Top-down and bottom-up approaches to low-value care

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Low-value care refers to tests or treatments for which there is little evidence of benefit or more harm than benefit, which can result in poor patient outcomes such as unwarranted secondary tests or adverse events. In this context, inefficient use of scarce healthcare resources threatens the sustainability of healthcare systems and low-value care is an obvious target. About 25%–30% of all care has been estimated to be of low value in countries such as Australia, Canada, Spain, Brazil and the USA, and this estimate rises to 80% for certain procedures.[1] There is increasing interest to identify areas of low-value care based on available evidence, guidelines and expert opinion,[2] including initiatives such as Choosing Wisely[3] and the *British Medical Journal*'s Too Much Medicine campaign.[4] These campaigns aim to reduce or stop low-value services (i.e., *de-implement*) from the 'bottom up', at micro or meso levels. They are designed to modify clinician behaviours through strategies such as audit and feedback, nudges, electronic clinical decision support or education. Different components have varying results and multicomponent interventions appear to be most effective.[5]

In contrast to interventions delivered at the clinician level, policy-level interventions including regulatory and payment structures incentivising value have garnered interest as a 'top down' approach. *Disinvestment* is a de-implementation strategy typically involving financial disincentives such as withholding funding or applying financial penalties. However, disinvestment strategies have demonstrated mixed results to reduce low-value care.[6] The challenge lies in producing top-down policies that align with the interests of clinicians, patients and policy makers: where policy interventions lack alignment, change proves difficult to engineer. Misalignment can happen when a disinvestment strategy is not tailored to the healthcare funding and physician compensation model of the targeted context. For example, salaried physicians may require a different approach from physicians practising in a fee-for-service model.

In this issue of *BMJ Quality and Safety*, Anderson *et al*. evaluated the impact of the evidence based intervention (EBI) disinvestment programme, a coordinated and structured macro 'top down' policy approach to disinvest low-value care.[7] The EBI programme developed statutory guidance around the identification of 17 low-value care procedures, grouped into two categories: (1) Procedures to stop completely, and (2) Procedures to reduce to 25% of current national levels. Additionally, the EBI programme set targets and provided guidance to local clinical commissioning groups (CCGs) on how to reduce low-value care. The authors compared volume changes of low-value procedures between January 2016 and February 2020 against a control set of procedures not targeted by the EBI programme. The primary treatment group in the evaluation were category 2 procedures during the first phase of the EBI programme; the motivation for excluding category 1 procedures from the primary analysis was that these were not recommended in any circumstance and therefore likely to experience larger reductions, with an additional robustness analysis testing this assumption. The four control procedures were selected from category A low-value procedures that will be part of the second phase of the EBI programme. They found that implementation of the EBI programme was associated with a 0.10% smaller reduction in volume of low-value procedures in the treatment group compared with the control procedures, which amounts to 16 low-value procedures per month. The results were

consistent in several robustness analyses: irrespective of including category 1 procedures (to stop completely, where larger effects would be expected due to non-payment); regardless of the timing of the intervention (to account for any changes occurring when the new policy was announced rather than actually enforced); and across both high-cost and low-cost procedures so not driven by high-cost procedures alone. Reductions were greater for CCGs posting a financial deficit in the baseline year, suggesting that these CCGs were perhaps more committed to cost savings.

The authors acknowledge that the EBI programme, a complex intervention in itself, has a distinct combination of components which includes target setting for the 17 low-value procedures by each local commissioning organisation, introducing a zero tariff for certain interventions, asking all commissioning groups to implement a prior approval process for low-value interventions, monitoring agreed targets, and providing feedback to hospitals and commissioning groups. However, it is possible that control procedures did not remain unaffected by the intervention which is one of the assumptions underlying the performed analysis. Still, the overall conclusion is that the EBI programme has not accelerated disinvestment of the targeted low-value procedures by achieving larger reductions in volume than for control procedures, but instead was associated with smaller reductions, thereby adding to the mixed results seen with many previous disinvestment initiatives.

'TOP DOWN' APPROACH TO LOW-VALUE CARE AS A COMPLEX INTERVENTION

As demonstrated in the study by Anderson *et al*., active disinvestment strategies can be complex interventions. At their core, the hope is that financial disincentives will spur desired reductions in areas of low-value care. However, this approach positions financial cost savings for the system as the predominant motivator to reduce low-value care where there may be other worthy potential targets to change clinical practice behaviours. Further, it minimises the importance of social and behavioural sciences approaches, like behavioural eeconomics, that emphasise the importance of the public's, patients' and clinicians' perspectives to reduce low-value care.[6] Many countries have implemented pay-for-performance programmes that financially incentivise or disincentivise via penalties and non-payment with lacklustre results.[6] However, we need to better understand how such programmes—including the EBI programme—may have worked (or not) to inform better ways to incorporate policy-level changes in attempts to reduce low-value care.

As pointed out by Anderson *et al*., there are many factors that can contribute to the failure of disinvestment initiatives to achieve their aims such as low public and clinician engagement, a 'top down' approach without buy-in among front-line clinicians, lack of data collection and monitoring arrangements, uncertainty around strength of evidence convincing clinicians to de-implement and lack of organisational quality improvement infrastructure (such as access to quality improvement experts, data and degree of executive leadership support). Policy-level interventions require active implementation of recommendations at the clinician level as policies don't implement themselves. Ensuring alignment of interests between policy makers and clinicians and focusing on local implementation of recommendations, clinician engagement and policy adherence can be critical to the success of a policy-level intervention like the EBI programme. It is unclear how the EBI programme approached local implementation and the nature of clinician engagement to promote adherence. For example, performance feedback was delivered to hospitals and CCGs but it is unclear if and how this information was disseminated or reached front-line clinicians and teams in a way that engaged and empowered these groups to implement changes in clinical practice needed to achieve the intended results. Similarly, details on how each hospital or CCG managed to meet disinvestment targets are not known. Did clinical teams (nurses, physicians, pharmacists, and clinic and/or ward managers) have the supports or training required to de-implement targeted procedures and treatments? Was there active de-implementation work occurring on the ground or was the focus on knowledge dissemination, which is known to be insufficient to produce the change needed to significantly reduce or eliminate low-value care.[8 9] Policy or statutory guidelines alone without an accompanying de-implementation strategy targeting clinical teams is unlikely to be successful or may produce unintended consequences.

There are some scenarios where a policy-only approach without active implementation or clinician engagement might be more successful in reducing low-value care: (1) The policy can be enforced without clinicians being able to create workarounds (such as creating barriers to access the low-value service) and (2) When targeting 'clearly ineffective' services where the evidence, typically related to patient harm, is very strong so that access to the service may be removed immediately. An example of a policy-only approach in scenario #1 is illustrated in a study examining prescribing patterns following the implementation of policies regulating pharmaceutical salesperson visits to attending physicians in US academic medical centres.[10] The authors found a modest but significant reduction in prescribing of detailed drugs when clinicians no longer had access to or limited exposures to pharmaceutical salespersons. This was a policy-only intervention that effectively curtailed influence of pharmaceutical salespersons where physicians could not create a workaround. An example of an effective policy-only approach in scenario #2 (area of 'clearly ineffective services' where there was no

clinical situation justifying their use and high likelihood of significant harms to patient) is the recall of fenfluramine-phentermine for obesity in the USA by the Food and Drug Administration.[11]

However, low-value services are often not easily labelled as being 'clearly ineffective'. Rather they are subjectively defined using appropriateness criteria, requiring clinical decision making where in some clinical situations a service such as low back imaging might be appropriate (ie, in the presence of red flag symptoms suggesting a pathological process) or not (ie, in a patient with clinical features consistent with mechanical low back pain). The reality is that there are very few services that can be easily labelled as 'clearly ineffective' and which would benefit from policy-only interventions to simply 'turn off' access to such services. The majority of the services included in the EBI programme are not like this because some patients in certain clinical scenarios may benefit.[1] As a result of the subjectivity around what constitutes low-value care (which may differ depending on the patient's, clinician's or organisation's perspective), clinicians may not be motivated to change practice behaviour simply to gain perceived systems-level savings. Thus, solely focusing on financial disinvestments or disincentives, like any other single-faceted intervention, is unlikely to be successful in most areas of low-value care.[5] Policy-level interventions might be more effective when coupled with other interventions targeting clinician behaviour and other stakeholders directly, including their motivation to reduce low-value care.

USING EVIDENCE FROM 'BOTTOM UP' APPROACHES TO REDUCE LOW-VALUE CARE

Decades of research in implementation science has emphasised that developing intervention strategies based on likely barriers and drivers to care is a critical step. Similarly, the likelihood of de-implementation and disinvestment strategies being effective is dependent on: (1) The validity and comprehensiveness of the barrier and driver assessments of low-value clinical behaviour; (2) Identifying effective intervention components targeting barriers and drivers; (3) The fidelity of intervention delivery; and (4) The absence of unrecognised contextual factors that might modify the effects of an intervention.[9] However, even though the steps taken are likely similar, it requires careful consideration of whether the same methods that are effective in implementation such as audit and feedback, will be similarly effective in de-implementation or require adaptation to meet some of the different and unique barriers in de-implementation.

Several successful low-value de-implementation initiatives, involving organisation-wide multicomponent interventions, show that senior management teams who embrace improvement methodology and demonstrate characteristics of strong leadership are critical to drive desired quality outcomes across multiple domains, including value.[12 13] Additionally, the de-implementation of each low-value test (eg, routine test ordering for ambulatory surgery) may require multiple healthcare professionals (eg, primary care physician, preoperative assessment nurse, anaesthesiologist, surgeon) to collectively change what they do for the patient.[14] Each healthcare provider may then require a tailored intervention depending on the drivers of their practice, therefore requiring a more complex approach than 'one size fits all'.

COMBINING TOP-DOWN AND BOTTOM-UP APPROACHES TO EFFECTIVELY REDUCE LOW-VALUE CARE

Recently published frameworks include tools and methods one may consider to help guide the design and delivery of more effective de-implementation interventions.[9 15] Broad conceptual frameworks recognise that interventions may target system, policy, hospital, practice, provider and patient levels as well as that de-implementation strategies (at whatever level) must lead to provider (and patient) behaviour change.[16 17] The Choosing Wisely De-implementation Framework[9] is a practical process framework that guides one through the design, evaluation and scale of a de-implementation intervention delivered at any level (individual, system or organisational) to explicitly target behaviour change for the healthcare provider and patient.

When designing initiatives to reduce low-value care, it is important to appreciate that any strategy or component is unlikely to be effective across all quality and safety problems in general.[9] Evidence shows that even frequently used components, like audit and feedback,[18] academic detailing[19] and policy interventions work some of the time but none work all the time, the observed effects are often modest and it is not always clear why the modest change occurred.[9] In addition, some barriers faced in de-implementation interventions such as how clinicians handle diagnostic uncertainty may require adaptation or different components.[20] Many local, often single-centred context-specific solutions work in one setting but not in other settings, and conversely, without support from clinicians, stand-alone policy interventions risk failure.[21] Effective de-implementation initiatives will likely require strategies or components that are delivered from both a top-down (from policy makers, administrators), and bottom-up (support for and from healthcare providers) perspective and require active engagement from all stakeholders to reduce low-value care. For example, a theory and evidence-based de-implementation intervention to reduce low-value routine preoperative testing, containing different strategies delivered to hospital administration as well as healthcare providers, showed a 48% reduction in low-value preoperative tests.[9]

While Anderson *et al*. report on the disappointment that the EBI programme failed to achieve the desired

results, they do acknowledge that the programme still represents a major step forward in developing a systematic and transparent approach to identify low-value care requiring de-implementation in England. Drawing lessons learned in this study, and from other disinvestment policy initiatives, it is critical to understand how clinicians, administrators, patients and key stakeholders can be actively engaged to address the social and behavioural sciences factors contributing to low-value care as well as provide clinicians with the necessary resources, training and competencies required to carry out improvement work. Future work can focus on ways to combine concurrent interventions at the macro-, meso-, and micro-system levels. Instead of interventions occurring in siloes, we advocate for a coordinated approach across healthcare sectors to create, implement, measure and evaluate multicomponent, multilevel approaches in partnership with patients, families and front-line clinicians at every step of the process to reduce low-value care.

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