The Virtual Hospitalist: The Future is Now

Michael K. Ong, MD, PhD^{1*}, Daniel J. Brotman, MD²

¹University of California, Los Angeles, VA Greater Los Angeles Healthcare System, Los Angeles, California; ²Johns Hopkins University, Baltimore, Maryland.

ompared with other industries, medicine has been slow to embrace the digital age. Electronic health records have only recently become ubiquitous, and that was only realized after governmental prodding through Meaningful Use legislation. Other digital tools, such as video or remote sensor technologies, have been available for decades but had not been introduced into routine medical care until recently for various reasons, ranging from costs to security to reimbursement rules. However, we are currently in the midst of a paradigm shift in medicine toward virtual care, as exemplified by the Kaiser Permanente CEO's proclamation in 2017 that this capitated care system had moved over half of its 100 million annual patient encounters to the virtual environment.¹

Regulation—both at the state and federal levels—has been the largest barrier to the adoption of virtual care. State licensure regulations for practicing medicine hamper virtual visits, which can otherwise be easily achieved without regard to geography. Although the Centers for Medicare & Medicaid Services (CMS) has had provisions for telehealth billing, these have been largely limited to rural areas. However, regulations are constantly evolving as the Interstate Medical Licensure Compact list is not CMS. The Interstate Medical Licensure Compact (www.imlcc.org) is an agreement involving 24 states that permits licensed physicians to practice medicine across state lines. CMS has recently proposed to add payments for virtual check-in visits, which will not be subject to the prior limitations on Medicare telehealth services.² These and future changes in regulation will likely spur the rapid adoption and evolution of virtual services.

The financial model is clear—human capital in healthcare is its most expensive component. A rational system will consistently use a low-intensity encounter (Figure 1). Hospitalization should be at the intensity apex and is the most expensive type of care. Intermittent in-person encounters, whether ambulatory or in emergency departments or urgent care centers, constitute a moderate intensity of utilization. Technologically enhanced nonface-to-face remote services (eg, virtual visits, email encounters, and remote patient monitoring) free patients and providers from reliance on brick-and-mortar facilities, transportation, and certain time constraints. However, par-

Published online first September 26, 2018.

Received: July 22, 2018; Accepted: July 25, 2018

© 2018 Society of Hospital Medicine DOI 10.12788/jhm.3080



FIG. An Ecology of Virtual Care

tially because hospitalists function in a high-intensity setting, adoption of these new tools by hospitalists has been modest.

In this context, the article by Kuperman et al.³ provides a welcoming view of the future of hospital medicine. The authors demonstrated the feasibility of using a "virtual hospitalist" to manage patients admitted to a small rural hospital that lacked the patient volumes and resources to justify on-site hospitalist staffing. The patients benefited from the clinical expertise of an experienced inpatient provider while staying near their homes. This article adds to the growing literature on the use of these technologies in the hospital settings, which range from the management of patients in the intensive care unit⁴ to stroke patients in the ED⁵ and to inpatient psychiatric consultation.⁶

What are the implications for hospitalists? We need to prepare the current and future generations of hospitalists for practice in an evolving digital environment. "Choosing Wisely®: Things We Do For No Reason" is one of the most popular segments of JHM for a good reason: there are many things in the field of medicine because "that's the way we always did it." The capabilities unleashed by digital technologies will require hospitalists to rethink how we manage patients in acute and subacute settings and after discharge. Although these tools show a substantial promise to help us achieve the Triple Aim, we will need considerably more research to understand the costs and effectiveness of these new digital technologies and approaches.^{7,8} We also need new payment models that recognize their value. Finally, we also need to be aware that doctoring elements, such as human touch, physical presence, and emotional connection, can be encumbered and not enhanced by digital technologies.⁹

^{*}Address for correspondence: Michael Ong, MD, PhD.; Professor in Residence and VA Hospitalist Chief; 10940 Wilshire Boulevard, Suite 700; Los Angeles, CA 90024; Telephone: 310-794-0154; Fax: 310-794-0723; E-mail: michael. ong@ucla.edu

Disclosures: Dr. Ong and Dr. Brotman have nothing to disclose.

References

- Why Digital Transformations Are Hard. Wall Street Journal. March 7, 2017, 2017.
- Medicare Program: Revisions to Payment Policies under the Physician Fee Schedule and Other Revisions to Part B for CY 2019; Medicare Shared Savings Program Requirements; etc. In: Centers for Medicare & Medicaid Services, ed: Federal Register; 2018:1472.
- Kuperman EF, Linson EL, Klefstad K, Perry E, Glenn K. The virtual hospitalist: a single-site implementation bringing hospitalist coverage to critical access hospitals. J Hosp Med. 2018;13(11):759-763.
- Lilly CM, Cody S, Zhao H, et al. Hospital mortality, length of stay, and preventable complications among critically ill patients before and after tele-ICU reengineering of critical care processes. JAMA. 2011;305(21):2175-2183. doi: 10.1001/jama.2011.697.
- 5. Meyer BC, Raman R, Hemmen T, et al. Efficacy of site-independent telemed-

icine in the STRokE DOC trial: a randomised, blinded, prospective study. *Lancet Neurol.* 2008;7(9):787-795. doi: 10.1016/S1474-4422(08)70171-6.

- Arevian AC, Jeffrey J, Young AS, Ong MK. Opportunities for flexible, on-demand care delivery through telemedicine. *Psychiatr Serv.* 2018;69(1):5-8. doi: 10.1176/appi.ps.201600589.
- Ashwood JS, Mehrotra A, Cowling D, Uscher-Pines L. Direct-to-consumer telehealth may increase access to care but does not decrease spending. *Health Aff (Millwood)*. 2017;36(3):485-491. doi: 10.1377/hlthaff.2016.1130.
- Ong MK, Romano PS, Edgington S, et al. Effectiveness of remote patient monitoring after discharge of hospitalized patients with heart failure: the better effectiveness after transition -- Heart Failure (BEAT-HF) Randomized Clinical Trial. JAMA Intern Med. 2016;176(3):310-318. doi: 10.1001/jamainternmed.2015.7712.
- Verghese A. Culture shock--patient as icon, icon as patient. N Engl J Med. 2008;359(26):2748-2751. doi: 10.1056/NEJMp0807461.