

Smart Pills Drug Delivery - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Smart Pills Drug Delivery Market size is estimated at USD 4.83 billion in 2025, and is expected to reach USD 8.00 billion by 2030, at a CAGR of 10.61% during the forecast period (2025-2030).

The COVID-19 pandemic has boosted the demand for smart pills for managing patients suffering from COVID-19 and other associated disorders. It has also fueled the research and development activities for developing smart drugs. For instance, as per an article published by the International Journal on Emerging Technologies, in August 2020, in times of the COVID-19 pandemic, there was a need to develop a pill drug delivery system with a preprogrammed feature that will be used by the elderly or infected people. The proposed preprogrammed pill dispenser (PPD) is one such approach that is designed to help them to take their medicines at regular intervals of time. It states that the proposed preprogrammed drug delivery system is designed with an alerting module using an alarm and camera unit, which is one such approach intended to help patients take their medications at regular intervals as the in-home medical care cost in a developing country is much higher, which leads the individual to think of a cost-effective solution. Hence, with the abovementioned factors, it is observed that the market studied was positively impacted.

Specific factors driving the smart pills drug delivery market growth include increasing preference for minimally invasive devices, increasing incidence of gastrointestinal disorders, and technological advancements. Additionally, the increasing burden of neurological, cancer and other diseases drives the demand for intelligent pills in healthcare settings. For instance, according to the World Health Organization September 2021 update, around 55 million people have dementia, with over 60% living in low and middle-income countries. The same source also reports that this number is expected to rise to 78 million in 2030 and 139 million in 2050. With the increasing cases of Alzheimer's and dementia, there are increased chances of missing doses of medication or wrong administration of it, increasing the need for smart pills and drug delivery. Thus, the increasing burden of diseases around the globe and the need for care drives the market studied.

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According to an article published by GIE Media, Inc., in December 2021, the need to perform highly skilled actions using specialized tools with limited visibility and motion range has introduced higher levels of expertise for surgical teams. Support equipment includes endoscopic cameras, visualization scanners, contrast injectors, etc. According to an article published on JAMA Network in January 2020, most surgeons currently opt for advanced minimally invasive surgical procedures such as laparo-endo single-incision surgery (LESS) due to their advantages over traditional open surgical techniques. These advantages include fewer scars and tissue injury, quicker recovery periods, shorter hospital stays, reduced blood loss and trauma, lower risk of infection, and reduced overall healthcare costs. In addition, minimally invasive surgeries are increasingly being covered by health insurance providers in selected countries. These factors have led to an increased preference for minimally invasive surgeries among patients leading to the growth of the smart pills drug delivery market.

Therefore, the abovementioned factors are attributed collectively to the studied market growth over the forecast period. However, stringent regulations for approving smart pills and potential health risks are expected to hinder market growth over the forecast period.

Smart Pills Drug Delivery Market Trends

Capsule Endoscopy is Expected to Hold Significant Market Share in the Type Segment

Capsule endoscopy is a procedure that uses a tiny wireless camera to take pictures of your digestive tract. A capsule endoscopy camera sits inside a vitamin-size capsule you swallow. As the capsule travels through your digestive tract, the camera takes thousands of pictures transmitted to a recorder you wear on a belt around your waist. With the advent of healthcare technology, smart pills can eliminate the need for invasive procedures. Various advances are being undertaken in smart drugs, such as batteries and onboard memory, making them significant for long-term usage. According to an article published by Gastroenterology & Endoscopy News in March 2022, capsule endoscopy has a high positive (94%-97%) and negative (83%-100%) predictive value in the evaluation of GI bleeding, and findings on capsule endoscopy can lead to endoscopic or surgical intervention or a change in medical management in 37% to 87% of patients. Hence, with the continuous advancements that are being made in the area of endoscopy, and with the rising in gastrointestinal disorders (GI) and the need for proper diagnosis, it is believed that the market studied will have rapid growth over the forecast period.

The segment is expected to witness healthy growth due to the global companies inclining toward the smart capsule. For instance, Medtronic provides PillCam SB1 and PillCam SB2, Olympus provides Endocapsule and Endocapsule 10, NaviCam Stomach is developed by Ankon, whereas, CapsoVision provides CapsoCam in the global markets. Advanced technologies and product approvals in the market are also expected to drive segment growth. For instance, In November 2021, Medtronic plc announced the United States Food and Drug Administration (FDA) clearance for its PillCam Small Bowel 3 system for remote endoscopy procedures. Additionally, in July 2022, Scottish health researchers launched a new EUR 6 million project to make Artificial Intelligence-assisted (AI) capsule endoscopy a part of future bowel cancer diagnostics. Clinical Capsule Endoscopy (CCE) utilizes a 'smart pill' containing cameras that, once swallowed by a patient, records images of the intestines as it passes through.

Therefore, the factors mentioned above are expected to drive segmental growth in the market during the forecast period.

North America Dominates the Market and Expected to do Same in the Forecast Period

North America has dominated the global market studied, owing to the factors, such as the wide acceptance of technologically advanced solutions to make patient care hassle-free, a large pool of customers, and a rapidly growing geriatric population.

A growing number of medication errors due to human intervention in specialty drug delivery may result in steep upward growth,

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which requires the need to focus on providing value-based care to patients in the United States. As per an article published by the National Library of Medicine, in July 2022, 7,000 to 9,000 persons each year in the United States alone die as a result of drug mistakes. Additionally, millions of additional people have adverse reactions or other pharmaceutical issues but frequently fail to disclose them. According to the United States Food and Drug Administration (FDA), in 2020, it was found that every year more than 100,000 cases of suspected medication errors are reported in the United States. Thus, the statistics indicate that there has been a rising need for smart pill products in the country to avoid medication errors.

As per the 2022 Alzheimer's Disease facts and figures report, more than 6 million Americans of all ages have Alzheimer's and an estimated 6.5 million Americans aged 65 and older are living with Alzheimer's in 2022. The same source reports that out of the total US population, about 1 in 9 people (10.7%) age 65 and older has Alzheimer's dementia and the percentage of people with Alzheimer's dementia increases with age, 5.0% of people aged 65 to 74. Thus, the statistics indicate that the demand for smart pills is expected to rise in the United States.

Smart Pills Drug Delivery Industry Overview

The Smart Pills Drug Delivery market is consolidated due to the presence of several companies operating globally and regionally. The competitive landscape includes an analysis of a few international as well as local companies which hold the market shares and are well known, including CapsoVision, Check-Cap, etectRx Inc., HQ Inc., Jinshan Science and Technology, Koninklijke Philips NV (Medimetrics), Medtronic PLC, Olympus Medical Technology, Otsuka Pharmaceutical Co. Ltd, Proteus Pharmaceuticals, and Intromedic, among others.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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