Deimplementation: Discontinuing Low-Value, Potentially Harmful Hospital Care

Shradha A Kulkarni, MD[1]*, Luci K Leykum, MD, MBA, MSc[2,3], Christopher Moriates, MD[2]

[1]*Division of Hospital Medicine, Department of Medicine, University of California, San Francisco, California;* [2]*Department of Internal Medicine, Dell Medical School, The University of Texas at Austin, Austin, Texas;* [3]*South Texas Veterans Health Care System, San Antonio, Texas.*

Nearly 30% of healthcare spending may relate to overuse of unnecessary medical interventions.[1] Deimplementation of such practices can reduce negative outcomes and unnecessary costs.[2] Nonetheless, changing practice is difficult. Why is it so hard to stop doing things that don't work? A variety of factors influences deimplementation, and research aiming to identify and understand these factors can promote the delivery of more appropriate care.[2]

In this issue, Wolk et al describe barriers and facilitators in deimplementing non-guideline adherent use of continuous pulse oximetry (CPO) in pediatric patients with bronchiolitis not requiring supplemental oxygen.[3] Unnecessary CPO use for these patients is associated with increased hospitalization rates, length of stay, alarm fatigue, and costs, without evidence of improved clinical outcomes. Despite these data, many hospitals participating in the multicenter Eliminating Monitor Overuse study struggled to decrease CPO usage. The authors conducted semistructured interviews with a broad range of stakeholders from 12 hospitals, representing a variety of institutions with low and high CPO utilization rates.

Specific barriers to deimplementation included institutional factors, eg, unclear or missing guidelines, a culture of high utilization, and challenges educating medical staff. Perceived parental discomfort with stopping CPO was also observed. Four key facilitators were noted: strong institutional leadership, evidence-based guidelines, electronic health record order sets or reminders, and clear institutional policy. These results are similar to other deimplementation studies.

A commonality to deimplementation studies is the difficulty of changing practice. Much like implementation, deimplementation requires multipronged approaches that are sensitive to contextual factors. Interventions must account for local conditions, such as resource availability, practice norms, current workflows and processes of care, relationships among clinicians, and leadership, to create feasible and sustainable change.

Deimplementation may be even more challenging than implementation of new practices, however, because of loss aversion—the tendency to prefer avoiding losses to acquiring equivalent gains. "Taking away" something that clinicians are used to, even when proven to not be helpful, can feel uncomfortable, hindering adoption. Rather than simply discontinuing a practice, replacing it with a better option may help to overcome behavioral inertia and motivate change.

Underscoring the importance of local influences, clinicians often respond more to their close colleagues' practices than to knowledge of national guidelines. Leveraging existing peer networks can facilitate collaboration, learning, and behavior change.[4] Nudge strategies, in which local contexts are primed to promote desired behaviors, are also increasingly used.[4] Priming has been effective in deimplementation efforts in medication prescribing and diagnostic testing.[4]

Including patients' and families' perspectives in deimplementation research is critical to practice change. Because diagnostic and treatment plans occur in the context of collaborative decision-making with patients, caregivers, and families, these groups are critical to engage in deimplementation efforts.

Hospitalists' efforts at the front line of improvement require us to become more proficient in not only adopting evidence-based practices, but also in discontinuing ineffective ones. Identifying what we should stop doing is only the first step. Deimplementation is critical to this effort. Wolk et al provide insights into factors that influence deimplementation success. However, more work is needed, particularly regarding adapting approaches to local contexts, minimizing perceived loss, leveraging local conditions to shape behavior, and partnering with patients and families to achieve higher-value care.

***Corresponding Author:** Shradha A Kulkarni, MD; Email: shradhakulk@gmail.com; Telephone: 415-476-1742; Twitter: @shradhakulk.

Received: October 27, 2020; **Revised**: November 3, 2020; **Accepted**: November 3, 2020

Disclosures: The authors have no conflicts of interest to disclose.

Funding: Dr Leykum is a US federal government employee and contributed to the paper as part of her official duties.

References

1. Brownlee S, Chalkidou K, Doust J, at al. Evidence for overuse of medical services around the world. *Lancet.* 2017;390(10090):156-168. https://doi.org/10.1016/S0140-6736(16)32585-5
2. Norton WE, Chambers DA. Unpacking the complexities of de-implementing inappropriate health interventions. *Implement Sci.* 2020;15(1):2. https://doi.org/10.1186/s13012-019-0960-9
3. Wolk CB, Schondelmeyer AC, Barg FK, et al. Barriers and facilitators to guideline-adherent pulse oximetry use in bronchiolitis. *J Hosp Med.* 2021;16:23-30. https://doi.org/10.12788/jhm.3535
4 Yoong SL, Hall A, Stacey F, et al. Nudge strategies to improve healthcare providers' implementation of evidence-based guidelines, policies and practices: a systematic review of trials included within Cochrane systematic reviews. *Implement Sci.* 2020;15(1):50. https://doi.org/10.1186/s13012-020-01011-0