# mHealth and Home Monitoring

**mHealth and Home Monitoring** is the fifth consecutive report from Berg Insight that gives first-hand insights into the adoption of wireless solutions for health monitoring.

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## Highlights from this report:

- **Profit** from 40 new executive interviews with market leading companies.

- **Identify** key players in the healthcare monitoring ecosystem.

- **Learn** about key home health monitoring devices and services.

- **Understand** the dynamics of the health monitoring market in Europe and North America.

- **Comprehend** how wireless technology can become seamlessly integrated with medical devices.

- **Evaluate** the business opportunities in the emerging mHealth segment.

- **Predict** future market and technology developments.

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# 2.8 million patients worldwide are remotely monitored today

Some of the most common conditions being monitored today are chronic diseases including cardiac arrhythmia, hypertension, ischemic diseases, sleep apnea, diabetes, hyperlipidemia, asthma and chronic obstructive pulmonary disease (COPD). These conditions cause substantial costs and reduce both life expectancy and quality of life. Berg Insight estimates that more than 200 million people in the EU and the US suffer from one or several diseases where home monitoring can become a treatment option. Applying information and communication technologies in the healthcare industry can lead to decreased costs, more efficient care delivery and improved sustainability of the healthcare system. However, the rate of adoption is still slow and wireless technologies have only just begun to penetrate the market.

Berg Insight estimates that the number of patients using home monitoring systems with integrated connectivity was about 2.8 million worldwide at the end of 2012. The figure comprises all patients that were using dedicated devices for remote monitoring. Patients using their personal mobile phone, tablet or PC for remote monitoring are not included in this figure. Berg Insight forecasts that the number of home monitoring systems with integrated communication capabilities will grow at a compound annual growth rate (CAGR) of 26.9 percent between 2011 and 2017 to reach 9.4 million connections worldwide. The number of devices with integrated cellular connectivity increased from 0.73 million in 2011 to about 1.03 million in 2012, and is projected to grow at a CAGR of 46.3 percent to 7.1 million in 2017.

Several companies have developed integrated solutions for monitoring multiple chronic diseases and other conditions. The six leading providers of telehealth systems include the major technology and electronics companies Bosch, Honeywell and Philips, as well as the smaller more specialised providers Tunstall, Cardiocom and Numera. These six companies together account for 75.8 percent of the installed base of telehealth hubs. The main market segments for medical devices with integrated connectivity are cardiac rhythm management, sleep therapy and ambulatory ECG monitoring. Furthermore, connectivity is gaining momentum in several other segments such as blood pressure monitoring, glucose monitoring and medication adherence. In these segments, vendors such as Medtronic, Biotronik, St. Jude Medical, CardioNet, LifeWatch, ResMed, Philips Respironics, Fisher & Paykel Healthcare, Omron, Telcare, Vitality, DayaMed and Vitaphone today market wirelessly connected solutions. Implantable cardiac rhythm ▶
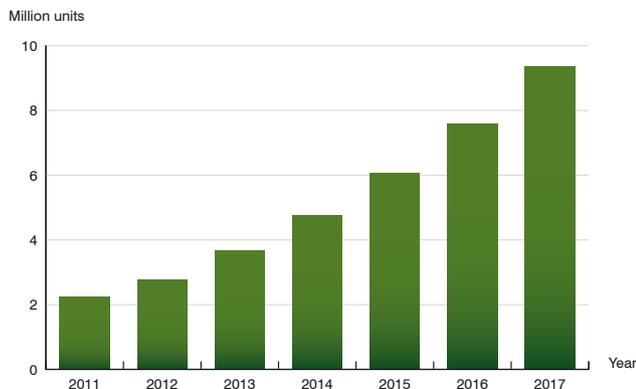
▶ management devices is by far the largest segment, accounting for 65.0 percent of remotely monitored patients. However, the number of connected sleep therapy devices is increasing at a faster pace and is expected to constitute the largest segment of connected medical devices by 2017.

The major telecom industry players such as Qualcomm, AT&T and Orange have operated business units dedicated to mHealth for several years. Continuous exploration and experimentation with pilot projects has enabled these companies to build industry-specific capabilities while devising their long-term strategies. The efforts are now materializing in the launch of mHealth platforms that can be leveraged by medical device OEMs, healthcare organizations and mHealth app developers to facilitate the development of patient-centric mHealth solutions. In addition to wireless communication, the mHealth platforms often comprise highly secure hosting, remote device management capabilities and integration tools for connecting with medical devices, back-end IT systems and apps.

The adoption of out-of-hospital wireless monitoring in healthcare is driven by a wide range of incentives, related to everything from demographics and technology development to new advancements in medical treatment. However, there are a number of barriers, including resistance to change among healthcare organizations and clinicians, misaligned incentive structures and the financing of wireless solutions by what is at large an underfunded healthcare sector. Several catalysts are nevertheless speeding up the rate of adoption – in particular incentives from payers and insurance companies as well as national health systems that demand remote monitoring. In the US, the progressive increases of readmission penalties set by the Centers for Medicare & Medicaid Services (CMS) will drive hospitals to adopt telehealth solutions for monitoring of post-discharge patients. In the UK, the positive results from the Whole System Demonstrator project led the National Health Service to issue a mandate for 100,000 additional patients to be monitored using telehealth solutions by the end of 2013. In France, a new mandate on compliance monitoring will ensure that all new sleep therapy patients will be remotely monitored from 2013 onwards.

## This report answers the following questions:

- Which medical conditions offer the best potential for wireless health monitoring solutions?
- Who are the leading providers of medical devices for home monitoring?
- What are the mHealth strategies of mobile operators?
- 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 10 integrated telehealth solution vendors?
- Why are smartphone applications so significant for the mHealth market?
- How can the mobile industry contribute to the adoption of wireless technology in healthcare?

Million units



*Connected home medical monitoring devices, million units (World 2011–2017)*

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## About the Authors

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