Novel type 2 diabetes risk model more accurately assesses disease trajectory

May 31 2016

Credit: Mary Ann Liebert, Inc., publishers

An innovative model for determining a person's risk of developing type 2 diabetes (T2D) overcomes many of the challenges associated with estimating the onset of a chronic condition based on the usual sequence of comorbid conditions that lead up to a diagnosis of T2D. In addition to identifying a typical T2D trajectory, the new model has shown that people who follow atypical trajectories can face significantly increased or decreased risks of developing T2D, according to an article in *Big Data*, the highly innovative, peer-reviewed journal from Mary Ann Liebert, Inc., publishers. The article is available free for download on the *Big Data* website until July 1, 2016.

In the article "Type 2 Diabetes Mellitus Trajectories and Associated Risks," Wonsuk Oh, Gyorgy Simon, and coauthors from University of Minnesota, Minneapolis and Mayo Clinic, Rochester, MN, focus on three important comorbidities that are part of the progression to T2D: hyperlipidemia, hypertension, and impaired fasting glucose. The researchers used large-scale data analytics to study data collected from electronic health record (EHR) systems. The available of EHR data and a large sample size makes it possible to build fine-grain disease progression models that are increasingly accurate and provide more personalized assessments.

"Diseases such as diabetes have seen a surge in many parts of the world, driven by changing diets and lifestyles," says *Big Data* Editor-in-Chief Vasant Dhar, Professor at the Stern School of Business and the Center for Data Science at New York University. "It has become critical that we detect warning patterns early so that actions can be taken to stave off negative health outcomes. The article by Oh et.al makes significant progress in this direction."

More information: Wonsuk Oh et al, Type 2 Diabetes Mellitus Trajectories and Associated Risks, *Big Data* (2016). DOI: 10.1089/big.2015.0029

Provided by Mary Ann Liebert, Inc