

# Big Data: Modeling, Estimation and Selection



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## What can we learn from modelling millions of patient records? A machine learning perspective

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Increasing healthcare cost coupled with an ageing population in both developing and developed worlds means that it is important to understand disease demographic profiles in order to better optimize resources for quality health and care. By using Chronic Kidney Disease (CKD) as a case study, I will present challenges that are related to understanding, modelling and predicting the progression of CKD; and how machine learning techniques can be used to solve them. Examples include calibration of estimated Glomerular Filtration Rate (eGFR), modelling of eGFR, automatic selection clinically relevant variables, and non-linear dimensionality reduction for data discovery.

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