

Invited Commentary

Time to Embrace the Digital Age in Health Care

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Despite the ubiquity of powerful handheld communication devices such as smartphones, the potential for this technology to make a significant improvement in the efficiency and quality of health care delivery has yet to be realized. Although the evi-



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dence for novel applications is accumulating, high-quality comparative data have been largely lacking thus far, potentially hampering the adoption process.¹ In this issue of *JAMA Surgery*, Armstrong et al² report the results of a randomized clinical trial comparing patient follow-up via mobile app with standard in-person outpatient clinic follow-up after ambulatory breast reconstruction. They demonstrated a reduction in patient follow-up visits among the group using the mobile app, without affecting complication rates or patient satisfaction.

The authors are to be commended for taking the investigative literature in this area one step further in terms of quality of evidence, having previously published preliminary feasibility work.³ It is clear that this modality of patient follow-up is currently limited to patients undergoing low-risk surgery who are adept at using mobile devices such as smartphones, but nevertheless, the findings suggest that there is value to be gained by delegating postoperative follow-up to the remote telemedicine space.

One issue in the study by Armstrong et al² was the significant baseline differences between the patient groups, which is always a cause for concern in a randomized clinical trial. It remains unclear whether group allocation was truly unbi-

ased, which limits the conclusions that can be drawn. However, the authors made every effort to account for this difference in the analysis.

Another point worthy of discussion is that, while the study demonstrates that patients found follow-up via mobile app to be more convenient (although with no difference in overall satisfaction), the effect on workload burden of the health care staff was not measured and the costs of time spent reviewing and following up the electronic data have not yet been reported. The daily patient reporting of pain scores, the responses to recovery questionnaires, and the photographs (which presumably all needed review by health care staff) do provide a means of obtaining more frequent data points, but these data, as well as the more frequent electronic communication via email, may not have been an insignificant burden on the time and resources of the health care staff.

It could also be argued that, for low-risk ambulatory surgery, less follow-up is required in general than was used in either study arm. Would a 10-minute telephone call at 1 or 2 weeks have sufficed for this patient group, with a contact number to report complications, for example? At the other end of the spectrum, could mobile app-based follow-up be extended to more complex and higher-risk surgical procedures and patients with more comorbid conditions?⁴ The answers to these questions are awaited by patients and health care professionals alike, and work such as that done by Armstrong et al² and others should further our understanding of the under-used tools at our disposal.^{5,6}

ARTICLE INFORMATION

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