Press Release, February 14, 2024

Publication in Diabetologia highlights AI's potential for Type 1 Diabetes screening

The article is the result of a conference organized in Malmö in May 2022 by the ASSET consortium (www.asset.healthcare) where key factors and opportunities around the integration of Artificial Intelligence (AI) in early Type 1 Diabetes screening were discussed. The publication highlights the need for precision in risk assessment and individualized monitoring plans. The article also highlights the overall feasibility and cost-effectiveness of screening. The ASSET consortium is financed by the Swedish innovation agency VINNOVA and coordinated by Diamyd Medical.

"With Diamyd Medical's investment in AI and our precision medicine therapy Diamyd currently in phase 3 development, we see great potential in how type 1 diabetes can be delayed and eventually prevented using safe and precise therapeutic interventions", says Ulf Hannelius, CEO of Diamyd Medical. "The ASSET consortium and the wider network of type 1 diabetes experts are doing impressive work in paving the way for how these initiatives can be implemented".

Drawing upon extensive research and clinical experience, the authors discuss the untapped potential of AI in identifying and stratifying individuals at risk of type 1 diabetes. The article in Diabetologia delves into the practicality of employing AI to analyze vast data repositories, aiming to refine screening strategies and enhance early detection of type 1 diabetes and preventive care.

"AI has shown promise in predicting diseases, including diabetes, says Paul Pettersson, Professor of Real-time systems at Mälardalen University."Machine learning algorithms can be used to analyze large datasets to identify patterns and make predictions based on the information the algorithms learn from the data. In the context of diabetes prediction, AI can be applied to various types of data, such as medical records, genetic information, lifestyle factors, and predict the time point and likelihood of developing type 1 diabetes."

"The improved understanding of what it is that trigger the autoimmune reaction through research in the TEDDY study has underscored the need for AI to help analyzing the subsequent disease progression to clinical onset", says Åke Lernmark, Professor of Experimental Diabetes at Lund University CRC in Malmö and investigator in the ASSET consortium. "The progression of type 1 diabetes is very individual and AI will be important to help personalize preventive treatments".

"Type 1 diabetes is the second most common chronic disease in children in Sweden and the incidence is growing not only in the Nordic countries but worldwide", says Gun Forsander, Associate professor at The Queen Silvia Children's Hospital, Sahlgrenska University Hospital. "It is a disease that causes severe impact on both the individual and family level as well as on societal costs. The ultimate goal is to prevent type 1 diabetes. Significant amounts of data from existing databases are now available for the ASSET study. By utilizing AI techniques we will be able to identify predictors and offer potential preventative therapies. This makes the ASSET study unique and very important".

The authors conclude that AI has the potential to revolutionize type 1 diabetes screening. The commentary is a call to action for healthcare providers, regulatory authorities, and payers to recognize and support the advancements in this field and to inspire further research and discussion in this timely and crucial topic, leading to groundbreaking developments in the field.

The article can be reached at: https://link.springer.com/article/10.1007/s00125-024-06089-5#rightslink

About ASSET
The innovation milieu ASSET (AI for Sustainable Prevention of Autoimmunity in the Society – www.asset.healthcare) will develop and evaluate new algorithms based on Artificial Intelligence (AI) to be able to assess the individual risk of developing Type 1 Diabetes (T1D), and the likelihood of responding to different treatments. Data from cohort studies such as TEDDY (The Environmental Determinants of Diabetes in the Young), from Diamyd Medical's clinical trials with Diamyd® and from sources such as the National Diabetes Registry will consitute the initial training dataset for the algorithm. T1D will form the pilot project for the program, but the goal is extend the functionality to other indications including other autoimmune diseases that are strongly linked to T1D such as celiac disease (gluten intolerance) and autoimmune thyroiditis (inflammatory disease of the thyroid gland. In parallel, ASSET will study organizational, economic, and legal prerequisites and consequences of applying the approach as a tool for precision health in the Swedish health care system. The project, which started in September 2021, has a duration of five years and is financed via the Swedish innovation agency VINNOVA.

The ASSET consortium consists of Mainly AI, Lund University, Sahlgrenska University Hospital, The Swedish National Diabetes Register, Leading Health Care Foundation and Diamyd Medical, project coordinator.

Website: https://www.asset.healthcare

About Diamyd Medical
Diamyd Medical develops precision medicine therapies for the prevention and treatment of Type 1 Diabetes and LADA (Latent Autoimmune Diabetes in Adults). Diamyd® is an antigen-specific immunotherapy for the preservation of endogenous insulin production. DIAGNODE-3, a confirmatory Phase III trial is actively recruting patients with recent-onset Type 1 Diabetes in eight European countries and in the US. Significant results have previously been shown in a large genetically predefined patient group - in a large-scale meta-analysis as well as in the Company's European Phase IIb trial, where Diamyd® was administered directly into a lymph node in children and young adults with recently diagnosed Type 1 Diabetes. A biomanufacturing facility is being set up in Umeå for the manufacture of recombinant GAD65 protein, the active ingredient in the antigen-specific immunotherapy Diamyd®. Diamyd Medical also develops the GABA-based investigational drug Remygen® as a component in treatments of metabolic diseases. Diamyd Medical is a major shareholder in the stem cell company NextCell Pharma AB as well as in the artificial intelligence company MainlyAI AB.

Diamyd Medical's B-share is traded on Nasdaq First North Growth Market under the ticker DMYD B. FNCA Sweden AB is the Company's Certified Adviser.

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The information was provided by the contact person above, for publication on February 14, 2024, 15.50 CET.