



In the Literature

Highlights from Commonwealth Fund-Supported Studies in Professional Journals

The Impact of Health Information Technology and e-Health on the Future Demand for Physician Services

November 4, 2013

Authors: Jonathan P. Weiner, Susan Yeh, and David Blumenthal

Journal: *Health Affairs*, Nov. 2013 32(11):1998–2004

Contact: Jonathan P. Weiner, Dr.P.H., Professor of Health Policy and Management and Health Informatics, Johns Hopkins Bloomberg School of Public Health, jweiner@jhsph.edu, or Mary Mahon, Assistant Vice President, Public Information, The Commonwealth Fund, mm@cmwf.org

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Synopsis

Health information technology and electronic health applications will likely change the shape of the health care workforce, by raising efficiency; allowing more patient care to be provided by physician assistants and nurse practitioners, and by generalist rather than specialist physicians; and by increasing the opportunity for patients to receive care remotely. These trends will considerably decrease demand on physicians' time.

"[H]ealth information technology, both on its own and as part of an overall transformation of the health care system, will contribute to a substantial decrease in the demand for both generalist and specialist physicians."

The Issue

Most health policy analysts predict there will soon be a shortage of primary care physicians, with demand for health services driven by an aging population and Americans gaining insurance coverage through the Affordable Care Act. At the same time, health information technology (HIT) is causing major changes throughout the health care system. As of 2009, as many as 72 percent of office-based physicians had an electronic health record (EHR), up from only about 10 percent a decade ago. Other electronic tools—like secure messaging with patients or clinical decision support—are being adopted more slowly. Authors Jonathan Weiner and Susan Yeh of the Johns Hopkins Bloomberg School of Public Health and David Blumenthal, president of The Commonwealth Fund, reviewed the research literature to understand how the implementation of HIT, as well as electronic health and mobile health applications, might affect future demand for physicians.

Key Findings

- If a range of health information technologies were to be fully implemented in 30 percent of community-based physicians' offices (including interoperable EHRs, clinical decision support, provider order entry, and patient web portals with secure messaging), demand for physicians would be reduced by about 4 percent to 9 percent through gains in efficiency.

- Delegating more care to nurse practitioners and physician assistants could, if accompanied by HIT support, reduce demand for physicians by 4 percent to 7 percent. Similarly, if generalist physicians provided more of the care now being provided by specialists, demand for specialists would decline by 2 percent to 5 percent.
- Use of HIT could also help address regional shortages of physicians, by allowing 12 percent of care to be delivered remotely or asynchronously—that is, through visits conducted in separate locations and at different points in time.
- These estimated impacts could more than double if comprehensive HIT systems were fully implemented by 70 percent of community-based physicians.

Estimated Impact of Health Information Technology on Future Demand for U.S. Physicians

	Estimated decrease in national demand for physician care	
	30% penetration of HIT	70% penetration of HIT
From efficiency gains as a result of e-health, email, and other communication technology, as well as from provider workflow changes	4%–9%	8%–19%
From delegating care from physicians to nurse practitioners or physician assistants or from specialists to generalist physicians	6%–12%	12%–26%

Source: Adapted from J. P. Weiner, S. Yeh, and D. Blumenthal, “The Impact of Health Information Technology and e-Health on the Future Demand for Physician Services,” *Health Affairs*, Nov. 2013 32(11):1998–2004.

Addressing the Problem

“[T]he current knowledge base provides substantial evidence supporting the premise that consumer and provider IT systems will significantly affect the way office-based care is delivered in the future—which in turn will have a strong impact on future demand for physicians,” the authors write. As such, future predictions of the adequacy of physician supply should take these changes into account. In addition, this research also highlights the need to train the next generation of clinicians to make HIT proficiency one of their essential skills. In the future, physician practices may look to employ computer scientists with clinical degrees and online “consumer navigators,” as well as computer-savvy doctors and nurses.

About the Study

The authors reviewed health informatics and health services research literature through June 2013.

The Bottom Line

Health information technology will have a substantial impact on the future demand for physicians. Gains in efficiency, a greater reliance on nurse practitioners and physician assistants and on generalists rather than specialists, and an increase in the provision of remote care will all lessen the burden on primary care physicians.

Citation

J. P. Weiner, S. Yeh, and D. Blumenthal, “The Impact of Health Information Technology and e-Health on the Future Demand for Physician Services,” *Health Affairs*, Nov. 2013 32(11):1998–2004.