

# Healthcare Innovation NEWS

## Building a Case for AI, Chatbots in Digital Healthcare

by Lindsay Sanchez

**D**espite technology that's been poured into our healthcare system, little has changed in people's awareness of these technological advances. From digitization of medical records to remote patient monitoring and beyond, the industry has made great leaps forward in the last 10 years. Yet people remain unaware of the progress and as a result, medical office and hospital visits are fraught with scheduling disasters, long wait times and high operational costs.

While engaging patients digitally has proven to drive better healthcare outcomes, application remains marginal. As a result, there is a remaining negative perception around legacy healthcare operational systems that are slower and less convenient. Digital transformation has the potential to change this paradigm and revolutionize the healthcare sector.

### Speed, Convenience: Are They Really Disruptive?

Consider urgent walk-in and retail clinics that are part of one of the fastest growing sectors in healthcare services. More than 1,300 new walk-in clinics cropped up throughout the United States from 2014 to 2016. In addition, 90% percent of these facilities can see patients in less than 30 minutes without an appointment.<sup>1</sup> Retail clinics and healthcare practices located entirely in retail outlets, such as grocery stores and drugstores, grew 900 percent from 2006 to 2015.<sup>2</sup> This growth is indicative of people willing to pay for care that's faster, cheaper and closer to home; has convenient after hours; and doesn't require an appointment. Factor in minimal wait times, seamless checkout and prescriptions that can be filled instantly on location, and it's easy to see consumer appeal.

Healthcare companies realize disruption is imminent because similar digital-first, consumer-centric business strategies have already disrupted other industries. Uber and Lyft, for example, changed how taxi and limousine companies operate. Amazon disrupted longstanding retail and shipping business models. But healthcare companies need to do more than talk about patient-centered care; they must actualize it. The tools to make this next wave of disruptive innovation happen—Artificial intelligence (AI) and virtual assistants called chatbots, (which are computer programs that conduct a conversation via auditory or textual methods)—are already here and are getting the healthcare industry excited.

Healthcare leaders recognize the time to act is now. People's expectations are already transforming through their AI-rich, conversational experiences with companies such as Amazon, Google and Facebook. Patients, plan members and employees expect more. But when modernization efforts compete for resources with day-to-day, operational budgets, the challenge becomes how to build a case for applying this technology.

### Three Practical Tips for Making a Case

The following provides advice for healthcare IT leaders who are pushing the internal paradigm shift:

1. **Know how to articulate the way chatbots solve real challenges for patients and staff.** These challenges could include:
  - **Clinicians stretched for time.** Studies show that for every hour physicians provide direct clinical face time to patients, nearly two additional hours are spent on electronic health records (EHRs) and desk work per day.<sup>3</sup>
  - **Wasted time by staff members on inefficient processes, manual tasks and slow communication.** The diverse system environments created by complex partnerships and ongoing mergers and acquisitions hinder workforce productivity, especially when provider-to-provider and provider-to-payer interaction is required.
  - **Constrained patient and family engagement.** Healthcare self-service experiences pale in comparison to other industries. Less than 30% of potential users have adopted patient portals.<sup>4</sup> This is a major problem—especially for providers—who spend money on expensive call centers.<sup>5</sup>

At the HIMSS annual conference, a user experience (UX) expert reminded the audience of a simple reason for these challenges: "Healthcare is late to the game in terms of user experience. Patients are tired of impersonal and hard-to-use portals. Surveys show problems with UX for clinical documentation and nursing—too many clicks required by EHRs, poor templates that affect data quality, difficulty in communicating context and design-hampered challenges with workflow and care coordination."<sup>6</sup>

On the other hand, AI-enabled chatbots could provide the following benefits:

- **Adaptable, versatile, multiplatform user interface (UI).** Unlike applications or portals that have different graphic user interfaces (GUIs), chatbots let people communicate through platforms they are already using, such as text, e-mail, Facebook Messenger, Spark and Skype—instead of a call center or web portal as a means of engagement.

*(continued on page 2)*

**Healthcare Innovation News**  
**June Second Edition 2017,**  
**Volume 4 Issue 12**  
 ISSN Print 2372-1553  
 ISSN Electronic 2372-1561

#### Editorial Advisory Board

##### Sam Basta, M.D., MMM, FACP, CPE

Senior Medical Director, Clinical Integration,  
 Sentara Healthcare/Optima Health Plans  
 Founder and President, Healthcare Innovation  
 by Design, Virtual Chief Innovation and Medical  
 Officer, Venture Partner, Virginia Beach, VA

##### Lyle Berkowitz, M.D.

Associate Chief Medical Officer of Innovation  
 and Primary Care Physician, Northwestern  
 Memorial Healthcare;  
 Director, Szollosi Healthcare Innovation  
 Program; Founder/Chairman, healthfinch;  
 Associate Professor, Clinical Medicine, Feinberg  
 School of Medicine, Northwestern University,  
 Chicago, IL

##### Glenn D. Braunstein, M.D.

Vice President, Clinical Innovation, Cedars-Sinai  
 Health System; Director, Cedars-Sinai Thyroid  
 Cancer Center; James R. Klinenberg, M.D.  
 Chair in Medicine, Cedars-Sinai Medical Center  
 Los Angeles, CA

##### Joanne Conroy, M.D.

Chief Executive Officer  
 Lahey Hospital & Medical Center  
 Burlington, MA

##### Molly Joel Coye, M.D., MPH

Social Entrepreneur in Residence, NEHI,  
 San Francisco, CA

##### Wendy Everett, Sc.D.

CEO of NEHI; Former Director, Institute for the  
 Future, Cambridge, MA

##### Roy M. Rosin, MBA

Chief Innovation Officer, Penn Medicine's  
 Center for Innovation, University of  
 Pennsylvania Health System, Philadelphia, PA

##### Barbara Spurrier, MHA, CMPE

Administrative Director, Center for Innovation,  
 Mayo Clinic, Minneapolis-St. Paul, MN

##### Larry Stofko, M.S.

Executive Vice President, The Innovation  
 Institute, St. Joseph Health System,  
 Orange County, CA; Bon Secours Health  
 System, Marriottsville, MD

#### Publisher

Clive Riddle, President, MCOL

#### Editor

Mari Edlin

#### Healthcare Innovation News

1101 Standiford Avenue, Suite C-3  
 Modesto CA 95350  
 Phone: 209-577-4888

info@healthcareinnovationnews.com  
 www.healthcareinnovationnews.com

Healthcare Innovation News is published  
 monthly by Health Policy Publishing LLC.  
 Newsletter publication administration is provided  
 by MCOL.

Copyright © 2017 by Health Policy Publishing  
 LLC. All rights reserved. No part of this  
 publication may be reproduced or transmitted by  
 any means, electronic or mechanical, including  
 photocopy, fax or electronic delivery, without the  
 prior written permission of the publisher.

## Building a Case for AI, Chatbots... (continued from page 1)

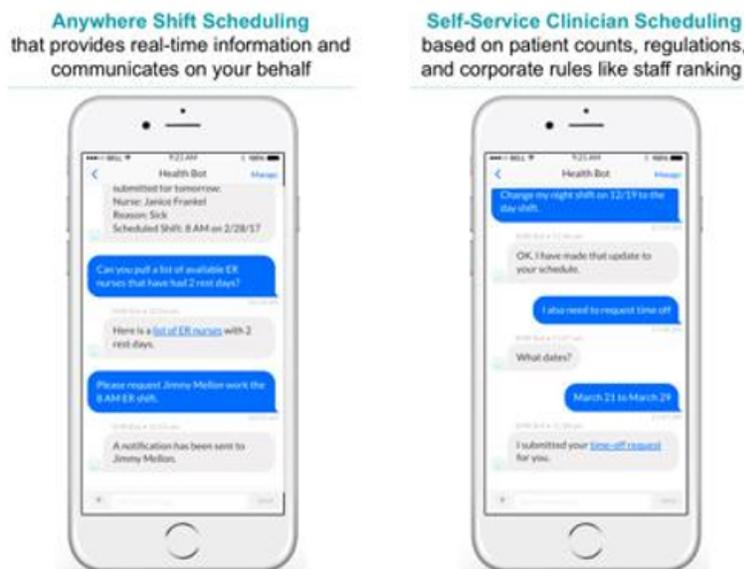
In addition, a UI remains the same across different channels, such as entering data into an EMR or requesting time off. This means less time spent on training and toggling from one app to the next.

- **Facilitating a natural language-based conversation via speech or text.** Traditional GUIs require users to understand individual application features—where to click, what fields to enter and what to do next. A chatbot eliminates this problem and saves time by allowing people and systems to simply speak or text information.
- **Making systems more helpful and personalized.** Today's static systems receive data and use them to process a singular action. While they hold patient, employee and company information, that information is static and rarely recalled in context. Legacy systems can't "feel" or "learn" from interactions. Chatbots with AI capabilities can remember and use data contextually, such as a patient's facility preferences or a nurse's preferred shifts.

Chatbots also can use AI to understand sentiment and respond to human emotions. For example, if a user showcases frustration, a chatbot can seamlessly transfer the emotion to a person during a live chat. Chatbots learn from conversations and adapt to become more useful over time.

2. **Be realistic about AI projects for clinical diagnosis.** While it's not far-fetched to expect AI to aid in medical diagnoses in the future, the HIT community must recognize there are barriers, including technical development, deployment and regulatory compliance. It will be a costly and long-term investment. This doesn't mean healthcare shouldn't pursue AI for clinical diagnoses, but it should be prepared for what could be a controversial and costly journey that takes years to drive measurable impact.
3. **Consider ways to drive immediate impact from AI-enabled chatbots.** Innovation doesn't have to make headlines or be the subject of lengthy news features; it just has to work.<sup>7</sup> The realistic and immediate AI and chatbot use cases might not cure diseases, but they can help drive smarter and faster decisions and remove time-consuming, administrative burdens.

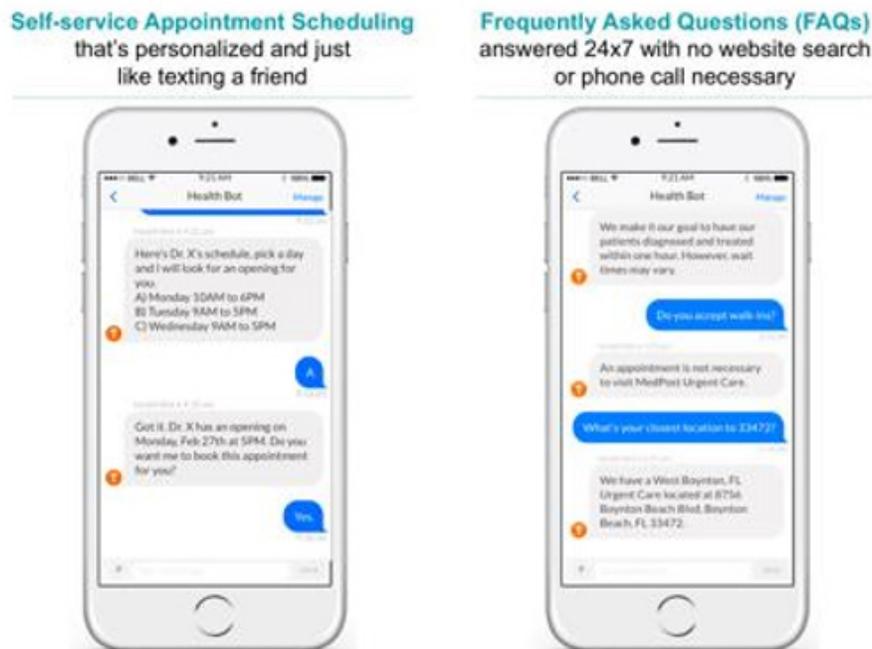
For example, when patients engage digitally, there is measurable positive impact on healthcare costs and outcomes. Recent studies show that unengaged patients are three times more likely to have unmet medical needs and two times more likely to defer care. Providers also save millions when patients use portals for scheduling appointments, read FAQs, access online billing and look up lab results online.<sup>8</sup> As a result, these often are the first tasks to be automated by healthcare providers.



(continued on page 3)

## Building a Case for AI, Chatbots in Digital Healthcare *(continued from page 2)*

Clinical managers can spend more than half of their day working to address staffing imbalances and regulatory, cost and retention concerns. Although some software providers enrich their software with robust analytics tools that help managers solve these problems, managers and clinical staff still need ways to respond more quickly. Consequently, scheduling assistants are one of the top use cases for AI and chatbots.



### The Great Lesson of History

Major innovations such as AI and conversational interfaces bring out the skeptics and believers. Will systems really be smarter than humans? Will people really want to “talk” to AI chatbots? And will this technology create a way of doing something that’s simpler, faster or smarter than today? The simple answer is “yes.” History proves innovation moves forward. Healthcare companies, as those in other industries do, will need to adapt and streamline their applications via AI in the near future.

<sup>1</sup> “Benchmarking Report Summary.” Urgent Care Association of America. 2016

<sup>2</sup> Alexander A. “New Study Examines the Potential Value Proposition of Retail Clinics.” *Drug Store News*. April 23, 2015.

<sup>3</sup> McCanne D. “Physicians Spend Two Hours on EHRs and Desk Work for Every Hour of Direct Patient Care.” Physicians for a National Health Program. Sept. 7, 2016

<sup>4</sup> “The Truth About Patient Portal Use.” Advisory Board. July 20, 2015.

<sup>5</sup> “Primary Industries to Contact Centers Worldwide.” *Statista*. June 2015.

<sup>6</sup> Millard M. “As EHRs Frustrate and Patient Portals Go Unused, Tips for Creating ‘Delightful’ Technology.” *Healthcare IT News*. Feb. 21, 2017.

<sup>7</sup> Sanchez L. “Patient Portals and Chatbot Innovation Doesn’t Have to Be Idealistic—Go for Practical First.” *ITProPortal*. Dec. 27, 2016.

<sup>8</sup> “Performance insight: Patient Engagement.” Athena Health. 2015.

*Lindsay Sanchez serves as head of operations and chief marketing officer of [Kore.ai](http://Kore.ai), an end-to-end bots platform provider for the enterprise sector. She may be reached at [Lindsay@kore.com](mailto:Lindsay@kore.com).*

## Subscribers’ Corner

Subscribers may access the publication by going to [www.HealthcareInnovationNews.com](http://www.HealthcareInnovationNews.com) or <http://subscriber.healthpolicypublishing.com> to browse supplemental content, make changes to subscriber options and profiles and access customer service information.

If you would like to join the Healthcare Innovation News LinkedIn Group, [click here](#) to check out the group. It’s an opportunity to network, exchange information and follow current developments with other healthcare professionals interested in innovation-related initiatives and issues.