

Integrating Smart Technology into Medical Devices

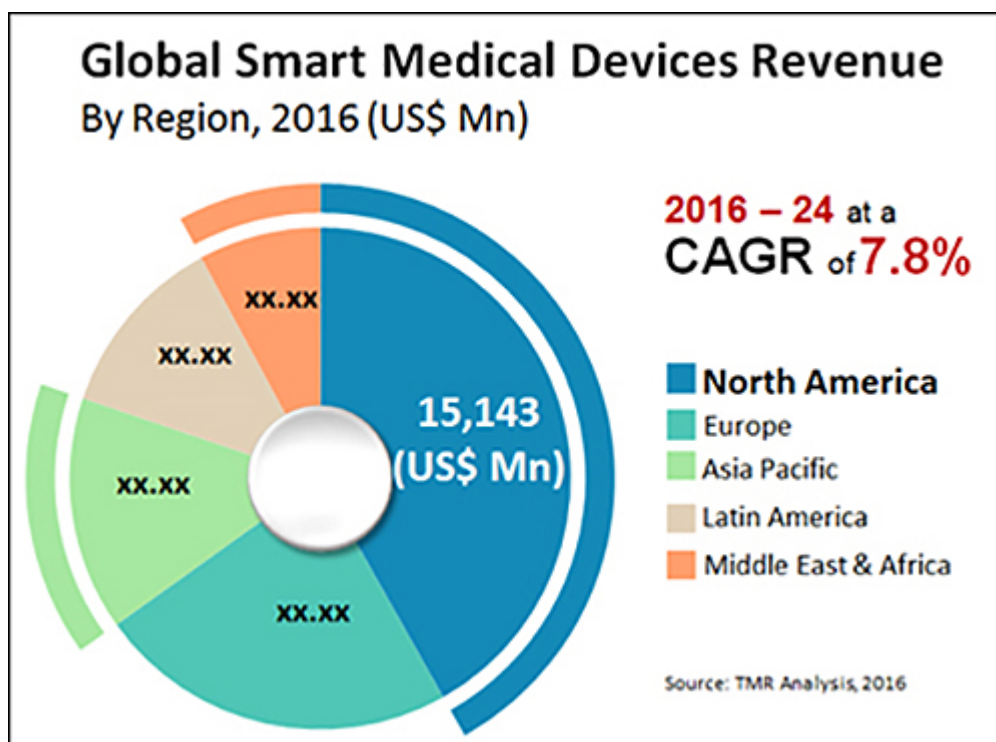
Physicians are using [smart medical devices](#) as important tools to detect various diseases by monitoring vital signs. Chronic illnesses, such as hypertension and diabetes, have thus received a fresh perspective from both the medical industry and from patients. From a broader perspective, these devices have drastically reduced the workload for health-care providers by closely monitoring patient health and taking quick action in the event of any major changes in the readings.

Rapid technological advancements in fitness devices have also lured in a large base of consumers who are interested in monitoring their heart rate, calorie intake and number of calories burned. The user-friendliness of these devices is expected to fuel the uptake of smart medical devices in the coming few years



Susceptible to a broad scope of diseases, the ever-rising geriatric population could be a primary growth factor with regard to smart medical devices. Vendors have been relying on enviable properties of such devices that help in the efficient management of diseases. Such properties have drawn a lot of dependency on them in the medical field. The adoption of smarter ways to manage various conditions, mounting awareness among patients and technological advancement, could make it easy for vendors.

Various products are available in the smart medical devices market. On the basis of product, the global market is segmented into therapeutic devices, diagnostic and monitoring devices, and injury prevention and rehabilitation devices. Of these, the diagnostic and monitoring devices segment is expected to dominate the global market. Growing awareness toward fitness is expected to drive the uptake of these devices. Quick and easy accessibility to fitness prompts, near-accurate monitoring of health condition (such as diabetes and blood pressure) and wide availability of devices in varying price ranges is expected to work in favor of this segment.



In terms of geography, the global smart medical devices market is segmented into North America, the Asia-Pacific region, Europe, the Middle East and Africa, and Latin America. North America is expected to exhibit an excellent growth rate in the coming years. The adoption of technology in the region and its acceptability amongst the overall population is estimated to benefit the regional market. The ongoing upgradation of medical and health-care services in the region has also played a crucial role in the swift sales of smart medical devices all

across North America.

Internet of Things (IoT)-based health-care systems play a key role in the growth of medical information systems. Tracking, tracing and monitoring patients is essential to enhancing the health-care system. However, due to an inadequate health-care situation, current medical technologies with the available tools cannot meet the same accurately. Dependency of health care on the IoT is increasing day by day to improve access to care, enhance the quality of care and, most importantly, limit the cost of care. The IoT eliminates the need for a health-care professional by providing a ubiquitous monitoring system using sensors, gateways and the cloud to analyze and store data, then communicate it wirelessly to medical professionals for further analysis.

Internet-connected devices have been introduced to monitor and diagnose patients in various ways. Tracking health information is vital for patients, whether the data comes from electrocardiograms, fetal monitors, blood glucose levels or temperature monitors. Most of these measures require follow-up with health-care professionals, creating an opportunity for smarter electronic devices to deliver more valuable data by reducing the need for direct physician-patient interaction.

Many hospitals have begun installing smart beds, enabling them to detect if a patient is attempting to get up, as well as when a bed is occupied. Such a bed can self-adjust to ensure that the appropriate support and pressure is being applied to a patient without manual intervention. Another benefit of the IoT in health care is integration with home medical dispensers to automatically upload data to the cloud if medication is not taken, or in any other case that requires a health professional to be alerted.

Some of the leading players operating in the global smart medical devices market are Abbott Laboratories, Apple, Dexcom, Fitbit, F. Hoffmann-La Roche, Johnson & Johnson, Medtronic,

NeuroMetrix, Samsung Electronics and Sonova. These companies are expected to retain the lead during the coming years, due to their penetration in emerging economies and product innovation. Growing investments in the development of sophisticated products are anticipated to drive the soaring revenues of these firms in the near future.

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