

# 2016 – The Year Healthcare Took Mobile Technology Seriously – By Daniel Piekarz, Head of Healthcare and Life Sciences Practice at DataArt

In 2015 Google changed the rules of the game by using a website's mobile friendliness rating as a way to determine search engine ranking on mobile devices. With 41% of all internet traffic being mobile, and 95% of mobile searches using Google, all industries are noticing, including healthcare.

Luckily, major healthcare systems here in New York have taken this seriously and are staying ahead of the trend. NorthWell, Mt. Sinai, and NY Presbyterian are all mobile friendly. Now these and other leading healthcare companies have realized the dominance of mobile computing. Websites developed with responsive design are now being looked at as the bare minimum technology. Leading healthcare companies recognize that mobile technology is crucial to patient engagement. Apple's ResearchKit has helped healthcare companies realize the power of native mobile apps, so the industry is going to start to see a strong shift towards native mobile application development. For instance, healthcare leaders including Mt. Sinai with their APPLab and NY-Presbyterian with their APPathon obviously see real value in offering dedicated apps to better engage with patients. They are focused on innovations that use all the attributes of mobile technology. Well-designed native apps are more stable, efficient, functional, customizable, and accessible than a mobile friendly website.

Unfortunately, to have a medical grade mobile application approved by the FDA is a long and confusing process and it tends to scare away small healthcare startups. There are 100k apps that revolve around the healthcare ecosystem, very few are true medical applications and most are labeled as educational or assistive apps. As these companies try to sidestep the need for FDA approval, their mobile app tends to lose any medical value. This trend has surely slowed down innovation, but some healthcare organizations are still pushing forward with the vision to integrate wearables into a patient's electronic health record including the MyCarolina's Tracker app that was built by the Carolina Healthcare System. This app can connect with dozens of medical and fitness wearables and pass the data into the electronic health record, providing a 360 degree view of a patient's health and well being.

When it comes to measurably impacting health outcomes, we are seeing some early success with mHealth apps paired with medical grade wearables. According to Michael Dillhyon, founder of Healthbank, "The current immediate value proposition for medical grade wearables is in the hospital, in general ward/GCF and ambulatory care monitoring, where patients spend more than 90% of their time in an unmonitored state. Real-time continuous monitoring, via medical grade wearables, will have a positive effect not only on patient outcomes, via early detection of deterioration, but may also provide significant labor and cost savings to hospitals. The next logical step will be remote patient monitoring where patients take the wearable home. Remote patient monitoring will remain in the market validation stage over the next 18-24 months, as reimbursement and technical hurdles are being solved."

Medical grade wearables are not just for patient monitoring though, numerous pharma companies (Amgen, West, TeiKoku, and others) have developed wearable drug delivery systems

that remove many of the difficulties of injectable drug therapies at home. These systems

ensure perfect medication adherence, and when combined with advanced sensors and intelligent mobile computing, medication dosage can be tailored to patients needs in real time. This is exactly what the startup Bigfoot BioMedica is trying to do for type 1 diabetes. The company is bringing a wearable artificial pancreas to the market, which automatically adjusts insulin dosage based on the precise needs of the patient throughout the day. From the patient standpoint it is the closest thing we have to a cure for type 1 diabetes.

2016 is a pivotal point for mobile technology in healthcare. Mobile technology combined with medical grade wearables will prove to be a huge value to healthcare in the near future. The greatest medical value will be personalized medication systems that use mobile technology, sensors, and wearable drug delivery to control a patient's care/medication delivery,

while at the same time providing continuous monitoring both in and out of the hospital. This type of technology is still young, but as sensors, batteries, and mobile applications continue to mature, there is no doubt that mobile technology will have a large impact on healthcare in the coming years.

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