



# Global Smart Inhalers Market Report: 2025

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## Executive Summary

Smart Inhalers are defined as digitally operated inhalers equipped with the sensors that are used by patient for monitoring and tracking the medication usage. These are the innovative solution of digital technology intended to improve the management of the respiratory diseases such as Asthma and COPD. These are either add-on sensor to be fit on the inhaler and connected to smart phone via Bluetooth or as integrated devices/ smart inhalers. For treating COPD and Asthma, inhalation route is the fastest and most effective way to delivering medications but patients often miss their doses. Smart inhalers offer preventative care options and more control over medication use that inform the user about potential dangers around them. Smart Inhalers are intended to be used by people with COPD & asthma in any healthcare setting including at home and in the community, as part of their regular practice. Smart Inhaler devices are available for preventer, reliever and maintenance and reliever therapy inhalers.

Clinical trials of the smart inhalers show promising results: use of Propeller Health's system, compared with routine care, significantly improved asthma control test scores among patients with uncontrolled asthma. Adherium has released data from clinical studies of its Smartinhaler platform & devices. Involving children and adults, the data from these clinical trials shows an increase of 144% in adherence for patients using the connected devices, an increase of 14.9% in lung function and a reduction of 37% in oral steroid usage.

According to WHO, COPD was fifth leading cause of death in 2002 and will become the third leading cause of death across the globe by 2030. Globally, it is estimated that about 3 million deaths were caused by the disease in 2015 (5% of all deaths globally in that year). COPD is likely to increase in coming years due to higher smoking prevalence and aging populations in many countries. Its treatment is associated with non-adherence rates of around 50%. Around 235 million people suffer from Asthma and it is the most common chronic disease among children. There were 383,000 deaths due to Asthma in 2015 and most deaths occur in older adults. Uncontrolled Asthma and COPD represents a significant economic burden in terms of healthcare cost and lost productivity.

The global smart inhaler market is expected to grow at a CAGR of 77% during 2016 to 2025 to reach US\$4.3 billion by 2025 from the market value US\$13.9 million in 2016. The smart inhaler market is driven by increasing prevalence and incidence of respiratory diseases such as asthma, COPD; increasing aging population and technological advancements in the pharma-medical devices industry. Furthermore, increasing investment in research and development of advanced devices, collaborations and partnerships, and technological advancements in Smart Inhalers are expected to boost the growth of the market in coming years.

Market is segmented into metered dose inhalers (MDI) and dry powder inhalers (DPI). The global MDI and DPI market is expected to grow considerably in the forecast period from 2016-2025 due to rising prevalence of Asthma and COPD; increasing air pollution and a surge in the ageing population both in developed and developing countries. This growing MDI and DPI market provide huge opportunity for the Smart Inhaler market.

The report also explains the Indian market scenario for smart inhalers and explains the growth drivers, challenges and price sensitivity in the market and what are the most acceptable technology features that needed in the market.

Novartis and Philips are the most active assignees in the year 2017. It has been noticed that in the year 2008, seven patent marked entry of GlaxoSmithKline in the domain. The top priority country observed is USA with a filing of 310 patents, which indicates most innovations are originating in the USA. It has been observed that Metered Dose Inhaler is covered by nearly 33% patents. It is evident from the figure 8.5 that majority of the patent activity is concentrated within Companies. Teva Pharma acquired MicroDose Therapeutx in the year 2013 and cumulatively has 28 patents. The top assignee is GlaxoSmithKline. Among the top assignees provided by Market research, Adherium, Teva, Vectura, Novartis, 3M, Qualcomm and Gecko appear as top assignees in IP search as well. It has been observed that maximum patent references have been published by Philips in the year 2016. The inventor with maximum number of patents is Gumaste, Anand V. He has filed patents all patents with MicroDose Therapeutx (Teva pharma). It has been observed that Rand, Paul Kenneth is the top inventor within the company GlaxoSmithKline. He has 10 patents filed under the same assignee.

Pharmaceutical manufacturers are facing the threats of generic competition and increasing payer pressure creating the need of technology-enabled solutions for companies to add genuine value and extend the life of their branded medicines. At present several companies are working on the new digital technologies for patient adherence. Adherium, Propeller Health, Cohero Health, Qualcomm Life are among these companies providing sensors and connectivity solutions for the inhalers in respiratory market. Companies are working towards developing more compatible and advance smart inhalers to overcome the limitations of current devices. The leading player in the smart inhaler market is Adherium with majority product approvals. There are four types of players in the smart inhaler market; add-on sensors manufacturers, add-on sensors + App + Cloud Platform providers, integrated smart inhalers manufacturers and cloud platform service providers. In this report for analysis purpose integrated smart inhalers are defined as devices in which the sensor is embedded in the inhaler that tracks the medication use and is provided to customer as a combined package with mobile app and / or cloud platform services. GlaxoSmithKline, AstraZeneca and Novartis are all chasing the opportunity via deals with device manufacturers including the US based Propeller Health and Australia based Adherium, as well as technology players like Qualcomm Life.

**Key Questions Answered by the Report:**

1. Global smart inhaler market size by value from 2016 to 2025.
2. Global smart inhaler market size by segment in 2016.
3. Indian smart inhaler market scenario.
4. Competitive landscape of Smart inhaler global market in 2017.
5. Unmet needs in the Asthma & COPD market.
6. Analysis of clinical and technical evidence for improved adherence by smart inhalers.
7. Comprehensive product analysis by all three types.
8. Comprehensive product feature analysis.

9. Merger & acquisition, collaboration & strategic investments activities by the key players in the market.
10. How the growth drivers, future opportunities and challenges affect the market dynamics.
11. Overall patent trend in smart inhaler market
12. Smart inhaler patent trend by countries
13. Smart inhaler patent trend by key players
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15. Key player's patents by focus area in smart inhaler market
16. Key player's patents by type of smart inhaler
17. Key smart inhaler design patents
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20. Top inventors in smart inhaler market
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22. Detailed company profiling of key market players including detailed description of their products.

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