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CREATIVE EDGE

# mHealth Report



## INTRODUCTION

The Healthcare and Technology teams at Ruder Finn commissioned research by ORC International to gain insights on how consumers in the U.S. are using mobile devices to manage their health.

The results, outlined within this report, examine what mobile health (mHealth) tools consumers currently use, which services consumers want in order to help maintain and improve their health and their attitudes toward the prospect of healthcare services being delivered remotely. More than 1,000 consumers from across the U.S. were surveyed in October 2012, 670 of whom have access to a smartphone and/or tablet, and their responses provide insight into how technology platforms for healthcare services, specifically mobile applications (apps), could be designed moving forward to better meet their needs as users and patients.



**1 billion**<sup>2</sup>

# 6.9 billion

mobile subscribers worldwide

by end of 2013<sup>1</sup>



## INDUSTRY LANDSCAPE

### Mobile Innovation

Mobile is the most widespread communication infrastructure globally, with mobile subscribers worldwide expected to reach 6.9 billion by the end of 2013.<sup>1</sup> The potential advantages of integrating mobile technologies into the healthcare service delivery model are clear: new tools for consumers to manage their day-to-personal health; better quality of care for a larger number of patients; more easily standardized care through centralization and IT developments; new opportunities for physicians to monitor and provide care to patients remotely; and greater collaboration to provide integrated care by sharing patient data with all parties involved.

mHealth services have the potential to further improve quality, efficiency and access to care as well as reduce costs in both developed and emerging markets.



81

billion

mobile app downloads this year<sup>5</sup>

### Smartphone and Tablet Apps

Worldwide, we are adopting new technologies at an increasing speed with the number of smartphones in use now exceeding 1 billion, over a 47% increase from a year earlier.<sup>2</sup> Since the turn of the decade there has been an explosion in smartphone ownership in the U.S. with more than half (53%) of US adult mobile subscribers owning a smartphone.<sup>3</sup> The rise in ownership is set to continue as cellular and data packages make smartphones more affordable. And, as smartphones become integrated into the consumers' everyday life, so does the appetite for mobile apps.

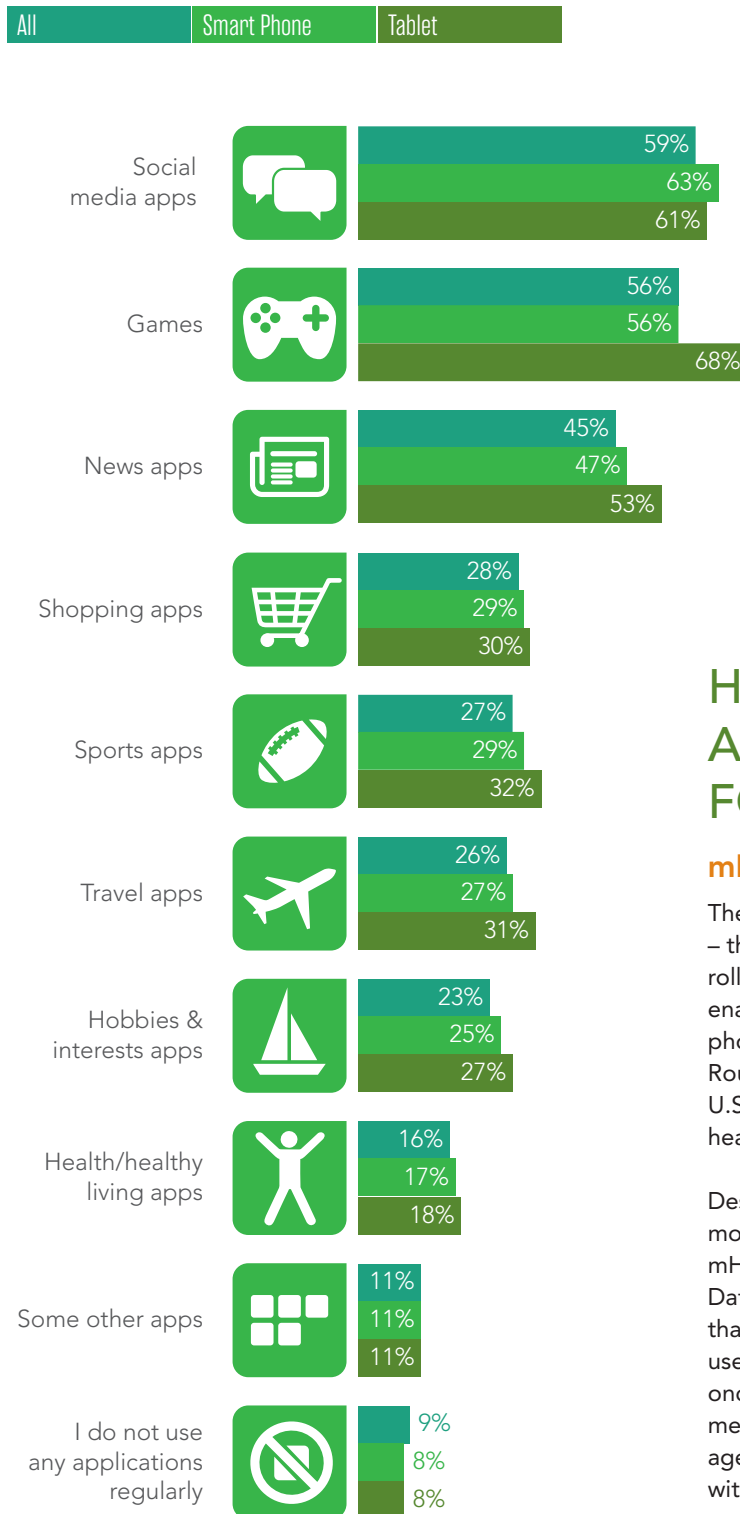
Similarly, the tablet market is booming. In the U.S., nearly a quarter of adults (22%) own a tablet device and 23% of non-

tablet owners plan to purchase one within the next six months.<sup>4</sup> A convergence of the smartphone and the laptop, the tablet is designed almost exclusively for portability and ease of use in the delivery of tools, services and media via touch screen. Already widely used in some hospitals for recording and sending patient data, tablet platforms have the potential to deliver a far greater array of healthcare services – from virtual consultations to monitoring changes in the body and enabling patients to input their own data and upload it remotely.

The opportunities these new platforms create for healthcare services to be delivered in an entirely new way have been recognized by technology and

mobile vendors. Companies are investing millions to develop new apps and services – both for the consumer and for the healthcare professional. There is no doubt that mobile apps are incredibly popular – this year analysts predict that mobile users worldwide will download over 81 billion mobile apps, nearly double what was expected for 2012 (45 billion).<sup>5</sup> Our survey aims to help answer questions such as “is there a market for health apps?” and “do consumers want to have healthcare services on mobile devices?” in order to provide greater understanding of what kind of role mHealth plays today and what it will moving forward in the increasingly mobile world.

## HEALTH APP USAGE TRAILS OTHER APPS



## HEALTHCARE APPLICATIONS FOR CONSUMERS

### mHealth Uptake in the U.S.

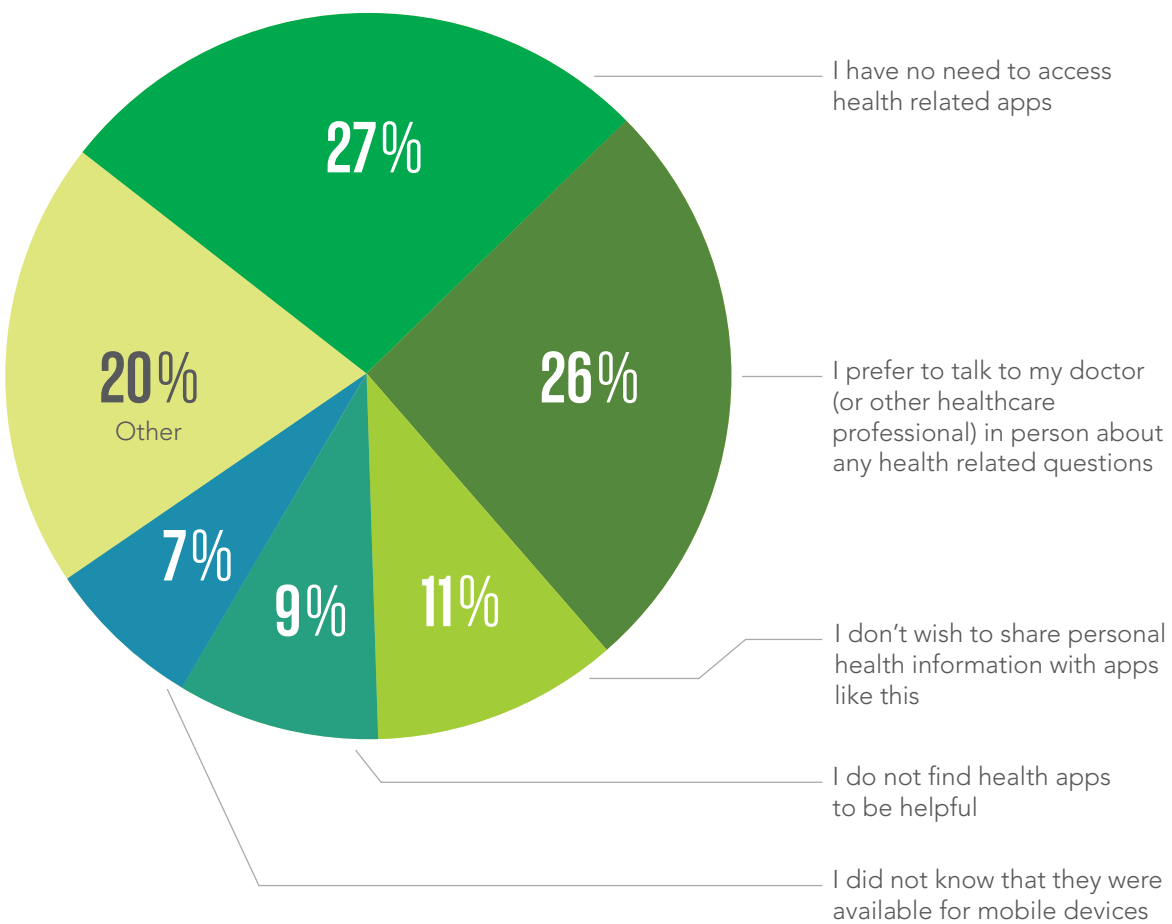
The uptake of high-speed broadband services – thanks to an increase of 3G and 4G network rollouts -- has allowed faster data transfer and enabled increased and broader usage of mobile phones and the internet for healthcare solutions. Roughly 75 million individuals (about 31% of the U.S. population) have used mobile phones for health information and apps in 2012.<sup>6</sup>

Despite the increase in data consumption by mobile users, Americans have been slow to adopt mHealth apps on their smartphones and tablets. Data from the Ruder Finn study shows that less than one-fifth (16%) of smartphone and tablet users access health apps regularly (e.g. at least once a week) compared to the 59% that use social media apps and 56% for gaming apps. Consumers ages 35 – 44 are most likely to use mHealth apps, with 23% leveraging health apps -- three times more than consumers ages 55-64 (7%).

When asked what is the main reason that they have not accessed any health related app in the last six months, more than a quarter of the respondents (27%) say that they have no need to access health-related apps. Looking at the differences between the genders, men are more likely than women to say that they do not have any need to access health related apps, 30% vs. 25% respectively.

Regardless of slower mHealth app adoption by U.S. consumers, research shows that there is an industry-wide push from developers, startups, and healthcare agencies to invest in and develop mHealth apps. There are over 40,000 mobile health apps available for smartphones and tablets and the market continues to grow.<sup>7</sup> Analysts predict a significant growth in the global mHealth market over the next several years, expecting that it will reach \$10.2 billion by 2018, up from \$1.3 billion in 2012, a compounded annual growth rate of 41.5 percent.<sup>8</sup>

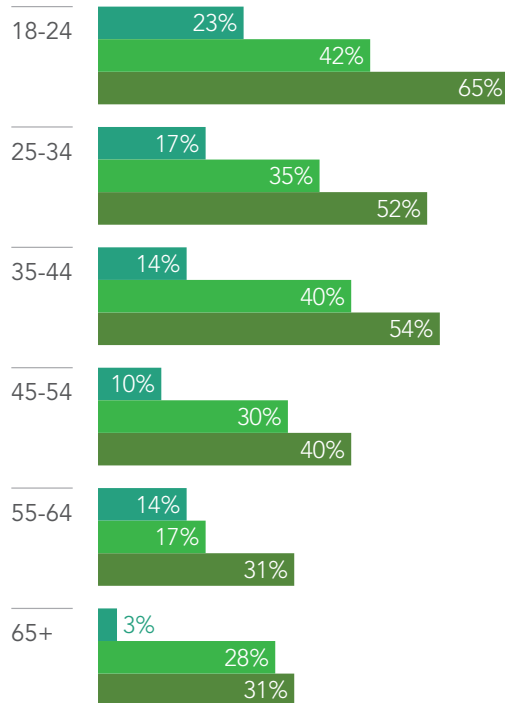
## REASONS FOR NOT USING mHEALTH



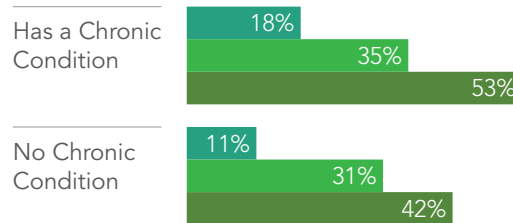
## LIKELIHOOD OF ADOPTION



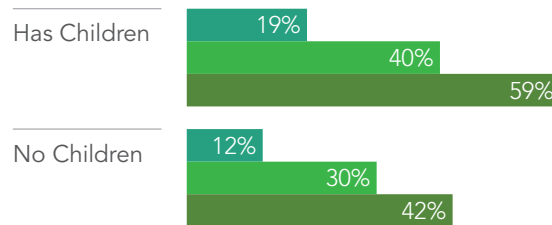
### Age



### Health Status

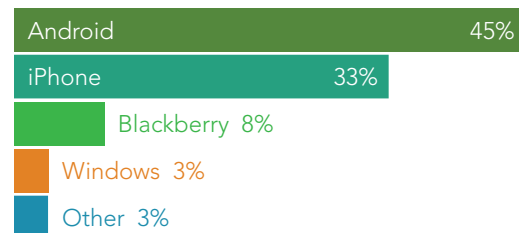


### Family Status



## BREAKDOWN OF OS SYSTEMS

### Mobile



### Tablet



The Ruder Finn study findings support the industry's growth outlook by capturing consumers' optimistic sentiment for increasing mHealth usage. Nearly half (48%) of the respondents say that they are likely to use mHealth technology in the next 6 months, which is three times more than current health app users. Moreover, the likelihood of uptake is greater among certain groups. For example:

- Respondents who suffer from chronic conditions are more than half (53%) as likely to use mobile health technology versus healthy consumers; 18% say they are very likely.
- Over half of respondents (59%) who reported having children over the age of 18 say they are likely to use mHealth technology over the next six months versus 42% of those without.

For developers looking to build health apps, data from the Ruder Finn study suggests that there is very little difference in current mHealth usage preferences between smartphone and tablet users. Additionally, among U.S. smartphone users, Android is the leading operating system (OS) followed by Apple's iOS (45% and 33% respectively). Conversely, usage of mHealth apps is slightly higher among iPhone users when compared to Android users (22% vs. 16%).

## Desire for Apps to Monitor and Improve Health

Apple's iconic advertisement "There's an app for that..." is reflective of the current mobile culture where consumers perceive that there is market availability of app solutions for nearly all of life's daily problems. In health, the connected consumer population uses their mobile devices to make more informed decisions about health and wellness. Ruder Finn found that among respondents who say they currently use a health app, nearly half use healthy eating apps (49%), followed closely by fitness/training (48%) and calorie counter apps (48%).

### TOP HEALTH APP PREFERENCES



**49%**  
Healthy eating apps



**48%**  
Fitness/training apps



**48%**  
Calorie counter apps



**46%**  
Nutrition apps



**41%**  
General health and lifestyle information apps



**23%**  
Apps to access health magazines, blogs, Facebook pages, etc.



**13%**  
Apps that provide advice/support on long-term medical conditions such as diabetes, asthma, IBS, etc.



**10%**  
Sleep aids/sleep monitoring apps



**9%**  
Medication reminder apps



**9%**  
Apps to help educate children on health



**7%**  
Private medical provider apps



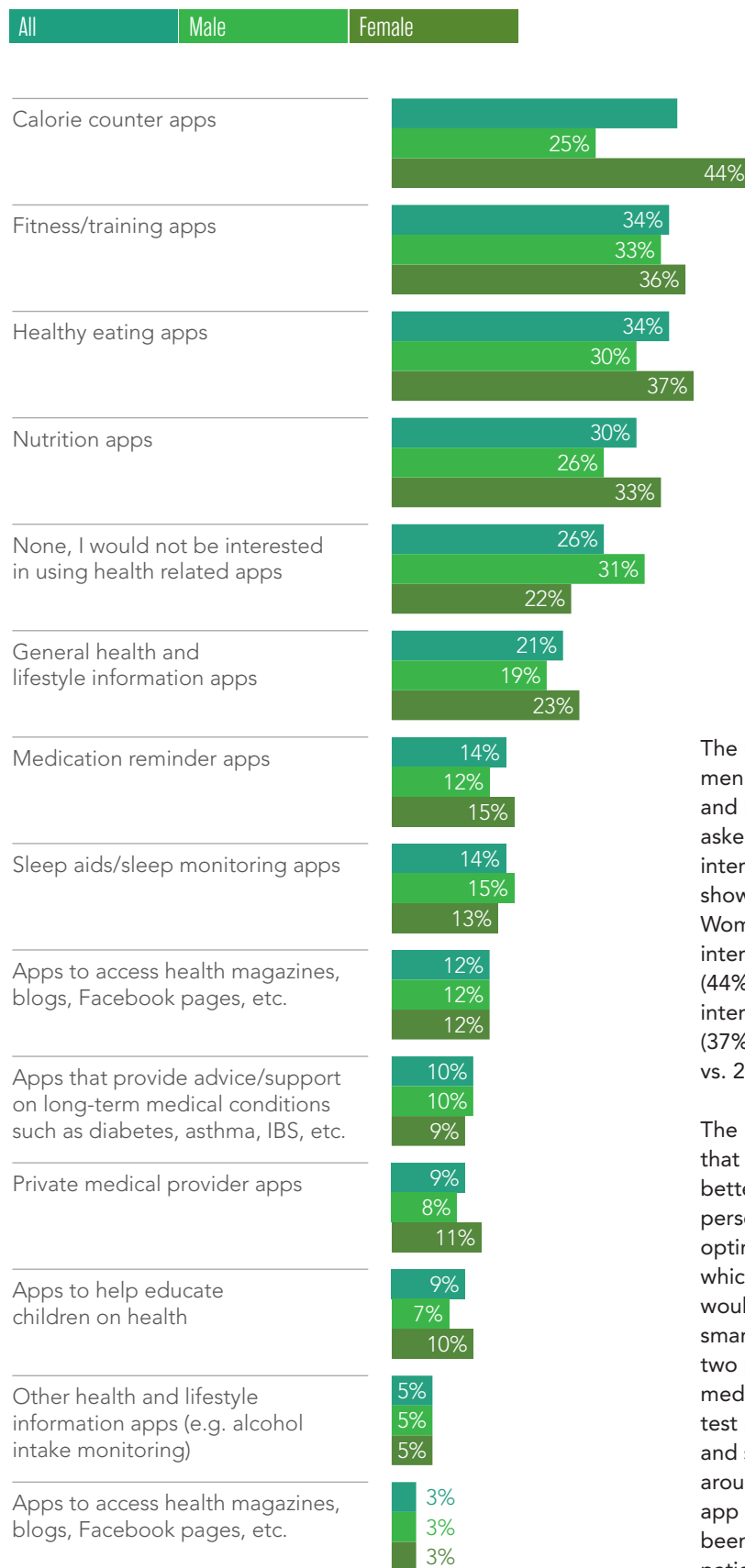
**4%**  
Other health and lifestyle information apps (e.g. alcohol intake monitoring)



**1%**  
Apps that provide smoking cessation support tools



# HEALTH APPS OF MOST INTEREST TO CONSUMERS



The results also show that more women than men use calorie counting apps (53% vs. 40%) and healthy eating apps (53% vs. 43%). When asked which health apps they would be most interested to use if available, the results show similar inclinations towards these apps. Women expressed nearly twice as much interest than men in calorie counter apps (44% vs. 25%). They also expressed a higher interest in healthy eating apps versus men (37% vs. 30% men) and nutrition apps (33% vs. 26% respectively).

The Ruder Finn mHealth study also indicates that U.S consumers want apps that provide better access and help streamline their personal health information and assist in optimizing healthcare delivery. When asked which of the following health services would you like to be able to access on your smartphone or tablet, respondents' first two priorities include: apps to view personal medical records (31%) and apps to access test results (29%). However, with strict privacy and security regulations in health, specifically around patient health information, health app developers and programmers have been hesitant to build programs for handling patient medical information.

## Strict Privacy and Security Regulations in Health

Healthcare organizations and their technology partners must comply with data security laws included in the Health Insurance Portability and Accountability Act (HIPAA) and Health Information Technology for Economic and Clinical Health (HITECH) act. Together, these laws grant federal protection to personal health data while also promoting the adoption and meaningful use of health information technology. Further, in July 2012, President Obama signed into law the FDA Safety and Innovation Act (FDASIA), which directs the FDA to develop a framework for information-technology regulation, including mHealth technologies.

Recognizing the booming mHealth apps market, the FDA has already released Draft Guidance for Industry and Food and Drug Administration Staff on the Regulation of Mobile Medical Applications, which recognizes that some future mHealth apps will have to seek FDA approval. The regulations will mostly be geared towards mobile medical apps that interact with currently regulated medical devices.<sup>9</sup>

Additionally, last year, the Federal Trade Commission Act (FTCA), which regulates false and misleading claims about a product or service, sanctioned<sup>10</sup> against “Acne Care” mobile app for claiming, without the necessary research to support that claim, to be able to treat acne through colored lights emitted from a mobile device. This controversy highlights the industry’s need to conduct further research into demonstrating how mHealth apps are efficient in improving patients’ health outcome.

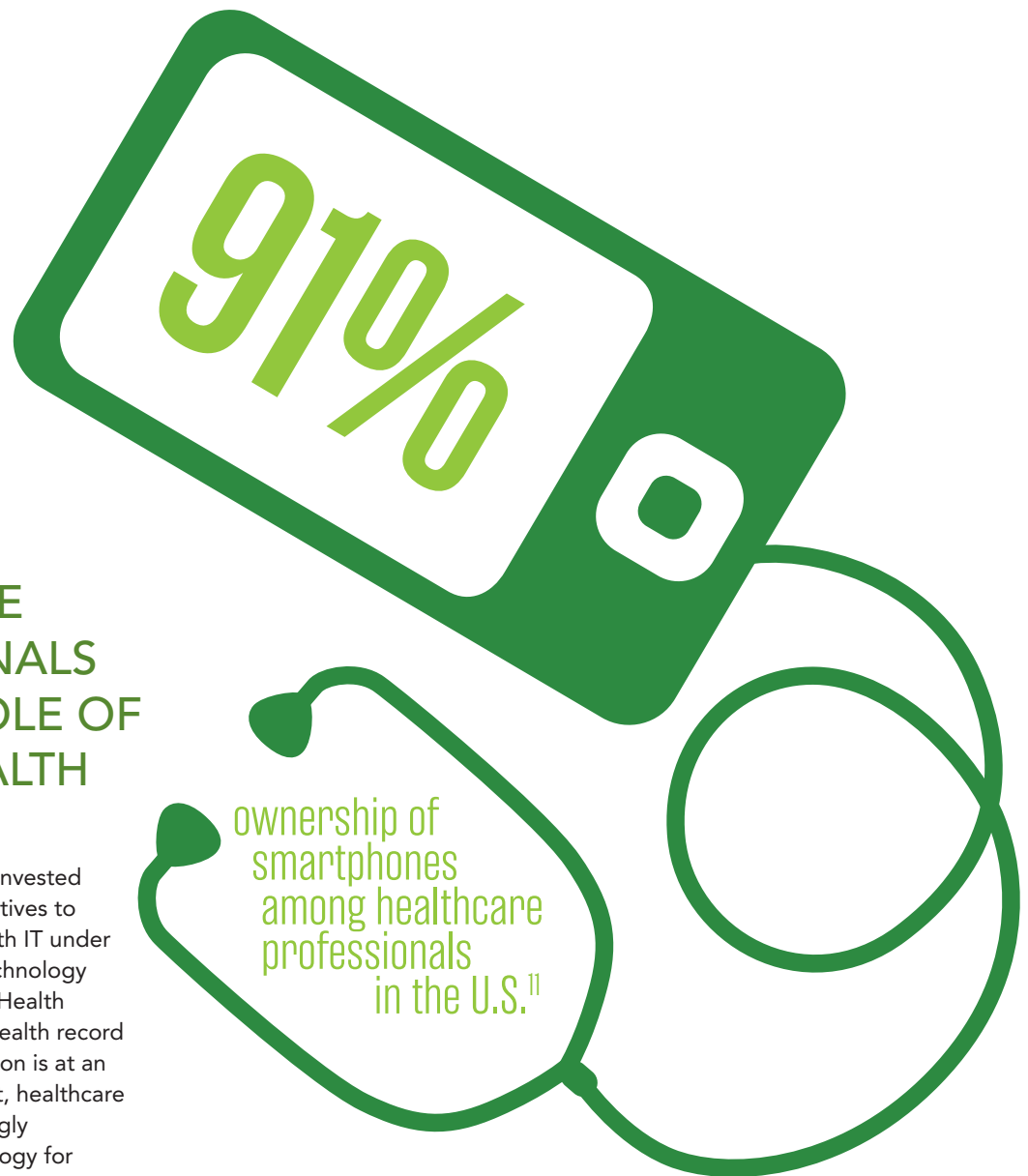


## HEALTHCARE PROFESSIONALS AND THE ROLE OF MOBILE HEALTH

### Industry Uptake

The U.S. government has invested \$27 billion in federal incentives to drive the adoption of health IT under the Health Information Technology for Economic and Clinical Health (HITECH) Act. Electronic health record (EHR) and health IT adoption is at an all time high, and with that, healthcare professionals are increasingly embracing mobile technology for professional purposes. The mobile nature of many medical practices – general practitioners visiting patients, specialists moving through a hospital, paramedics in the field – means that mobile communications are of particular interest to these professionals. Ownership of smartphones among healthcare professionals in the U.S. is at 91%.<sup>11</sup> Doctors, in particular, are often early adopters of new technology and have embraced smartphones and tablets with enthusiasm. According to a recent report by Manhattan Research, the adoption of tablets amongst physicians has nearly doubled since 2011 to 62% in 2012.<sup>12</sup>

Despite the industry uptake, more than 1 in 4 (26%) consumer respondents surveyed by Ruder Finn say that they do not use health apps regularly because they prefer to talk to their doctor or other healthcare professional in-person about health related questions and advice. Furthermore, only a small number of respondents (12%) say they would access an app that provides virtual consultations with general physicians and consultants via video link. So, what does this mean for healthcare providers and the role of mHealth technology?



## A Tool for Healthcare Providers

In the survey, we asked what the top three mobile technologies and/or apps that would allow for doctors and physicians to more efficiently and effectively care for patients. Based on our findings, consumers expect health apps to serve as a supplement to traditional doctor's care, not replace it. According to respondents, the top three apps that would be the most useful for healthcare professionals include providing access to test results (42%), monitoring devices that can alert caregivers, doctors and nurses if a patient has a health emergency (33%) and an app that provides access to patient health records from mobile devices (30%).

## TOP HEALTH APPS FOR IMPROVING PATIENT CARE



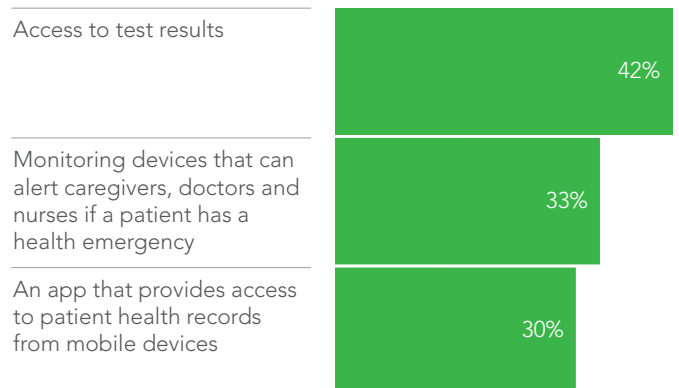


## 1 of 3 patients surveyed say that doctors and nurses should have access to remote monitoring technology

Our results also suggest a divergence between what consumers are willing to use compared to what they expect doctors and nurses to use to improve healthcare. This can be seen in the age divide when it comes to comfort level in using mobile technology in personal care. Over one third (36%) of mature adults (55 and older) report that they'd prefer to speak with their doctor in-person versus 19% of millennials. However, when it comes to what technologies consumers believe healthcare professionals should integrate into their care of patients both at the point of care and remotely, 1 in 3 patients surveyed say that doctors and nurses should have access to remote monitoring technology, such as monitoring devices that can alert caregivers, doctors, and nurses if a patient has a health emergency. The study found that 40% mature adults listed remote monitoring devices as one of the top tools that would help healthcare professionals versus 31% of millennials.

Overall, these results suggest smartphone and tablet owners in the U.S. believe mobile technology can help doctors keep in touch and up to date with a person's health status.

### TOP PREFERRED APPS FOR HEALTHCARE PROFESSIONALS





## The Growing Relevance of Cloud Technology

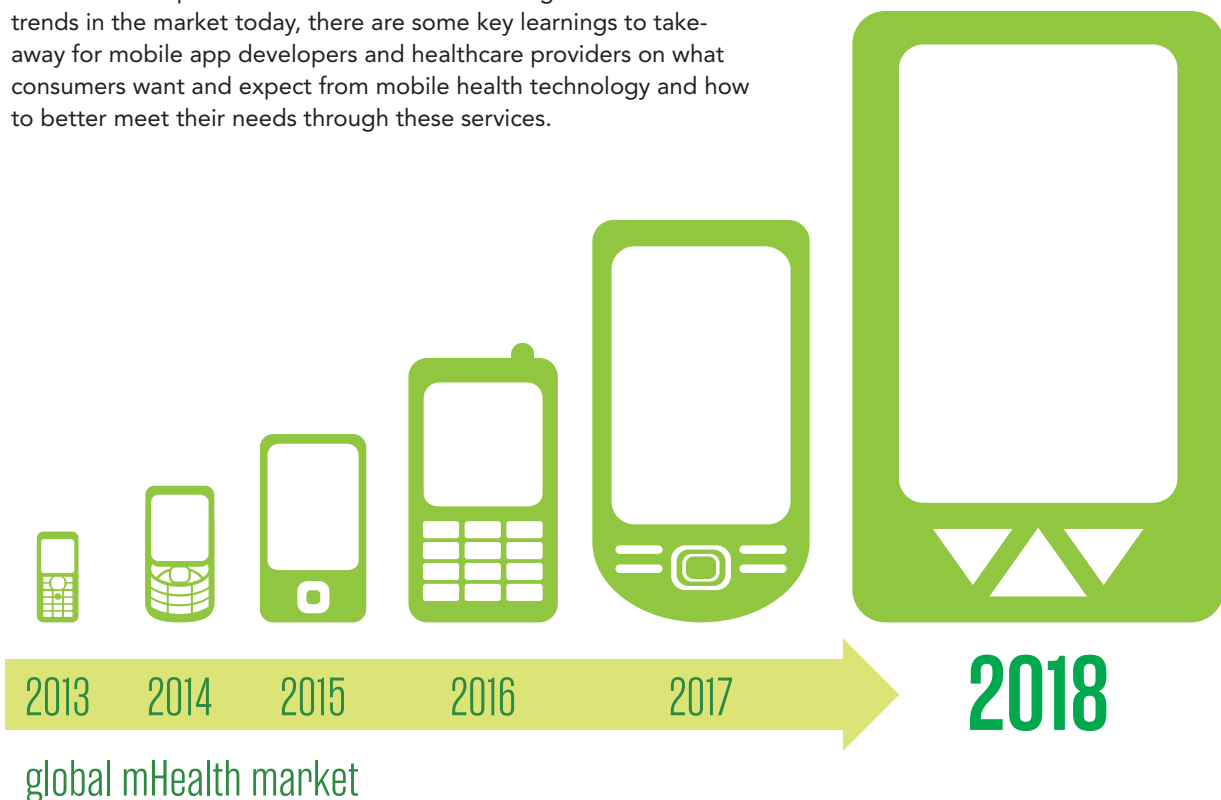
The responses to our survey demonstrate the growing demand for software services that would increase access to medical records and data information, including patients' test results through mobile apps, making the use of cloud technology critical. However, healthcare professionals still face obstacles when using cloud technology alongside traditional care, including potential threats to data security that put protected health information (PHI) at risk.

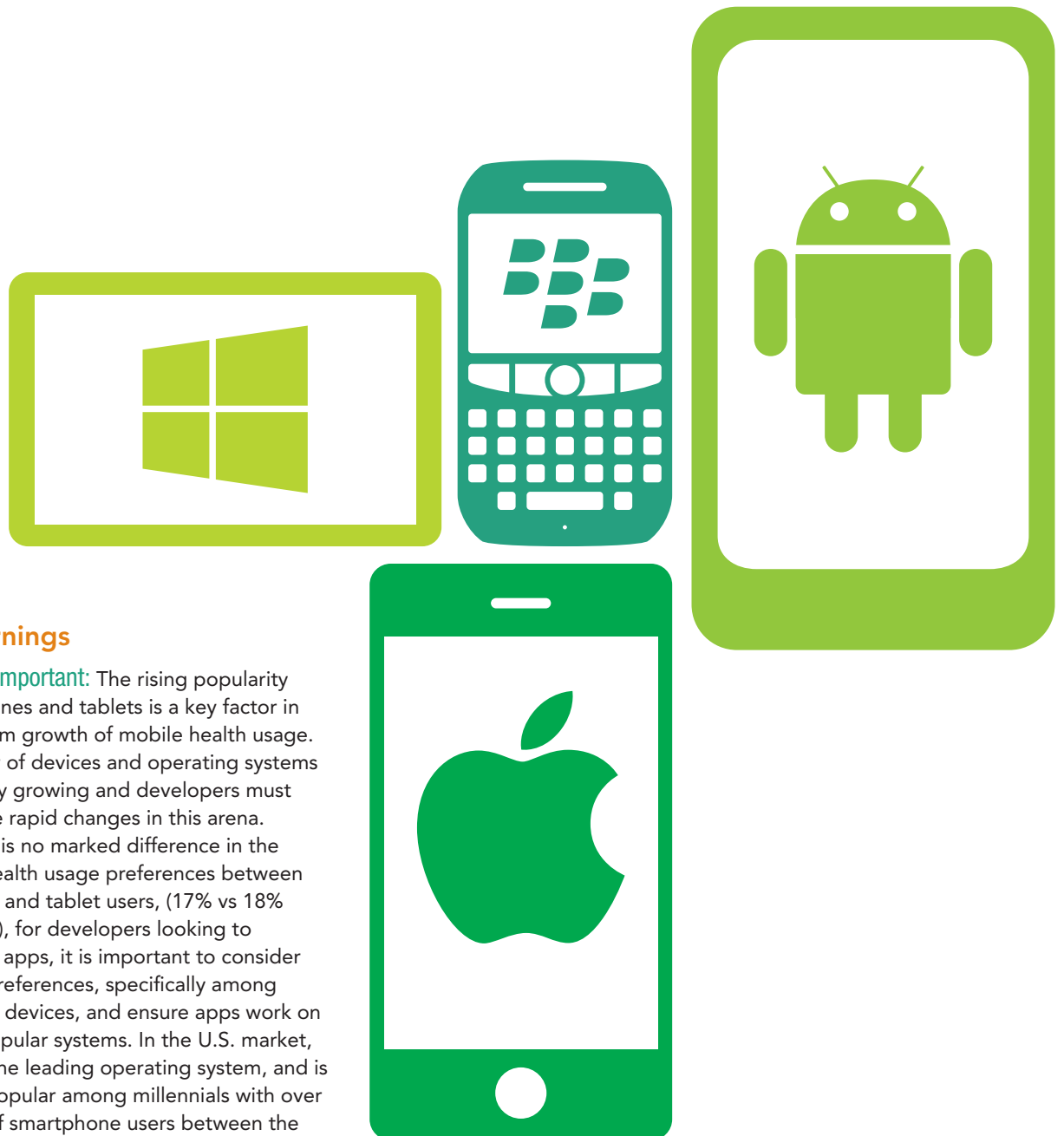
Under the Health Insurance Portability and Accountability Act (HIPAA), healthcare organizations are under strict regulations to ensure electronic PHI stays confidential when it is stored, maintained or transmitted. Though regulations are in place to protect this information, there continues to be threats to the security of this information. According to a recent survey of healthcare organizations out of Ponemon Institute, 94% of healthcare organizations reported having at least one data breach in the past two years.<sup>13</sup> Healthcare providers are embracing the benefits in cloud and mobile technology when caring for patients, however, data security remains a top-of-mind concern in adoption.

## KEY LEARNINGS

Both existing and new, emerging mobile platforms will continue to create dynamic opportunities for innovations in healthcare service delivery, and for technology and mobile vendors. Though usage in the U.S. is relatively low, the market is growing with analysts predicting the global mHealth market will reach \$10.2 billion by 2018.<sup>14</sup> With opportunities to discover and provide innovative solutions in health ahead, practical challenges nonetheless remain around the adoption rates and integration of these new technologies with both consumers and healthcare professionals. Based on our findings and current trends in the market today, there are some key learnings to take-away for mobile app developers and healthcare providers on what consumers want and expect from mobile health technology and how to better meet their needs through these services.

**\$10.2**  
**billion**<sup>14</sup>





## Key Learnings

**Platform is important:** The rising popularity of smartphones and tablets is a key factor in the long-term growth of mobile health usage. The number of devices and operating systems is continually growing and developers must adapt to the rapid changes in this arena. While there is no marked difference in the current mHealth usage preferences between smartphone and tablet users, (17% vs 18% respectively), for developers looking to build health apps, it is important to consider consumer preferences, specifically among smartphone devices, and ensure apps work on the most popular systems. In the U.S. market, Android is the leading operating system, and is especially popular among millennials with over half (50%) of smartphone users between the ages of 18 and 34 currently owning an Android phone verse 32% users owning an iPhone.

**Know the audience:** There is a difference among demographics and a divergence between interest and use. Factors such as age, gender, family status and condition of health come into play in the current usage and future adoption. For example, comfort levels with mobile technology vary among age groups, suggesting the need to consider elements such as interface and ease of usage.





**Control and Access:** Among consumers and healthcare providers in the U.S., there is a growing demand for software services that increase access to key health information, meaning health app builders will need to focus on platform delivery of cloud-based medical records, data, patient information and provider information. With this in mind, builders should also put in place features to mitigate security risks and ensure patient privacy.

**Gamify and socialize:** Gamification and social media is something already being looked at as a method for engaging and educating consumers. This trend is beginning to emerge among patients as well and will continue to grow in the future. Developers should integrate gaming and social components into mHealth services as consumption of these types of apps outrank health app usage by far across all demographics according to the Ruder Finn Survey. Incorporating these components could help solve the problem of idle apps by driving consumer participation and making the platforms more compelling.



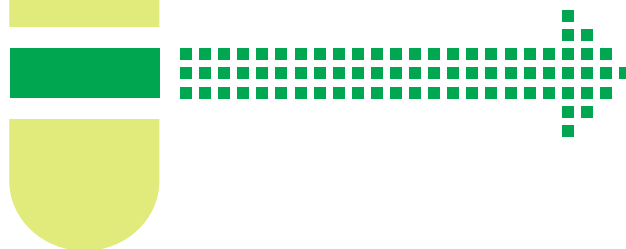
## Trends Shaping the mHealth Landscape

**Healthcare in Consumer Technology:** Healthcare is becoming an increasingly pervasive force in consumer technology, as seen in the 2013 Consumer Electronics Show (CES). Digital health was one of the major trends out of the show and, according to organizers of the event, the number of health and fitness exhibitors was up 25% from the previous year. Some of the most talked about products introduced during CES 2013 were those that tracked eating habits, personal fitness and stress levels such as the HAPIFork, the Fitbit Flexband and the Huffington Post's mobile app, GPS for the Soul. These emerging tools suggest that as the intersection between healthcare and consumer technology grows, there is a focus on personal wellness.



**Little Data:** "Little data," the data generated by an individual about themselves and their environment, is becoming a driving force in personal health. The trend is driven by the growing number of technologies that track personal wellness and day-to-day health such as the Nike+ Fuelband, Fitbit, Jawbone UP and Lark. These devices collect small data sets that can help users translate monitoring their health into managing it by providing calculated advice using information gathered. Their rise in popularity suggests integrating monitoring capabilities into normal activities to better manage health is a growing trend among consumers. Additionally, due to the rise in popularity, mHealth providers are increasingly joining forces to enhance their offerings through collaboration with other platforms. For example, consumers can import their FitBit data to

the MyFitnessPal app while Polar heart rate monitors allow users to upload data into the iPhone across a variety of platforms. WiFi and mobile app capabilities are even being incorporated into traditional health monitoring tools such as scales and blood pressure cuffs, giving consumers a more robust picture of their health. Little data represents an integral part in what allows technology to take consumers from passive to active managers of their health. Though utilization of little data is becoming more and more sophisticated, we are only just beginning to recognize the benefits and opportunities it offers.





Understanding current healthcare needs and trends, demographic profiles of users as well as platform preferences are all necessary factors in the uptake of mobile health technology. Most importantly though, developers and healthcare providers must understand what consumers want: apps that provide greater control of their personal data and mHealth technology to be used alongside traditional care, not as a supplement to it. The leaders in development will be those who learn why apps are being used and understand that mHealth technology is meant to be a collaborative tool in managing health. Many challenges exist in the uptake of mobile health services; however it can be a powerful tool in the evolution of healthcare, helping health professionals provide better care and empowering consumers in managing and monitoring their health.

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