

Medical Gas Market to Reach USD 24.7 Billion by 2032 – Persistence Market Research

The global medical gas market is set to grow from USD 15 Bn in 2025 to USD 24.7 Bn by 2032, registering a CAGR of 7.4% during the forecast period

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-- The healthcare sector has witnessed significant advancements in recent years, and one of the most crucial components of patient care is the provision of medical gases. Medical gases are an essential part of modern

healthcare systems, used for a wide range of medical treatments, from oxygen therapy to anesthesia. As the demand for healthcare services increases globally, the [medical gas market](#) is set to experience significant growth.

Overview of the Medical Gas Market

Medical gases, including oxygen, nitrogen, nitrous oxide, and medical air, are essential for patient care in hospitals, clinics, and other healthcare settings. These gases are primarily used for therapeutic purposes, such as treating respiratory disorders, anesthesia delivery during surgeries, and in emergency situations. They also play a crucial role in laboratory and diagnostic applications.

According to Persistence Market Research's projections, the global medical gas market is estimated to increase from US\$ 15 billion in 2025 to US\$ 24.7 billion by 2032. The market is projected to record a CAGR of 7.4% during the forecast period from 2025 to 2032. This growth can be attributed to various factors, including the increasing prevalence of respiratory diseases, the aging population, and advancements in healthcare infrastructure across emerging markets.

Key Market Drivers

1. Rising Prevalence of Respiratory Diseases



The graphic features the Persistence Market Research logo at the top left. Below it, the text reads "Market Study On Medical Gas Market" in blue, followed by a yellow bar containing "2025 - 2032". At the bottom left, it says "Contact Us: sales@persistencemarketresearch.com". On the right side, there is a photograph of a medical gas manifold with several gauges and tubes, with a healthcare worker in blue scrubs and a mask visible in the background.

Medical Gas Market

The prevalence of respiratory diseases such as chronic obstructive pulmonary disease (COPD), asthma, and sleep apnea is on the rise, particularly in developed countries where air pollution and sedentary lifestyles are more common. These diseases often require long-term oxygen therapy, driving the demand for medical oxygen, one of the most widely used medical gases.

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The World Health Organization (WHO) estimates that COPD will become the third leading cause of death globally by 2030. With such a high burden of respiratory diseases, the need for medical oxygen and other gases is expected to surge, contributing to the growth of the medical gas market.

2. Aging Population

The global population is aging, and with this demographic shift comes an increased demand for healthcare services. Older adults are more prone to chronic conditions that require long-term care, including respiratory illnesses, cardiovascular diseases, and neurological disorders. This trend has led to a growing need for medical gases, especially oxygen, as a part of ongoing patient management.

According to the United Nations, the number of people aged 60 or above is expected to reach 2.1 billion by 2050, up from 1 billion in 2020. This demographic shift is one of the primary drivers of the medical gas market, as older adults often require continuous oxygen therapy or other medical gases for conditions like COPD and sleep apnea.

3. Technological Advancements in Gas Delivery Systems

Advancements in gas delivery systems, including portable oxygen concentrators, efficient gas storage systems, and better quality control systems, have made medical gases more accessible and safer for both healthcare providers and patients. These innovations ensure that medical gases are administered effectively, reducing the risk of complications.

Moreover, digital health technologies such as remote monitoring for patients on oxygen therapy are becoming more prevalent. These innovations have made it easier for patients to manage their conditions at home, contributing to the overall growth of the medical gas market.

4. Increase in Surgeries and Anesthesia Usage

Anesthesia gases, such as nitrous oxide and isoflurane, are indispensable during surgeries. The rising number of surgeries, both elective and emergency, is driving the demand for medical gases used in anesthesia. As healthcare systems in developing countries improve and access to

surgeries increases, the demand for anesthesia gases is also expected to rise, thus contributing to market growth.

The growing popularity of minimally invasive surgeries and advancements in surgical techniques are other factors driving the increased use of medical gases in the operating room. Hospitals and surgical centers worldwide are investing in state-of-the-art equipment and medical gas systems to meet this demand.

5. Expansion of Healthcare Infrastructure in Emerging Markets

Emerging markets, particularly in Asia-Pacific, Latin America, and the Middle East, are experiencing rapid growth in healthcare infrastructure. The rising demand for medical gas systems in hospitals, clinics, and home care settings is expected to be a key growth driver for the market in these regions.

Countries like China, India, Brazil, and Saudi Arabia are increasing their healthcare spending to improve healthcare access and quality. As these nations develop their healthcare infrastructure, the demand for medical gases for both hospital use and home care is expected to rise, contributing to the global market growth.

Market Segmentation

The medical gas market can be segmented into various categories based on type, end-user, and region.

By Type of Gas

Oxygen: Oxygen is the most widely used medical gas, crucial for patients with respiratory conditions or during surgeries. It is commonly administered in hospitals, nursing homes, and home care settings.

Nitrous Oxide: Also known as laughing gas, nitrous oxide is used as a sedative and analgesic in dental procedures and surgeries.

Medical Air: This is a mixture of nitrogen and oxygen used for various applications, including ventilation and as a diluent for anesthetic gases.

Carbon Dioxide: Carbon dioxide is used for insufflation in minimally invasive surgeries and as a carrier gas in certain medical procedures.

Other Gases: Other medical gases include nitrogen, helium, and a variety of anesthetic gases used during surgeries.

By End-User

Hospitals and Clinics: The largest segment of the medical gas market, hospitals, and clinics are the primary end-users due to the high demand for medical gases in surgeries, emergency care, and respiratory treatments.

Home Care Settings: With increasing adoption of home healthcare, especially among elderly patients and those with chronic respiratory diseases, the demand for home oxygen therapy and other medical gases has risen significantly.

Long-term Care Facilities: These include nursing homes and rehabilitation centers, where patients often require ongoing medical gas treatments for conditions such as COPD, sleep apnea, and post-surgical recovery.

Research and Industrial Applications: Medical gases are also used in laboratories and pharmaceutical manufacturing processes, though this segment accounts for a smaller portion of the overall market.

Regional Insights

North America

North America is the largest market for medical gases, particularly in the United States, where the healthcare system is highly advanced, and the demand for respiratory therapies is increasing. The aging population in North America is also a significant driver of the medical gas market.

Europe

Europe follows closely behind North America in terms of market size. The region is seeing growing demand for medical gases, particularly for respiratory care, surgical procedures, and emergency treatments. Countries such as Germany, France, and the UK are key contributors to the market growth.

Asia-Pacific

The Asia-Pacific region is expected to witness the highest growth during the forecast period, driven by rapid urbanization, healthcare infrastructure improvements, and an increase in chronic diseases. Countries like China and India are expected to see a rise in healthcare spending, which will drive the demand for medical gases.

Latin America and Middle East & Africa

While still in the early stages, these regions are witnessing growth in medical gas demand due to expanding healthcare facilities and increased access to healthcare services.

Challenges in the Medical Gas Market

Regulatory Challenges

Medical gases are highly regulated, and manufacturers must comply with strict quality and safety standards. Ensuring the purity and quality of medical gases is crucial for patient safety, and failure to meet these standards can have serious consequences.

High Costs

The cost of producing, storing, and delivering medical gases can be high, particularly for gases such as oxygen and nitrous oxide. This can impact affordability, particularly in developing regions where healthcare budgets are limited.

Conclusion

The global medical gas market is poised for significant growth, with a projected CAGR of 7.4% from 2025 to 2032, increasing from US\$ 15 billion to US\$ 24.7 billion. The key factors driving this growth include an aging population, rising prevalence of respiratory diseases, advancements in medical gas technologies, and increased healthcare access in emerging markets.

As the medical gas market continues to expand, healthcare providers must ensure that the latest technologies are implemented to safely deliver these gases, while regulatory bodies will continue to monitor standards to guarantee patient safety. The future looks promising for the medical gas market as it continues to evolve and meet the growing demands of modern healthcare.

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