



Mobile opening new opportunities in healthcare



Abstract

Mobile technology has already started transforming the healthcare landscape. Patients and physicians alike are increasingly turning to their smart devices for additional capabilities and to increase efficiency in care delivery. Mobile's integration with electronic health records and communication systems is allowing unprecedented access to health data.

Combined with remote telehealth, mobile technology is opening new avenues of care and improving delivery across the entire healthcare spectrum. This paper discusses the emerging mobile paradigm in healthcare.

Introduction

Whether or not mobile technology will transform the healthcare industry is no longer uncertain. In fact, the question that every healthcare organization needs to ask today, is how, specifically, can it use mobile technology to improve patients' lives and

operational efficiencies, and effectively enable its medical professionals.

It is important to recognize that not every mobile use case represents a smart investment for every organization. Just

like a fitness apparel manufacturer or a medical insurance company, a healthcare provider has a specific set of goals and it is important to arrive at the right mix of solutions that aligns perfectly with a provider's mission and responsibilities.

Electronic Health Records (EHR) and mobile devices

Information sharing within hospital systems is extremely important and mobile technology in this area opens many doors. For physicians, mobile is already a reality in many healthcare situations. In one survey, 70% of all healthcare organizations¹ said that they use mobile devices to access EHR and more than 94% of doctors² use smartphones or tablets for medical purposes. This clearly demonstrates that mobile devices are shaping how medical professionals do their jobs. Half of them¹ report that these devices actually expedite their decision-making and reduce time spent on administrative staff. And there's more good news – this doesn't represent a scary capital investment requirement because even as far back as 2012, 85% of hospitals³ were embracing 'Bring Your Own Device,' for their staff.

Mobile interaction with EHRs by patients is also having a transformative effect on healthcare. Engaging with patients in this way benefits all the stakeholders – the patients, doctors, and hospitals. To start with, almost 90% of patients⁴ agree that they must play a proactive role in managing their own healthcare. Additionally, 40% of patients⁴ rated 'technologically advanced' as the most or the second-most important factor when choosing a physician. In another survey, more than half of patients⁵ who did not have access to their EHRs said they would consider switching to a provider who did offer it.

Combine these studies with the fact that four million health apps are downloaded every day⁶ and a clear picture of consumers ready to play a much more proactive role in their healthcare emerges. These studies demonstrate

that patients are eager to take charge of their own healthcare and data. Patients today are more capable of interacting with electronic health software, can be empowered to do the work that was once only performed by administrative staff, and are in a position to use mobile technology to do so.

This leads to additional benefits for doctors and hospitals. Allowing patients to interact with their treatment provider via mobile devices keeps them focused on their treatment and engaged with the provider, thus increasing patient satisfaction and reducing the need for administrative personnel to act as conduits.

In the market

At Kaiser Permanente Northern California (KPNC), 8,000 physicians and 3.4 million members have come to rely on a robust set of mobile applications that are fully integrated with their EHR system. The system allows members to exchange messages with their doctors, create appointments, view and refill prescriptions, and view their lab results and medical records. The smartphone app focuses on core transactional processes (self-service) while the tablet app focuses on prevention and health analytics.

According to Permanente Medical Group CEO, Robert Pearl, "Members routinely make appointments, order medication refills, and access medical information online. A mother can send a secure message with a photo of her child's rash and then have a 3 a.m. video visit with a pediatrician at no extra cost. KPNC physicians respond to millions of secure emails each year and 48 specialty departments offer video consultations."

The Infosys experience

In one example, the Infosys solution for a leading healthcare allowed nurses and other hospital staff to view patient data and complete important documents, thus ensuring streamlined sharing and information management. As expected, the client realized significant cost reductions and efficiency improvements.

In a separate engagement, Infosys teamed up with another leading US healthcare provider to deliver a tablet-based solution for doctors and nurses to access member information, track appointments, and capture patient details. The enhanced user interface allowed doctors and nurses to easily handle and enter data and improved overall productivity and efficiency.

mHealth / Telehealth

mHealth refers to the range of different ways that doctors and patients can interact and engage via mobile technology. For healthcare providers, there are clear benefits of adopting a strong and effective mHealth and telehealth strategy. According to an analysis by Brookings Institution, remote medical technologies could save healthcare organizations almost US\$200 billion over the next couple of decades. Remote care is an area that many large hospitals have been adopting and close to half of all hospitals already have some telehealth capabilities.

In the market

Apart from KPNC, several other healthcare organizations have also taken many strides in adopting new technologies. Blue Cross Blue Shield of Minnesota (BCBS-MN) has opened a telehealth practice called OnlineCareAnywhere. The thinking

behind this offering is that caring for common illnesses remotely is beneficial for patients who don't have to come into the office for a visit. It frees up doctors to focus on more complex concerns. It can also improve operating efficiencies by focusing on patients with more complex needs in person.

The service is currently available to patients in 45 states and doctors can actually write prescriptions for patients in 40 of those states. A December 2015 survey⁷ found that 64% of Americans are willing to see a doctor via a remote video appointment and many now believe that a remote appointment is a popular second choice for late night urgent care after ruling out the emergency room. More than 20% said that a video visit would be their first choice.

Finally, Massachusetts General Hospital (MGH) is one of the leaders in providing telehealth services in the US and has more than a dozen different remote medical categories including offerings in complex fields such as TeleNeurology, TeleStroke, and TeleBurns.

The Infosys experience

Infosys has rich experience in mHealth and related fields. Some of our success stories include an Alzheimer disease treatment mobile application for the placement and tracking of drug-delivery patches by nurses and caregivers, Bleeds and Infusions Logger mobile application to

help hemophilia patients and caregivers to keep track of bleeding events and log infusions, SleepHelp mobile application for people with sleeping disorders which provides essential tips to help patients with every stage of sleep, and a mobile application for a hip replacement solution provider that showcased the product and all the ways it would benefit the patient.

Infosys has also worked with the insurance industry to build a sensor-based telematics and tracking application that monitors real-time data from different connected devices, which ultimately helped influence member behavior. It created value for a strong partnership with the client's customers and led to a 30% increase in new customer volume.

Hospital communications

In-hospital communication systems are critical to smooth and safe operations. As healthcare providers increasingly adopt BYOD and more detailed information begins to flow from various departments, it becomes necessary to augment communication services and deliver mobile-based solutions. A study⁸ found that after smartphones were adopted for nurse-to-physician communication, the hospital realized an 82% time savings. The response window dropped from 6–28 minutes to 20 seconds–5 minutes.

In the market

Emory Healthcare in Atlanta has migrated away from the last of its pagers in favor of adopting a smartphone-based mobile messaging platform. The platform allows the staff to send and receive all messages on a single device, send and relay to pages, designate unique ringtones, receive push alerts and reminders for critical pages, and keep personal phone numbers separate. Systems such as these can also integrate messages from additional sources such as ticketing systems, utilities alarms, lab management systems, and nurse call systems.

The Infosys experience

Infosys has significant experience with real-time communication systems and continues to provide customized and client-ready communication solutions across a variety of industries.

In the insurance industry, Infosys developed a location-based mobile application to help members call for assistance and communicate with emergency services, providing real-time updates, ensuring information transparency.

Infosys has also developed a robust and industrial-grade solution for the mining industry that tracks workers' locations in real-time on a supervisor's iPad app using a wearable device. The system can send emergency alerts, track using 3D visualizations, and communicate instantly.



Conclusion

It can be difficult to navigate any emerging technology arena. In the case of healthcare, it is not one but an entire array of new technologies all competing for relevance among a group of market leaders that have a necessarily higher standard of adoption than the average consumer. It is therefore necessary to find not just a solution provider, but a true partner, whose interests are closely aligned with your own, and who is truly dedicated to your long-term success.



References

1. MSPmentor.net
2. 2013 Mobile Trends Report
3. Healthcare Mobility Trends survey, Aruba Networks
4. Wolters Kluwer Health Quarterly Poll: Consumerization of Healthcare
5. Accenture
6. Capgemini
7. American Well Telehealth Index: Consumer Survey 2015 conducted by Harris Poll
8. Frisbie Memorial Hospital Time Study

About the Author



Ken Weinberger

Business Development Executive, Digital Integration Services Practice, Infosys Limited

Ken Weinberger is a Business Development Executive with the Digital Integration Services Practice at Infosys. He joined Infosys in 2014 after receiving his MBA and Master's degree in Information Science from the University of Michigan.

For more information, contact askus@infosys.com



© 2017 Infosys Limited, Bengaluru, India. All Rights Reserved. Infosys believes the information in this document is accurate as of its publication date; such information is subject to change without notice. Infosys acknowledges the proprietary rights of other companies to the trademarks, product names and such other intellectual property rights mentioned in this document. Except as expressly permitted, neither this documentation nor any part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, printing, photocopying, recording or otherwise, without the prior permission of Infosys Limited and/ or any named intellectual property rights holders under this document.