Diabetes research into mortality and morbidity risk

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Overview

The Diabetes Working party was initially set up in 2018, and the group has now progressed to a stage of commissioning funded research through the IFoA's Actuarial Research Centre. The Actuarial Research Centre has recently completed a call for tender where research teams and organisations were invited to submit proposals for a research programme to analyse diabetes mortality and morbidity risk.

The importance of this research has attracted the support of insurance partners. The IFoA is joined by Pacific Life Re, PartnerRe, Swiss Re, Legal & General and Zurich Insurance Group in co-funding this project. A Steering Group has also been set up to oversee this research which is supported by IFoA executive with representation from the co-funding partners, members of the working party and independent academic guidance is received from Prof. Mayhew from Cass Business School.

The steering group's first task was to oversee the call for tender process and to review submissions to select a preferred research partner. The final research team recommendation has now been approved by the IFoA's Research and Thought Leadership Board. We are delighted to be partnering with the University of Leicester; the lead researchers are Dr Bogdan Grechuk, Dr Evgeny Mirkes and Prof. Alexander Gorban. This team will be supported by the Real World Evidence Centre and the Leicester Diabetes Centre, a unique, collaborative partnership between the NHS and the University of Leicester, led by two of the top ten world diabetes experts.

The research will be carried out over 2021, with the aim of completing early in 2022. Any publication, as a result of this research, shall be published on an open access basis.

Why research diabetes risk?

The insurance industry currently underwrites customers with diabetes based on a range of factors, medical expertise and various medical studies. The work undertaken here would help the industry to approach this using current research findings to update and enhance how potential risk from diabetes is considered.

The last decade has seen significant advances in treatments for Type 2 diabetes. However, currently available risk estimates are derived from data that is more than ten years old.

One of the key aims of this research is to make insurance more accessible to diabetic customers by improving data available to the insurance industry. This research will be of interest to those insurers/ reinsurers that write protection and longevity products.

Improve insights for diabetes risk to enable better access to insurance

The project will develop a deeper understanding of the risks associated with a diagnosis of Type 1 or Type 2 diabetes and the impact of recent improved treatments. It will seek to understand the increased risk of medical complications, including the impact of behavioural and/or modifiable risk factors and the implications for chronic conditions later in life. Using advanced data analytic techniques, researchers will produce mortality tables at a granular level for lives with and without diabetes (inclusive of all age ranges), as well as morbidity tables at a granular level for inceptions of diabetes. It is hoped the research will improve the data available to insurers when considering diabetic risks, as well as benefit diabetics by enabling better access to insurance.

Why Leicester University is selected as a research partner?

The selection of Leicester University was based on a rigorous selection process where access to data, experience and expertise in both the medical side of diabetes as well as in actuarial/data science aspects.

The Leicester team will access the CPRD database and UK Biobank for this research. The CPRD dataset is a comprehensive dataset which is ideal in covering both type 1 and type 2 diabetes. CPRD data provides a link to primary and secondary health care data along with other linkages such as to ONS death records and socio-economic status. The UK Biobank data is a large-scale biomedical database that contains in-depth genetic and health information on half a million UK participants.

University of Leicester also has a multidisciplinary community of researchers with outstanding world-leading complementary expertise across data analysis and modelling as well as the leading medical expertise in collaboration with the Leicester Diabetes Centre and Real World Evidence Unit.

What is next?

We plan to keep the profession and interested industry stakeholders up to date through regular communication as research progresses over the coming year. This research, we believe, will make a valuable contribution to actuarial science, support industry practitioners and help inform evidence-based public policy development.