Impact of digital health interventions

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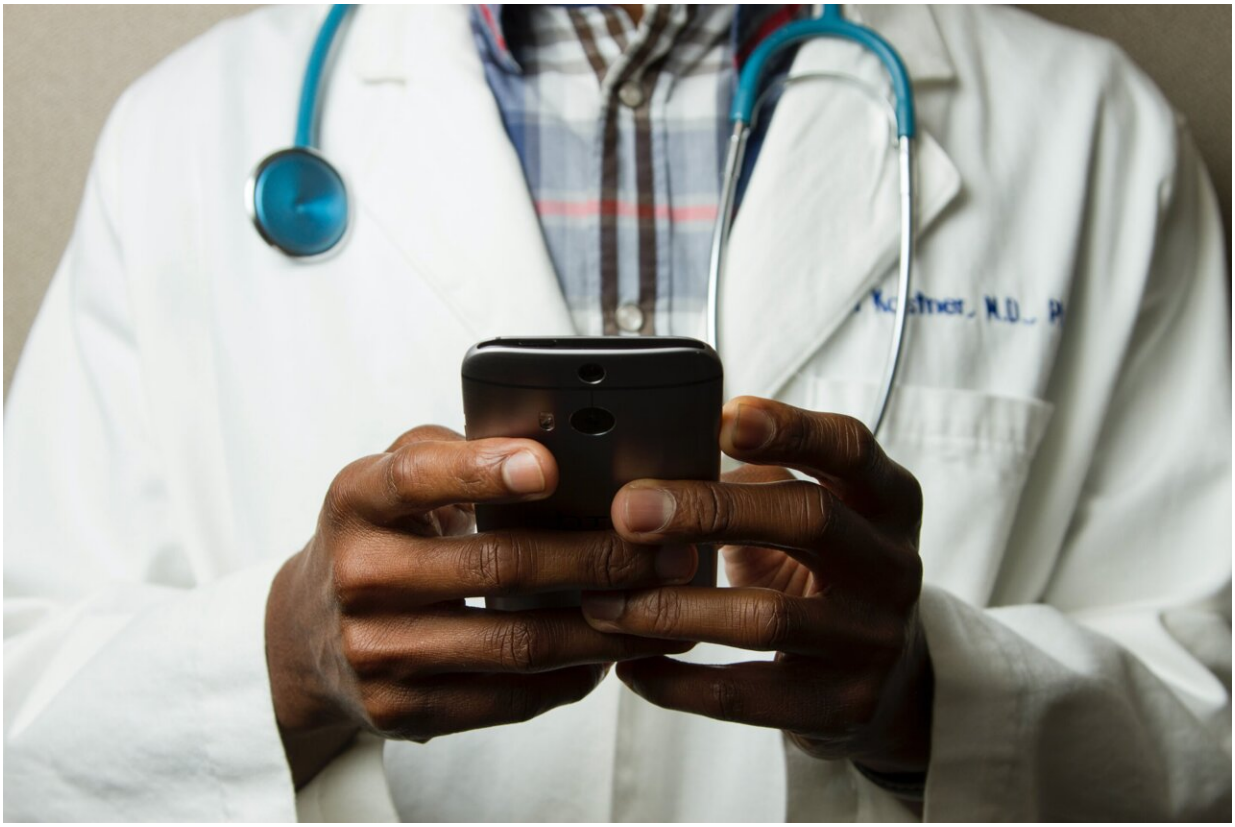

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Digital health interventions—delivered via technologies including text messages, apps and websites—are increasingly common for supporting chronic disease self-care. Although studies have focused on improving patient engagement with these interventions, limited research has addressed the association between engagement and clinical outcomes.

Lyndsay Nelson, Ph.D., Andrew Spieker, Ph.D., and colleagues evaluated multiple statistical approaches for understanding this association including moderation, mediation and a modified instrumental variable analysis. They applied the approaches to two recent randomized controlled trials that used text messages to support medication adherence in patients with Type 2 diabetes or hypertension.

The researchers report on the strengths, assumptions and limitations of each approach in the *Journal of the American Medical Informatics Association*. They encourage researchers studying digital engagement to incorporate their newly developed modified instrumental variable approach to understand how engagement supports change in clinical outcomes. Determining an effective level of engagement for an intervention can help ensure users receive the intended benefit.

More information: Lyndsay A Nelson et al, Estimating the impact of engagement with digital health interventions on patient outcomes in randomized trials, *Journal of the American Medical Informatics Association* (2021). DOI: 10.1093/jamia/ocab254

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