Mobility in Healthcare

Rx for Transformation

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Rx for Transformation

A study commissioned at the start of 2012 by Telenor Group and the Boston Consulting Group titled "Socio-Economic Impact of mHealth," revealed two interesting points: 30% of smartphone users are likely to use "wellness apps" by 2015 and secondly, as per the survey, smartphone is the most popular technology among doctors since the stethoscope, underpinning the growing role of mobile technology in patient care. The survey further revealed that- the costs in elderly care can be reduced by 25% with mobile healthcare; Maternal and prenatal mortality can be reduced by as much as 30% and twice as many rural patients can be reached per doctor through mobile solutions.
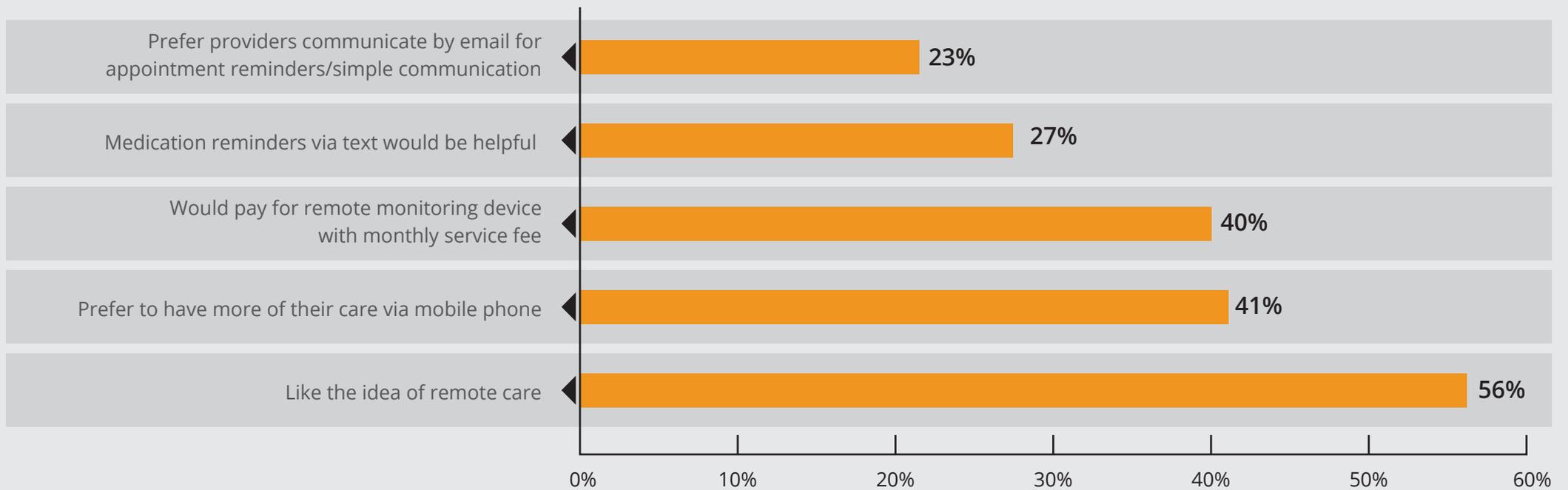
The above data and many similar reports showcase how mobile devices and applications are changing the face of patient care and healthcare administration across the globe. We get an overview of healthcare mobility solutions, and discuss-

· The reasons behind the growing acceptance of mHealth among various

   stakeholders- patients,   physicians and providers.

· How can mHealth address the challenges faced by healthcare organizations?

· How are patients reacting to mobile healthcare solutions?

· How the healthcare landscape is changing through mobility?

And, many such pertinent questions…

THE SHIFT

Healthcare industry has been one of the early adopters of enterprise mobility with mobile devices and apps significantly contributing towards improvement in every aspect of healthcare. Healthcare mobility solutions are playing an excellent role in solving some of the major challenges faced by the industry today including rising costs, fast-changing regulatory environment, increasing error-rates, decreasing profitability, and demand for quality healthcare.

Mobile health which started-off with simple services like call centers, getting doctor appointments, alerts etc., over the phone, has over the years, widened its scope covering a major part of healthcare processes. Cynicism, in the early years, on the utility and success of mobility in healthcare is now replaced with growing trust and expanding role for mobile devices and apps in healthcare administration. Today there is a major shift in patient care and administration with mobility becoming an important medium for both patients and healthcare organizations. A survey conducted by PricewaterhouseCoopers' Health Research Institute, to study the attitude of US internet users towards mobile health solutions revealed that users are slowly lapping up to the idea for patient care via mobile. The study found a strong preference among respondents for accessing medication and health care services through mobile devices.

Category	Main Barriers (in the old mHealth market model)	Changes (related to the new smartphone application market model)	Impact
Device	• Need for specialized devices to run service • Very low penetration of capable devices	• Key mHealth features are built in (GPS, Sensors) • High Penetration expected • New Opportunities through tablet devices	High
Distribution	• Lack of business incentives for traditional channels • Lack of reach: MNOs only provided local reach	• Possibility to market direct to consumer/patient and professionals • Global reach via application stores	Medium
Patients/Doctors	• In transparent markets to search for mHealth solutions. • Little awareness • Missing technology readiness in target groups	• Increased awareness • Massive improvement of user experience from discovery to usage • Massive reduction of price level for smartphones and mHealth apps	Medium
Regulation	• Little refunding as only few solutions were expected by national regulation	• Awareness changed due to the application hype but still no major change in regulation policies visible	Low

Chart showing physician survey responses:
- Prefer providers communicate by email for appointment reminders/simple communication: 23%
- Medication reminders via text would be helpful: 27%
- Would pay for remote monitoring device with monthly service fee: 40%
- Prefer to have more of their care via mobile phone: 41%
- Like the idea of remote care: 56%

It's not only smartphone users who are keen to use healthcare apps but doctors too are eager to leverage mobile technology into their day-to-day tasks. A survey by PricewaterhouseCoopers' Health Research Institute (PwC HRI) came up with interesting statistics on how clinicians perceive healthcare mobility solutions to be beneficial for them.

As per the study,

- 56% of physicians believed m-health could help expedite decision-making.
- 39% said it would reduce the time it takes for administrative tasks.
- 36% said it would increase collaboration among physicians.
- 26% said it would increase time spent with patients.
- 40% said they could eliminate 11% to 30% of office visits through the use of mobile health technologies such as remote monitoring, email or text messaging with patients.

THE MOTIVATORS

The growing acceptance and usage of healthcare mobility solutions can be attributed to two broad factors- industry challenges and rapid advancements in mobile technology. Healthcare systems, across the globe, are facing myriad constraints like an increasing population without access to quality healthcare, shrinking pool of qualified healthcare professionals, emergence of new diseases and limited financial resources. On the other hand, mobile devices like smartphones and Tablets have become ubiquitous. Bandwidth is getting increasingly faster. Mobile applications have become more feature-rich and much secured to integrate with processes and operations of healthcare organizations. The combination of these two factors and, growing preference among the masses, buoyed by the comfort, convenience and cost effectiveness are catalyzing the growth of mobile healthcare solutions.

According to the International Telecommunication Union (ITU), there are now over 5 billion wireless subscribers; over 70% of them reside in low and middle income countries. The GSM Association reports commercial wireless signals cover over 85% of the world's population.
Source - WHO

Major concerns of Healthcare organizations

• Revenue generation and cost containment.
• To reach to the remotest locations and accelerate response time.
• Wait times for available hospital beds.
• Chronic labor shortages.
• To improve patient safety.
• Best practices and decision support processes.

How mHealth can address the challenges?

• Reduces expenses for healthcare organizations and makes healthcare affordable for locations.
• Facilitate staff member interactions and coordinate activities.
• Support work processes and policies in effect within the institution.
• Place vital tools and current information in the hands of consumers and those who evaluate, administer and provide healthcare services.
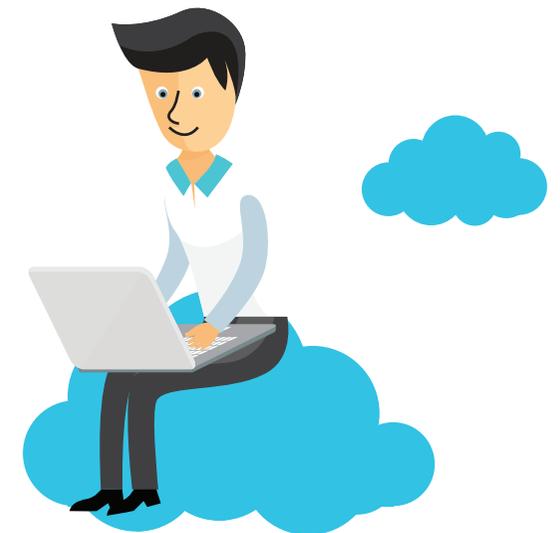
SCOPE AND OPPORTUNITIES

Today, mobility for healthcare has not only become an important medium in delivering healthcare services but also is an enabler that can act as force multiplier, in both near and long-term future, to the overall operations in an organization. Many electronic healthcare practices prevalent in the industry can be further extended, in scale and operations, by complementing it with mobile technology. mhealth is creating new possibilities for physicians and patients to monitor important health information and manage their care. Healthcare mobility solutions are making processes leaner and quicker not only with their own might but by also complementing other technologies.

Using key mobile applications leads to improved use of healthcare workers time; approximately 39 minutes per day were recovered, a benefit which improves upon itself by leading to additional benefits in better patient care, reduced medical errors and a improved in employee efficiency.
Source-Motorola

Opportunities in Healthcare

Physician
- Appointment alert
- Patient history
- Metabolic standards
- Up-to-date medical reference

Patient
- Medication alerts
- Patient history
- Physician instructions
- Real time medical assistance

Nurses / Intensive care
- Medication alerts
- Patient history
- Job schedule
- Raise drug requisition
- Metabolic standards

Administrator
- Asset tracking
- Demand & capacity
- Mgmtjob scheduling
- Tracking business analytics

Pharmacist
- Stock check
- Stock level alerts
- Fulfill drug requisitions

Pathologist
- Physician instructions
- Ready reckoner
- Real time coaching

Services	Description
Health call centers/ help lines	Created to deliver health care advice services by trained health professionals in case of an emergency.
Treatment compliance	Sending reminder messages to patients with the aim of achieving treatment compliance.
Appointment scheduling and reminders	For patients to schedule or remind to attend an appointment.
Community mobilization & health promotion	For health promotion or to alert target groups of future health campaigns. Raising public awareness through health information products, games, or quiz programmes.
Mobile telemedicine	Consultation between healthcare professionals and patients using the voice, text, data, imaging, or video functions of a mobile device.
Health surveys and surveillance	Use of mobile devices for health-related data collection and reporting.
Patient monitoring	Using mobile technology to manage, monitor, and treat a patient's illness from a distance with the help of remote sensors and imaging devices linked to mobile phones.
Decision support systems	Software to advise healthcare professionals on clinical diagnoses of patients based on health history and medical information, such as prescribed drugs. Mobile devices are used to input data and obtain targeted health information.
Patient records	Collecting and displaying patient records at point-of-care through mobile technologies.
Administration	Asset tracking, demand & capacity management, job scheduling & tracking, business analytics.
Mobile integrated devices	Devices to check sugar levels, blood pressure and other vital parameters.

CHALLENGES

Devices
Relatively small screen
Data Entry
Battery Life

Network
Bandwidth
Coverage
Integration

Ethics
Customer Privacy
Client Confidentiality
Legal Compliance

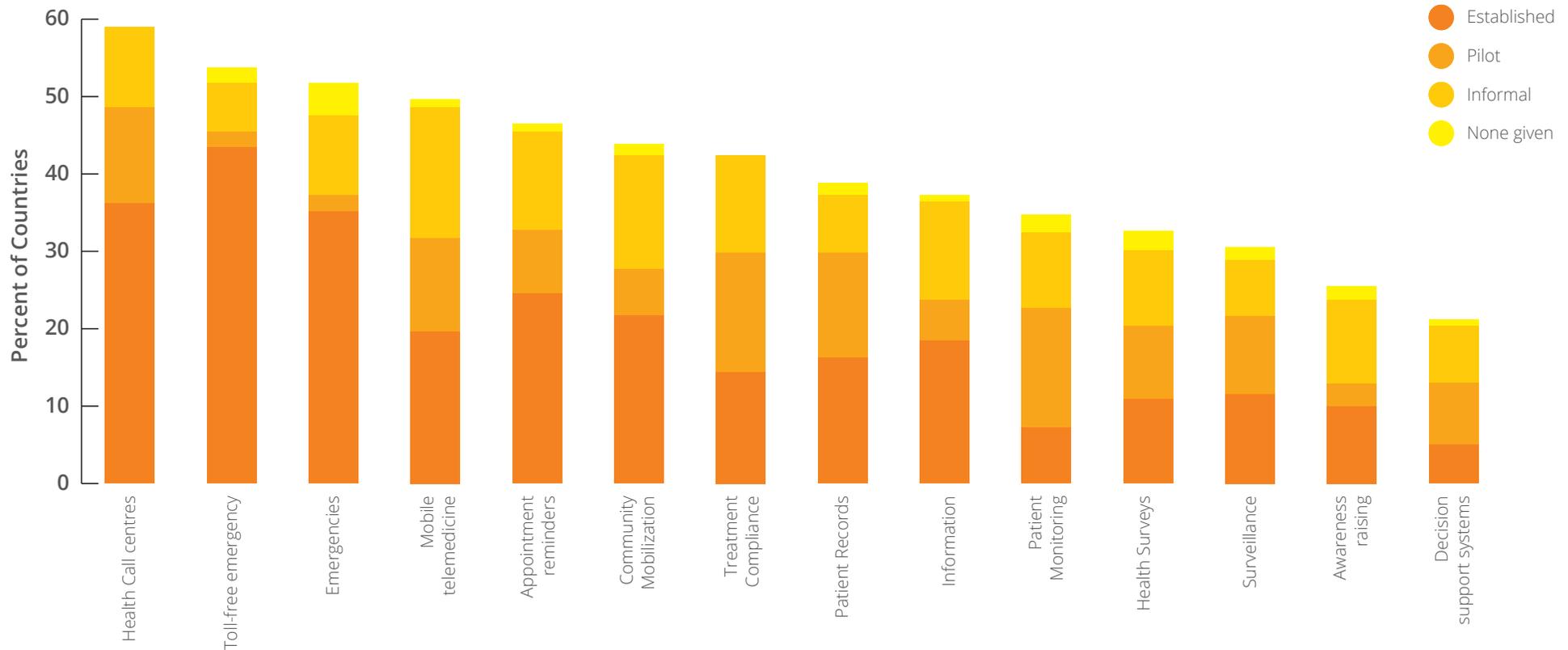## Security
Data Security
Authentication &
Authorization

The path of adopting mobility for a healthcare organization is, however not so smooth. There are several challenges facing the organizations as they move on to leverage mobile technology. There is a massive explosion of devices differing in form, features and functionalities in the market. The challenge for the organizations is to come-up with healthcare solutions that fits all. Similarly, there are multiple mobile platforms like iOS, Android, Windows and Blackberry etc., and solutions must be compatible to all the platforms. While the world may be moving into next generation of internet connectivity, but bandwidth latency and coverage is still an area of concern if mHealth has to truly stand to its promise of delivering services to the remotest of locations. Security of patient data is another complicated challenge which calls for continuous monitor and intervention as the technology evolves. It's also important to keep an eye on the reliability and scalability of the mobile infrastructure as the usage grows and more people gets covered by it.

THE ADOPTION

As healthcare organizations, across the globe, reel under the pressure of shrinking financial resources, and need to expand their reach and deliver quality services, we are witnessing rapid adoption of mHealth initiatives, at varying scales and levels, globally. The enthusiastic adoption of mobile health solutions clearly showcase the merits and benefits of employing mobility in the delivery of health & wellness services and the growing acceptance of mHealth practices among various stakeholders in the industry.

Adoption of mHealth initiatives and phases, globally

Legend:
- Established
- Pilot
- Informal
- None given

Y-axis: Percent of Countries

X-axis (mHealth Initiatives): Health Call centres, Toll-free emergency, Emergencies, Mobile telemedicine, Appointment reminders, Community Mobilization, Treatment Compliance, Patient Records, Information, Patient Monitoring, Health Surveys, Surveillance, Awareness raising, Decision support systems

mHealth Initiatives

source:WHO

LOOKING AHEAD

Why enterprises are adopting mobility?

» Emergency response systems

» Mobile synchronous (voice) and asynchronous (SMS) telemedicine diagnostic and decision support to remote clinicians.

» Clinician-focused, evidence-based formulary, database and decision support information available at the point-of-care.

» Pharmaceutical Supply Chain Integrity & Patient Safety Systems.

» Clinical care and remote patient monitoring.

» Health services monitoring and reporting.

» Health-related mLearning for the general public.

» Training and continuing professional development for health care workers.

» Health promotion and community mobilization.

» Support of long-term conditions like example in diabetes self-management.

A survey conducted in 2010 by research2guidance predicts that smartphones, mobile phones and Tablets will present the best Mobile Health Business Opportunities in 2015 thereby, revealing that mobility is the future of healthcare.

Category	Percentage
PDAs	27%
Mobile Phones	37%
Medical Specific Devices	58%
Tablets	69%
Smartphones	82%
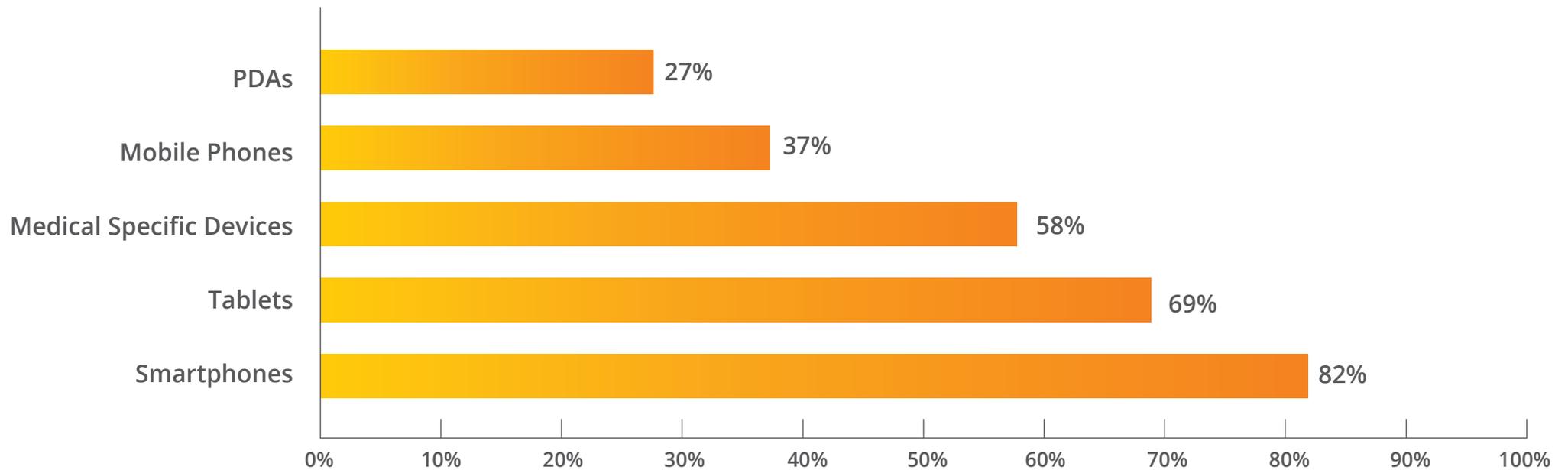
Mobile devices and applications have the potential to play a very significant role in every stage and aspect of the healthcare. Mobility solutions can not only bridge the gap between the doctor and patient but also have the potential to radically transform the way diseases are diagnosed, monitored and treated. Moreover, anytime and anywhere accessibility and availability of health & wellness information and professional advice can be a key factor in the prevention of diseases and promoting wellness.

With further advancement in the mobile technology, the scope and role of healthcare mobility solutions will only grow. It can't be denied anymore-mobile and wireless technology is set to transform the face of healthcare administration across the globe.

OUR RECOMMENDATIONS

Embrace healthcare mobility. mHealth offers tremendous opportunities and value to an organization. It is the answer to myriad challenges faced by the industry.

Focus on user experience. Create a user-friendly, reliable and secure mobile environment.

Pay special attention to data security. Employ adequate authentication and authorization processes.

Pick the right platform. Diversity in screen sizes, functionalities and operating system necessitates organizations to adopt a multi-platform approach.

Monitor user behavior. Customer intelligence will be the key to success of your mHealth initiative.

Lay down the groundwork for next generation of mHealth. Emerging technologies in mobility promises more opportunities. Be ready to seize them.

THE BEGINNING

In spite of the upsurge in adoption of mobility in the healthcare industry, there is still a lot to happen. The pervasiveness of mobile computing is leading to the evolution of new business models, reinvention of delivery methods and innovation in patient care. Healthcare mobility solutions are bringing tremendous value to organizations but still there is a huge area of opportunities to be seized which will further add to the value proposition. Organizations, which adapt to mobility early, will not only gain competitive advantage today but will also, be in a better position to leverage further advancements in mobile technology. And, make greater success of their mobile initiatives.
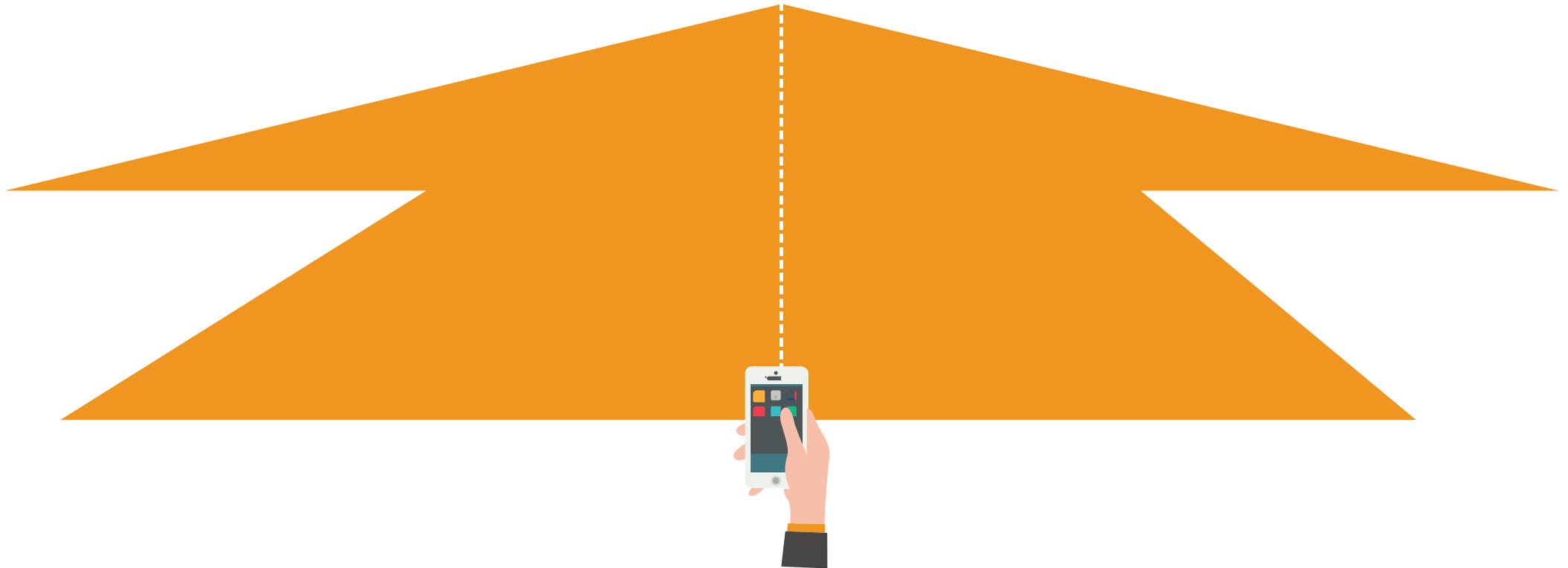
ABOUT MOBINIUS TECHNOLOGIES

Mobinius Technologies is one of the leading mobile apps development and consulting firm, headquartered in Bangalore-India; with offices in Florida-USA, The Netherlands and Singapore. With expertise across all the major mobile platforms, Mobinius has delivered over 250 apps till date and has an enviable client list comprising of some of the biggest brands like Sony, TBS - Italy, Intel, Cannon, Puma, Interactive Blueprint, Airtel, Ogilvy, hp and World Wildlife Federation. Mobinius's understanding of the mobile space and technology, complimented by its rich experience across all the major industry verticals and the capability to deliver end-to end solutions, Mobinius is the perfect mobile consultant of choice.

To integrate your enterprise people, processes and products with customized, avant-garde mobility solutions or to explore mobility opportunities in your enterprise with our experts, please feel free to contact us at info@mobinius.com.

We encourage you to continue exploring our website (www.mobinius.com) to find out more about our services.

REACH US

Mobinius is the premier mobile solution partner for companies and individuals creating the next generation of digital applications. Mobinius develops custom solutions for the iPhone, iPad, Android and Windows Mobile platforms.

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