

mHealth and Home Monitoring



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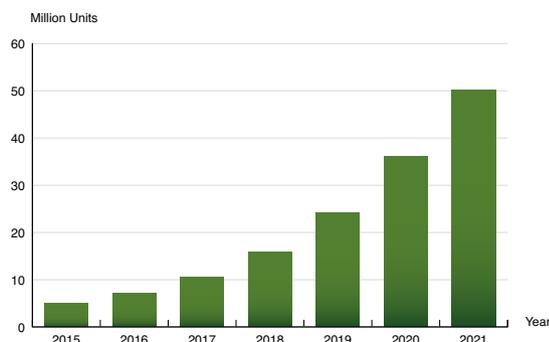


7.1 million patients worldwide are remotely monitored

The number of remotely monitored patients grew by 44 percent to 7.1 million in 2016 as the market entered a growth phase fuelled by rising market acceptance in several key verticals. This number includes all patients enrolled in mHealth care programs in which connected medical devices are used as a part of the care regimen. Connected medical devices used for various forms of personal health tracking are not included in this figure. Berg Insight estimates that the number of remotely monitored patients will grow at a compound annual growth rate (CAGR) of 47.9 percent to reach 50.2 million by 2021. Cellular connectivity has already replaced PSTN as the de-facto standard communication technology for most types of connected home medical monitoring devices and will account for 25.2 million connections in 2021. Using patients' own mobile devices as health hubs is now becoming a viable alternative for remote patient monitoring. BYOD connectivity will be preferred by select patient groups and will be used for the remote monitoring of 22.9 million patients in 2021.

Berg Insight estimates that revenues for remote patient monitoring (RPM) solutions reached € 7.5 billion in 2016, including revenues from medical monitoring devices, mHealth connectivity solutions, care delivery platforms and mHealth care programs. RPM revenues are expected to grow at a CAGR of 33.8 percent between 2016 and 2021 to reach € 32.4 billion at the end of the forecast period. Connected medical devices accounted for 67.5 percent of total RPM revenues in 2016. However, revenues for mHealth connectivity solutions, care delivery platforms and mHealth care programs are growing at a faster rate and will account for 51.3 percent of total revenues in 2021, up from just 32.5 percent in 2016.

There is a strong trend towards incorporating more connectivity in medical devices and pharmaceuticals in order to enable new services and value propositions. Implantable cardiac rhythm management (CRM) has traditionally been the largest market segment, led by companies such as Medtronic, Biotronik and St Jude Medical (now Abbott) that included connectivity in CRM solutions more than a decade ago. However, the sleep therapy segment is growing at the fastest rate and surpassed CRM in 2016. The number of remotely monitored sleep therapy patients grew by 70 percent in 2016, with market growth mainly driven by the vendor ResMed that has made connected healthcare a cornerstone of its strategy. Berg Insight predicts that three of the fastest growing market segments in the next five years will be glucose monitoring, air flow monitoring and connected pharmaceuticals. Today, the leading connected healthcare players in these segments include forward-thinking incumbents as well ►



Connected home medical monitoring devices, million units (World 2015–2021)

► as innovative new entrants such as AstraZeneca, Dexcom, Merck Group, Novartis, Propeller Health, Proteus Digital Health, Roche, Sanofi, Voluntas and WellDoc.

Care delivery platforms and mHealth connectivity solutions are two of the most rapidly developing parts of the mHealth technology value chain. Care delivery platforms are software solutions that enable the remote delivery of healthcare services and allow care efforts to be coordinated between patients, various professional caregivers and other stakeholders such as the patient's family. Care delivery platforms will be instrumental for engaging patients in their own care and delivering remote monitoring services to a large number of people in a cost efficient way. There are various types of care delivery platforms available on the market. General-purpose platforms can be adapted to a wide variety of use cases and are often used as the foundation for developing therapeutic area specific mHealth products. Companies that specialize in this area include BePatient, Exco InTouch, Medixine, OpenTeleHealth and Vivify Health. mHealth connectivity solutions include products and services that are used for collecting data from medical monitoring devices, transmitting this data to caregivers and enabling the data to be used by care delivery platforms. The leading players include Qualcomm Life, eDevice/iHealth, Tactio Health, Validic and MedM.

Health-related apps and devices are generating potentially huge amounts of data. When the line between medical devices and health gadgets become blurred, traditional as well as startup companies try to position themselves as important stakeholders in the ecosystem for mHealth data. National PHR systems, device manufacturing companies, independent app producers and tech giants such as Google, Apple, Microsoft are some common options for data storage. One trend is to share data in third party clouds, exemplified by Glooko that allows people suffering from diabetes to download their glucose readings to their mobile devices, regardless of the brand of the glucose reading device. Important for end-users, doctors and care giving institutions is to choose a place where as many standards as possible are followed and where it is as easy as possible to export the data.

This report answers the following questions:

- Which medical conditions offer the best potential for wireless health monitoring solutions?
- Who are the leading providers of connected medical devices?
- What are the mHealth strategies of medical device vendors and pharmaceutical companies?
- Which are the general technology trends for home health monitoring equipment?
- What initiatives have been taken by the leading players in the telecom and IT industries?
- How can connectivity redefine the use cases of medical devices and the value propositions to patients and other stakeholders?
- What are the market shares of the top 5 integrated telehealth solution vendors?
- Why are smartphone applications so significant for the mHealth market?
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