# Human Insulin Market ? Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Indication (Type I Diabetes, Type II Diabetes), By Brand (Lantus, Humulin R, Novolin R, Humulin N, Exubera, Afrezza, Novolin N), By Route of Administration (Subcutaneous, Transdermal, Nasal, Intravenous, Oral and Others), By Type (Basal, Bolus, Pre-mixed, Biosimilar, Traditional), By Onset Time (Rapid acting, Short-acting, Intermediate acting, Long acting, Pre-Mixed, Inhaled, Ultra-long Acting), By Products (Insulin Pens, Insulin Pumps, Infusion System, Injections), By Region & Competition, 2021-2031F

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## Abstracts

The Global Human Insulin Market is projected to expand from USD 24.81 Billion in 2025 to USD 38.31 Billion by 2031, reflecting a compound annual growth rate of 7.51%. This sector covers the commercial environment for biosynthetic peptide hormones that are structurally identical to endogenous insulin, serving as a critical regulation method for blood glucose in patients with diabetes mellitus. The market's upward trajectory is largely fueled by the intensifying global prevalence of diabetes, exacerbated by urbanization, aging populations, and increasing obesity rates which demand consistent therapeutic management. As reported by the International Diabetes Federation in 2024, roughly 589 million adults worldwide were living with diabetes, highlighting an immense patient population requiring effective medical solutions.

A significant challenge hindering market expansion is the substantial cost associated with manufacturing and distribution, which restricts product affordability in developing nations. These financial obstacles frequently compromise patient adherence and limit market penetration in the very regions experiencing the most rapid rise in disease prevalence. Consequently, strict pricing constraints combined with insufficient reimbursement structures in these areas create a major bottleneck for widespread insulin adoption, thereby curbing potential revenue growth.

**Market Driver**

Technological advancements in insulin delivery systems are transforming patient care by transitioning preferences from conventional vials and syringes to automated, minimally invasive devices. Innovations including smart insulin pens, tubeless pumps, and closed-loop systems linked with continuous glucose monitors significantly improve glycemic control and treatment adherence. This evolution is driven by the growing demand for advanced platforms that provide precise dosing while minimizing lifestyle disruptions. For example, Insulet Corporation reported in its Third Quarter 2024 Financial Results in November 2024 that revenue for its Omnipod insulin management system rose by approximately 26% year-over-year, supported by robust adoption in both type 1 and type 2 diabetes sectors, demonstrating how these technologies fuel market growth by addressing therapeutic needs.

Simultaneously, the rising adoption of cost-effective biosimilars is altering the competitive landscape by removing economic barriers to access. As patents for major insulin analogs expire, the launch of high-quality biosimilar alternatives provides significant savings for patients and healthcare systems, especially in emerging markets where affordability is paramount. This trend accelerates volume uptake and broadens the treated patient base, as evidenced by Biocon Limited?s October 2024 Consolidated Financial Results for Q2 FY25, which showed a 19% year-over-year revenue increase in its biosimilars business on a like-for-like basis. Furthermore, with the International Diabetes Federation estimating global diabetes-related health expenditure to exceed USD 1 trillion in 2024, the urgent need for cost-efficient solutions continues to drive market expansion and sustainable healthcare spending.

**Market Challenge**

The substantial expense associated with manufacturing and distribution constitutes a major structural impediment to the growth of the Global Human Insulin Market, especially within developing economies. The production of biosynthetic peptide hormones necessitates rigorous quality control and complex, capital-intensive biotechnology facilities, establishing a high baseline cost for the finished product. Additionally, the logistical requirement to maintain a strict cold chain during distribution imposes significant overhead, further increasing the price for end users. In areas with lower average incomes and limited healthcare infrastructure, these cumulative costs make the therapy economically out of reach for a vast segment of the population, effectively limiting market penetration.

This economic disparity severely constrains market potential because the regions with the highest demand growth are often the most financially restricted. According to the International Diabetes Federation, more than 75 percent of adults with diabetes resided in low- and middle-income countries in 2024. This statistic highlights the scale of the difficulty, as the overwhelming majority of the potential patient pool lives in areas where current pricing structures are prohibitive. As a result, the market encounters a significant bottleneck where revenue growth is suppressed by the inability of the primary growth demographic to afford essential treatment.

**Market Trends**

The introduction of once-weekly basal insulin formulations is fundamentally shifting the treatment paradigm by alleviating the burden associated with daily injection schedules. Pharmaceutical developers are focusing on ultra-long-acting analogs capable of maintaining stable glycemic control for seven days, aiming to reduce injection fatigue and enhance long-term adherence among patients with type 2 diabetes. This innovation addresses lifestyle constraints through chemical structural advancements rather than just device improvements. For instance, Eli Lilly and Company reported in September 2024 from the QWINT-2 phase 3 trial that their once-weekly insulin efsitora alfa achieved non-inferiority to daily insulin degludec, lowering A1C levels by 1.34% compared to 1.26% in insulin-na?ve adults.

In parallel, the development of non-invasive and oral insulin delivery systems continues to draw substantial investment as companies seek to eliminate the need for subcutaneous administration. This trend involves persistent clinical research into encapsulated oral formulations engineered to survive gastric degradation, providing a needle-free option that could significantly broaden early insulin acceptance. Despite past clinical challenges, pursuit of this technology remains vigorous due to its potential to improve patient convenience and overcome psychological barriers to injectable therapies. Highlighting this ongoing effort, Oramed Pharmaceuticals announced in

February 2024 its plans to restart a Phase 3 trial for its oral insulin candidate, ORMD-0801, targeting a specific patient subpopulation that showed significant responsiveness in earlier data analyses.

**Key Market Players**

Novo Nordisk A/S

Eli Lilly and Company

Sanofi S.A.

Biocon Limited

Wockhardt Limited

Julphar

Tonghua Dongbao Pharmaceutical Co., Ltd.

B. Braun Melsungen AG

Pfizer Inc.

Ypsomed AG

**Report Scope**

In this report, the Global Human Insulin Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Human Insulin Market, By Indication

Type I Diabetes

Type II Diabetes

Human Insulin Market, By Brand

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Lantus

Humulin R

Novolin R

Humulin N

Exubera

Afrezza

Novolin N

Human Insulin Market, By Route of Administration

Subcutaneous

Transdermal

Nasal

Intravenous

Oral

Others

Human Insulin Market, By Type

Basal

Bolus

Pre-mixed

Biosimilar

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- Traditional
- Human Insulin Market, By Onset Time
  - Rapid acting
  - Short-acting
  - Intermediate acting
  - Long acting
  - Pre-Mixed
  - Inhaled
  - Ultra-long Acting
- Human Insulin Market, By Products
  - Insulin Pens
  - Insulin Pumps
  - Infusion System
  - Injections
- Human Insulin Market, By Region
  - North America
    - United States
    - Canada
    - Mexico
  - Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

**Competitive Landscape**

Company Profiles: Detailed analysis of the major companies present in the Global Human Insulin Market.

**Available Customizations:**

Global Human Insulin Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

**Company Information**

Detailed analysis and profiling of additional market players (up to five).

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