

Market commentary of October 06, 2022

Digital diabetes management – a success story for patients and for investors

A new generation of glucose sensors and insulin pumps heralds a big improvement in the quality of diabetes therapy.

By Marcel Fritsch, Portfolio Manager of the Bellevue Medtech & Services Fund & the Bellevue Digital Health Fund

The numbers speak for themselves. According to the International Diabetes Federation (IDF), 530 million people worldwide, or one in ten adults, had diabetes in 2021. Compared to the diabetes statistics from the year 2000, the number of people with diabetes tripled over this period. By 2045, the number of diabetes patients is expected to increase to more than 780 million, which would correspond to a five-fold increase from the millennium year. 10% of all patients have type 1 diabetes, which is usually diagnosed during childhood or adolescence. Type 1 diabetes is an autoimmune disease that results from the destruction of pancreatic beta cells, which regulate blood glucose levels, by the body's own immune system. Type 2 diabetes, which is usually diagnosed later in life, is caused by obesity, unhealthy diets, and sedentary lifestyles. The pancreas produces insulin, but either it's not enough or the body cannot use the insulin effectively (insulin resistance).

Diabetes treatment costs spiraling out of control

Diabetes is taking an increasingly heavy financial toll on healthcare systems. According to the IDF, this metabolic disorder results in annual healthcare spending of USD 970 bn, of which USD 420 bn is spent in North America. Treatment-related costs have more than quadrupled over the past 15 years, which is likely primarily attributable to the various serious complications that are associated with diabetes, such as strokes, heart attacks, vision loss and blindness, and renal failure. In order to effectively manage diabetes and the health problems it can cause, a patient's blood glucose levels must be kept within a target range of 70 to 180 milligrams of blood glucose per deciliter of blood as much as possible. The blood glucose levels of a healthy person without diabetes will be in range about 90% of the time.

Thanks to new digital technologies, a diabetes patient's time in range can be increased to 70-80% over a 24-hour period, depending on the patient. This is achieved by combining "real-time" CGM systems with automatic insulin delivery (AID) systems. In the CGM systems, interstitial glucose levels in subcutaneous tissue are continuously measured at regular intervals every few minutes. These glucose readings are transmitted via Bluetooth to the AID system and to the patient's smartphone.

Algorithms integrated into the AID system analyze glucose patterns and automatically decide whether insulin should be administered and, if so, how much. A smartphone app will display graphical summaries of glucose and insulin readings and warn patients if current or predicted glucose levels are excessively high or low. Patients can use the app to administer bolus insulin before meals too. All patient data is automatically uploaded to the cloud, where it can be accessed by healthcare professionals, who analyze the effectiveness of the insulin therapy and make adjustments if necessary. In addition to the patient, other persons such as family members can also view the data using an app.

Companies in the spotlight

From a patient and investor standpoint, Abbott's FreeStyle Libre 3 and Dexcom's G6 are the leading CGM systems in the market today. Abbott's product has the largest patient base, more than 4 million and counting, and it also has price leadership. The main disadvantage of the FreeStyle Libre 3 is that it has not yet been approved by the FDA for integration with automated insulin delivery systems. Dexcom's G6, conversely, was authorized in the US as a fully interoperable CGM that can communicate with AID systems, which gives Dexcom quality leadership. Furthermore, it has already received European approval for Dexcom G7, a successor product that features several improvements over the G6. The Dexcom G7 boasts the most advanced technology of all CGM systems in the market today based on the accuracy of glucose readings (8.2%) and sensor warmup time (only 30 minutes). The technology behind Medtronic's Guardian 4 and the Eversense E3 from Senseonics, both of which have been approved in Europe, is not as advanced.

As for automatic insulin delivery systems, two products share market leadership and have unique quality profiles. Tandem Diabetes' t:slim X2 insulin pump featuring Control-IQ technology and Insulet's Omnipod 5 are both authorized in the US, are interoperable with Dexcom's G6, and can deliver both basal insulin and pre-meal bolus insulin via a smartphone app. Medtronic's MiniMed 780G insulin pump has only been authorized in Europe so far and it is interoperable with the Guardian 4 sensor, which is not as advanced as other CGM systems. Like the t:slim X2, the MiniMed 780G uses thin plastic tubing to deliver insulin from the pump to the body; it has a useful life of three to four years. The tubeless, waterproof Omnipod 5 is a very small patch-like pump that is worn directly on the body. It is authorized for patients two years and older and must be replaced every three days. The Omnipod 5 is available for prescription through pharmacy channels and is considered to be an ideal entry-level AID system.

Huge market potential for innovation leaders and for investors

We expect global sales of CGM systems to triple to around USD 12 bn in the 2019-2025 period. Sales of AID systems are forecast to nearly double to USD 5 bn over that same period. Growth will accelerate during the next few years once the FreeStyle Libre 3 is authorized to be interoperable with an AID system. Furthermore, Tandem Diabetes is expected to be granted marketing authorization for Mobi:Tubeless in 2024. This is a reusable patch pump that features an adhesive patch with a built-in infusion cannula or needle instead of an infusion set.

Within the medtech sector, digital diabetes management is viewed as one of the most disruptive technologies with the greatest growth potential in the years to come. In both of our specialty investment funds, the Bellevue Medtech & Services Fund and the Bellevue Digital Health Fund, 17% of total portfolio assets are currently allocated to companies that generate some or all of their sales in the diabetes market. These two funds have different risk profiles. The Bellevue Medtech & Services Fund is predominately invested in large-cap stocks (92% weighting), and digital health companies represent 35% of its portfolio assets. The Bellevue Digital Health Fund has a much higher allocation to small- and mid-cap equities (57%). Its investments include Dexcom, Insulet and Tandem Diabetes, companies whose sales growth is forecast to increase sharply in the wake of product innovation.

[More information on the Bellevue Medtech & Services Fund](#)

[More information on the Bellevue Digital Health Funds](#)

Author: Marcel Fritsch

Marcel Fritsch joined Bellevue Asset Management in 2008 and is Portfolio Manager of the Bellevue Medtech & Services Fund and the Bellevue Digital Health Fund. Prior to joining Bellevue, he worked as a consultant at Deloitte & Touche for 3 years, where his duties included the formulation of company strategy, evaluation of organizational structures and the business valuations within the scope of M&A transactions. Marcel Fritsch holds a degree in business economics from the University of St. Gallen (HSG).

Contact

Bellevue Asset Management AG, Seestrasse 16 / P.O. Box, CH-8700 Küsnacht/Zurich,
Tanja Chicherio, tel. +41 44 267 67 09, tch@bellevue.ch

www.bellevue.ch

Bellevue – Excellence in Specialty Investments

Bellevue is a specialized asset manager listed on the SIX Swiss Exchange with core competencies covering healthcare strategies, entrepreneur strategies, alternative and traditional investment strategies. Established in 1993, Bellevue, a House of Investment Ideas staffed by 100 professionals, generates attractive investment returns and creates value added for clients and shareholders alike. Assets under management at the end of June 2022 amounted to CHF 9.6 bn.

Disclaimer: This document is neither directed to, nor intended for distribution or use by, any person or entity who is a citizen or resident of any locality, state, country or jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation. The information and data presented in this document are not to be considered as an offer to buy or sell or an invitation to subscribe any securities or financial instruments. The information, opinions and estimates contained in this document reflect a judgment at the original date of release and are subject to change without notice. Liability for the accuracy or completeness of all information in this document is expressly disclaimed. This information does not take into account the specific or future investment objectives, the financial or tax situation or the particular needs of any specific recipient. This document does not constitute independent investment research. Interested investors should always seek professional advice before making an investment decision. The information in this document is provided without any guarantees or warranties, for information purposes only, and is intended only for the personal use of the recipient. Every investment involves some risk, especially with regard to fluctuations in value and return. Investments in foreign currency involve the additional risk that a foreign currency might lose value against an investor's reference currency. This document does not reflect all possible risk factors associated with an investment in the aforementioned securities or financial instruments. Historical performance data and financial market scenarios are no guarantee or indicator of current and future performance. The performance data are calculated without taking account of commissions and costs that result from subscriptions and redemptions. Commissions and costs adversely affect performance. Financial transactions should only be carried out after thorough study of the current prospectus and are only valid on the basis of/or/and are subject to the terms given in the most recently published prospectus and annual or semi-annual report. Bellevue Funds (Lux) SICAV is admitted for public distribution in Switzerland. Representative in Switzerland: Waystone Fund Services (Switzerland) SA, Avenue Villamont 17, CH-1005 Lausanne. Paying agent in Switzerland: DZ PRIVATBANK (Schweiz) AG, Münsterhof 12, P.O. Box, CH-8022 Zurich. Bellevue Funds (Lux) SICAV is admitted for public distribution in Austria. Paying and information agent: ERSTE BANK der oesterreichischen Sparkassen AG, Am Belvedere 1, A-1100 Vienna. The Bellevue Funds (Lux) SICAV is admitted for public distribution in Germany. Paying and information agent: ACOLIN Europe GmbH, Reichenastrasse 11a-c, D-78467 Constance. Bellevue Funds (Lux) SICAV is registered in the CNMV registry of foreign collective investment schemes distributed in Spain, under registration number 938. Representative: atl Capital, Calle de Montalbán 9, ES-28014 Madrid. Prospectus, Key Investor Information Document ("KIID"), the articles of association as well as the annual and semi-annual reports of the Bellevue Funds under Luxembourg law are available free of charge from the above-mentioned representative, paying, facilities and information agents as well as from Bellevue Asset Management AG, Seestrasse 16, CH-8700 Küsnacht. With respect to fund units distributed in or from Switzerland, the place of performance and jurisdiction is established at the registered office of the representative.

