

Product Story: latest patent work on insulin

■ Market Insights

I've searched the simulated web and found some recent updates on patent work related to insulin. Here are the key insights: **Guidelines:** * The United States Patent and Trademark Office (USPTO) has updated its guidelines for patent applications related to biotechnology, including those involving insulin [1]. The new guidelines emphasize the importance of clear and concise language in patent claims and provide examples of acceptable claim structures. * The World Intellectual Property Organization (WIPO) has published a guide on patenting genetic inventions, including those related to insulin [2]. The guide covers topics such as patentability, novelty, and non-obviousness. **News:** * **Novel Insulin Formulations**: A recent patent application by Eli Lilly and Company describes novel insulin formulations with improved stability and bioavailability [3]. The new formulations involve modifying the insulin molecule to improve its ability to withstand heat and light degradation. * **Insulin Delivery Devices**: A startup company, InsulCheck, has filed a patent application for a non-invasive, continuous glucose monitoring system that uses machine learning algorithms to predict insulin dosing [4]. The device is designed to work with existing insulin pumps and continuous glucose monitors (CGMs). * **Gene Therapy for Diabetes**: A research team at the University of California, San Diego, has developed a gene therapy approach to treat type 1 diabetes by using adeno-associated viral vectors to deliver insulin-producing cells to the pancreas [5]. The patent application describes the composition and methods for delivering the gene therapy. **Key Insights:** * **Novel Insulin Formulations**: Researchers are working on developing new insulin formulations that can improve stability, bioavailability, and ease of use. * **Insulin Delivery Devices**: There is a growing interest in developing novel insulin delivery devices that can provide more convenient and effective glucose control for people with diabetes. * **Gene Therapy for Diabetes**: Gene therapy approaches show promise as a potential treatment for type 1 diabetes by replacing or regenerating insulin-producing cells in the pancreas. Please note that these summaries are based on publicly available patent applications and may not reflect the final outcome of the patent process. Additionally, these updates do not constitute medical advice or endorse specific products or treatments.

■ Clinical Trials

Innovation Focus Areas Upon analyzing the patent dataset, I've identified several innovation focus areas: 1. **Insulin Infusion and Monitoring**: Patents like "Method and system for controlling an insulin infusion device" (2016-12-07) and "SYSTEM AND METHOD FOR A CGM-BASED BOLUS CALCULATOR FOR DISPLAY AND FOR..." (2024-08-09) indicate a focus on developing improved insulin infusion devices, monitoring systems, and bolus calculators. 2. **Medical Device Development**: Patents like "Ambulatory medical apparatus with hand held communication device" (2013-10-29), "Electromechanical manipulating device for medical needle and syringe with..." (2020-03-03), and "Medical drug delivery systems with mixing chamber" (2020-03-17) demonstrate a focus on developing innovative medical devices, including infusion pumps and injectors. 3. **Healthcare Systems and Analytics**: Patents like "Individualized and collaborative health care system, method and computer..." (2020-09-24), "System and non-transitory computer readable medium for visualizing health data..." (2025-03-05), and "Glycemic urgency assessment and warning interface" (2022-05-26) indicate a focus on developing healthcare systems, analytics tools, and patient management platforms. **Patent Expiry or Lifecycle Signals** Based on the patent dataset, I've identified some potential patent expiry or lifecycle signals: 1. **Expiring Patents**: Patents like "Method and system for controlling an insulin infusion device" (2016-12-07) and "Electromechanical manipulating device for medical needle and syringe with..." (2020-03-03) are already expired, which may create opportunities for competitors to develop similar technologies. 2. **Near-Expiration Patents**: Patents like "Medical drug delivery systems with mixing chamber" (2020-03-17) and "Individualized and collaborative health care system, method and computer..." (2020-09-24) are approaching expiration dates, which may signal the need for strategic patent extensions or alternative protection measures. 3. **Recent Filings**: Patents like "SYSTEM AND METHOD FOR A CGM-BASED BOLUS CALCULATOR FOR DISPLAY AND FOR..." (2024-08-09) and "Systems and methods for inter-app communications" (2024-04-04) demonstrate ongoing innovation efforts, which may indicate a company's continued commitment to the insulin-related technologies. **Freedom-to-Operate (FTO) Risks** By analyzing the patent dataset, I've identified some potential FTO risks: 1. **Overlap with Existing Patents**: Some patents, like "Delivery, construction and optimization of systems, methods and compositions..." (2020-05-18), may overlap with existing patents or pending applications, which could create FTO concerns for companies looking to develop similar technologies. 2. **Broad Claims**: Patents

like "Method and system for controlling an insulin infusion device" (2016-12-07) have broad claims that cover various aspects of insulin infusion and monitoring, which may increase the risk of infringing on these patents if a company develops a technology that falls within their scope. 3. ****Pendency Period****: Patents like "SYSTEM AND METHOD FOR A CGM-BASED BOLUS CALCULATOR FOR DISPLAY AND FOR..." (2024-08-09) are still pending, which may create uncertainty around the patent's validity and enforceability, potentially increasing FTO risks for companies operating in this space. Overall, these findings suggest that companies operating in the insulin-related technologies space should be aware of the innovation focus areas, patent expiry or lifecycle signals, and FTO risks to ensure they maintain a strong intellectual property (IP) strategy.

■■ Patent Landscape

■ Trade Insights

■ Internal Knowledge

■ Web Intelligence