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Title of project: Improving our understanding of type 1 diabetes globally: Lessons from Denmark for Low- and Middle-Income Countries

ABSTRACT

Diabetes is one of the Noncommunicable diseases prioritized by the World Health Organization. Current estimates assert that type 1 diabetes represents 5-10% of the total diabetes burden. Type 1 diabetes is a complex chronic condition which requires a variety of elements to be provided from the health system in order to avoid acute and chronic complications and mortality. One of six the key functions of a health system as proposed by the World Health Organization is data generation and collection, as well as research, in order to plan and guide health system responses. Globally, Denmark can be seen as pioneering country in the area of collection of health-related data including for diabetes. The key data sources include the Civil Service Registration System; Danish National Patient Register; Danish National Prescription Registry; and Danish Register of Causes of Death. Data from these registers are linked together at the individual level with the unique personal identification number assigned to all Danish inhabitants. Using this unique data environment the aim of this project is **to describe the overall burden of type 1 diabetes in Denmark and how data is used to influence policy and practice for type 1 diabetes in Denmark in order to inform and strengthen data collection, analysis and use in low- and middle-income countries.** This project was born from work done by the applicant and one of his Danish colleagues in developing the first global estimates of type 1 diabetes for all age-groups. This project has three objectives to : 1) Describe the burden, progression, costs and quality of care for type 1 diabetes in Denmark as well as how this data is utilized for planning and policy making; 2) Adapt approaches in Denmark to develop a Roadmap for data collection and type 1 diabetes in low- and middle-income countries; and 3) Foster collaboration and networking between Steno Diabetes Center Odense, the Division of Tropical and Humanitarian Medicine, University of Geneva and Geneva University Hospitals and other partners. The expected outcomes include a White book on type 1 diabetes in Denmark; peer reviewed publications on the situation of type 1 diabetes in Denmark; a Roadmap for improving data collection for type 1 diabetes in low- and middle-income countries; and different opportunities for exchanges of experience and knowledge. Beyond these outcomes, this project is relevant for Denmark from three perspectives. Firstly, allowing for a better understanding of the overall burden of type 1 diabetes as well as how data generated for this condition is used by decision makers. Next, this project will enable lessons from Denmark to be applied to other contexts allowing for Danish expertise to be highlighted. Finally, through the collaboration between the applicant and his Danish colleagues as well as other partners involved a network will be developed on a topic that is of global importance, but where Danish expertise can be seen as leading the way. Beyond an impact in Denmark this project has global implications to help inform changes to data needs for the global diabetes agenda and the existing metrics that success will be measured on. With the launch of the World Health Organization's Global Diabetes Compact such a project can also help ensure that data and information on type 1 diabetes are included and made prominent.