

Mobile Remote Patient Monitoring



Introduction

The growing elderly population and increase in health issues along with the rising treatment costs has driven the need for mobile based care delivery solutions. With the chronic diseases on the rise, the overall expenditure on the healthcare facilities is increasing thereby increasing the pressure for a constant lookout for alternative methods to provide better healthcare and control the rising costs.

The solutions like mobile based remote patient care are intended to help in reducing the patient's visits to hospitals and the overall cost on the healthcare facilities as the treatment can be provided at home. It also enables the care providers to effectively extend their services to the patients who may need care at home because of various medical conditions.



Some of the main factors that are driving the Mobile based health care include:

- The evolving market of smartphones and tablets with and the growing adoption
- The increasing awareness about chronic diseases and their management with better medical practices and cost effectiveness
- Availability of the advanced connectivity interfaces such as Bluetooth, Wi-Fi, 3G and 4G networks

Challenges

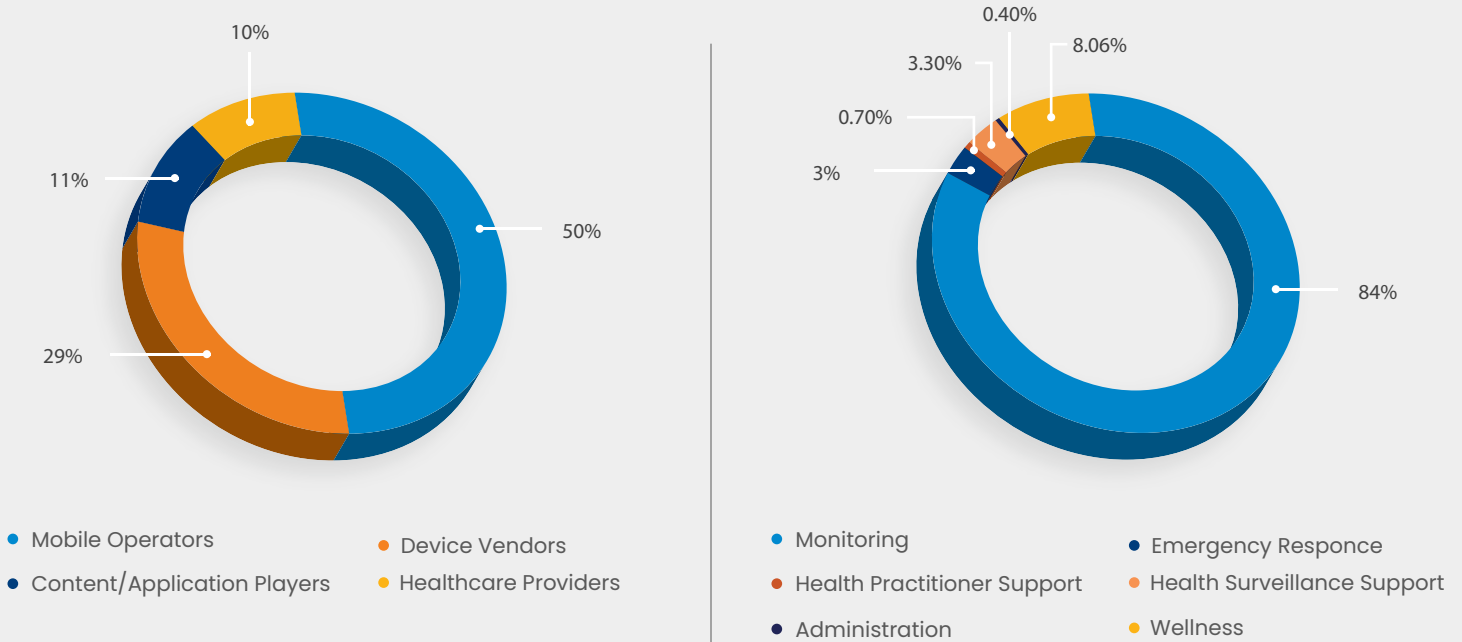
- The adherence to the stringent regulations of FDA and EU
- Security concerns w.r.t. the sensitive patient data
- Providing a timely and cost effective patient care
- Automation of the existing manual process of providing services

Market Trends on mHEALTH Solutions

Connected Healthcare solutions enabled by mobile, social computing have been gaining a lot of acceptance and popularity among consumers. Care providers, Payers and governments see a lot of promise in offering mobile enabled healthcare solutions to improve availability, accessibility and convenience of healthcare at a reduced cost. Experts believe that mobile enabled healthcare (mHealth) will usher a new transformative era in delivering technology enabled connected healthcare solutions. Mobile technology is sure to change the care delivery landscape for patients, providers, payers and governments.

- The market for mobile healthcare includes connected medical devices, healthcare applications, and related mobile technologies
- The global mHealth solutions market is projected to reach USD 213.6 billion by 2025 from USD 50.8 billion in 2020, at a high CAGR of 33.3% during the forecast period of 2020 to 2025
- The dominance with connected devices is around 85% of the total revenue contribution. Cardiac monitoring and fitness tracking are the most widely used mobile-enabled applications of connected devices

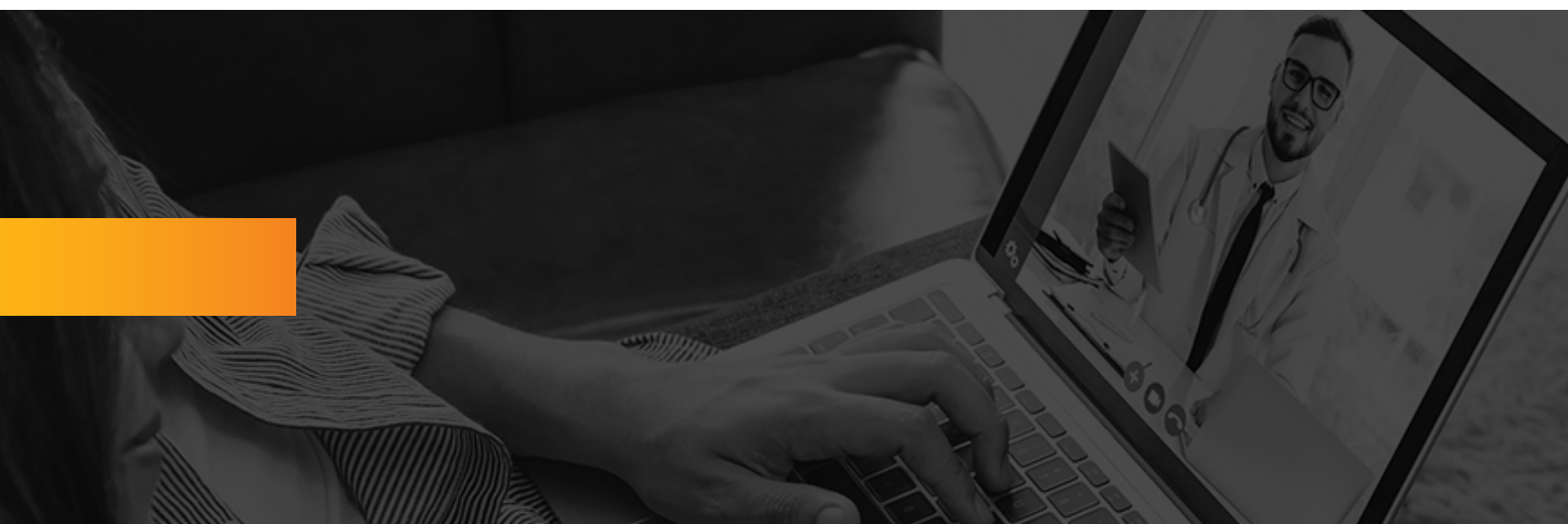
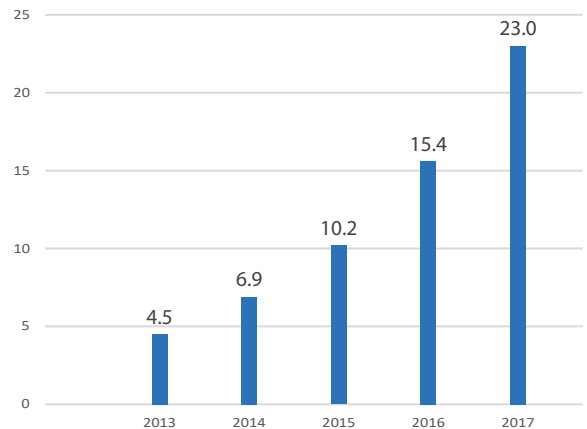
US mHealth Market Opportunity - by Service Categories



The forecast for the Remote Patient Monitoring Market is expected to reach \$2,130 Million globally by 2022

The main factors contributing to this growth:

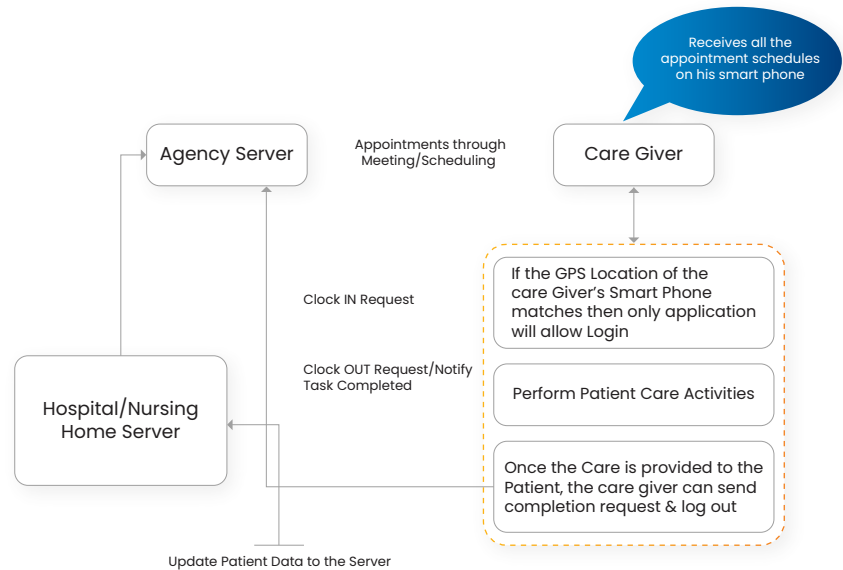
- The increasing patient count with chronic disorders like cardiovascular illnesses, diabetes and the rise in the elderly population. These patients prefer / need monitoring at home as it doesn't involve travelling and waiting in the queues at hospitals
- The cardiac monitoring and cardiac rhythm management devices market is projected to reach USD 25.0 billion by 2024 from USD 20.7 billion in 2019, at a CAGR of 3.9%. This growth is due to the rapidly increasing number of patients with cardiovascular disorders around the world



Example Solution: Mobile Remote Patient Care

A mobile based remote patient care solution can enable the care providers to automate their existing manual process of remote patient care by empowering their care givers with smartphone based solutions with the feature set as mentioned below:

- Secured authentication and login mechanism
- Tracking care givers location using GPS
- Integrated Google maps for directions
- Client/Server architecture for scheduling mechanism
- Push notifications for care givers activities
- Ability to configure the application for care givers activities and provide restrictions



Components

- The Hospital / Nursing Home Server - Web Application
- The Agency Server - Web Application
- Remote Patient Care - Cross Platform Mobile Application for iOS, Android and Windows

Tools and Technologies

- HTML5, CSS3 and JQuery
- PhoneGap with Eclipse IDE
- Jersey Web Framework for Restful Web Service and Apache Tomcat
- MySQL database
- Mobile Devices' GPS
- Push Notifications (Android, iPhone and Windows)
- SSL Configuration for secured login

References




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