are the subject of some debate, overall the Choosing Wisely recommendations are widely accepted by many professional bodies, and so leveraging such external influence can be useful. Third, and very importantly, the study team appropriately resourced their improvement effort, including allocated time to lead the work and a project manager to run the improvement work. Thinking of QI as a quick fix for a complex problem has led many people to be overambitious with too few human resources, on too tight a timeline, for too large or too many improvement goals.12

Returning to Choosing Wisely for Critical Care, this campaign buttresses against action bias. Among the different cognitive biases that exist, action bias can be seen when decision makers tend to prefer taking action when selecting investigations or management strategies rather than risking remorse over missing an opportunity to investigate or treat.13 Individually these choices, for example a single blood draw, or a slightly deeper level of sedation at night for safety, represent minimal to moderate risks of harm to the individual, but in aggregate over a hospital stay or at a macro system level they can add significant burdens.14 However, overcoming that action bias is challenging, both in clinical decision making and in planning to improve clinical care with QI interventions. Clinician-led improvement efforts are not cost-free endeavours; they require, among other things, both time and energy from those leading the improvement and the clinical team whose practice is being altered. Therefore, as for patients, we need to consider whether to expose colleagues to multiple QI interventions in an untargeted way or whether we should be more selective in the improvement interventions we choose, based on evidence of what works for a given QI problem. This can be seen as the mirror image of the maximalist–minimalist tension and is important because QI comes with opportunity costs. While the team focuses on, for example, reducing routine blood testing, there are a host of other improvement targets waiting to be addressed. Doing the system diagnostics to identify the system and context issues to be targeted and then applying these to the most appropriate intervention therefore has not only practical benefits in terms of a more likely successful QI outcome, but also moral and ethical dimensions. The faster and more effective a QI project is, the lower the burden of change is for staff and the quicker patients can receive better care, not only for the current target care process, but also all the future ones on the teams ‘to do’ list.

In summary, this excellent QI project focuses on reducing a low-value clinical intervention by using an evidence-based QI approach to support clinicians in taking a more minimalist approach to their patients’ care. Essentially this is about doing less but also about doing what works and doing that well. Doing less is not easy. It is sometimes uncomfortable for the critical care community to do this; most are inherently ‘maximalists’ by self-selection. There is an urge to correct the numbers, gather every possible data point available and to finesse the metrics to leave no stone unturned in caring for our patients. Simultaneously, in our drive to improve patient care, the maximum of using every possible QI intervention, without a clear evidence-based rationale for each also needs to be questioned. Instead of showering patients with all the care available, and colleagues with every QI intervention possible, perhaps we should face the uncomfortable truth that the interventions we provide may be harmful if administered in excess, for patients or clinicians. The laudable goals of this study and by extension the Choosing Wisely campaign do just that—they codify the need to do less. We need to consider this same approach when designing QI campaigns for critical care.

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Contributors WT and TS contributed equally to the conception and writing up of this editorial.
Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.
Competing interests TJS is an associate editor of BMJ Quality and Safety
Patient consent for publication Not applicable.
Ethics approval Not applicable.
Editorial

Provenance and peer review Commissioned; internally peer reviewed.

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