Risk prediction modelling

An online short course
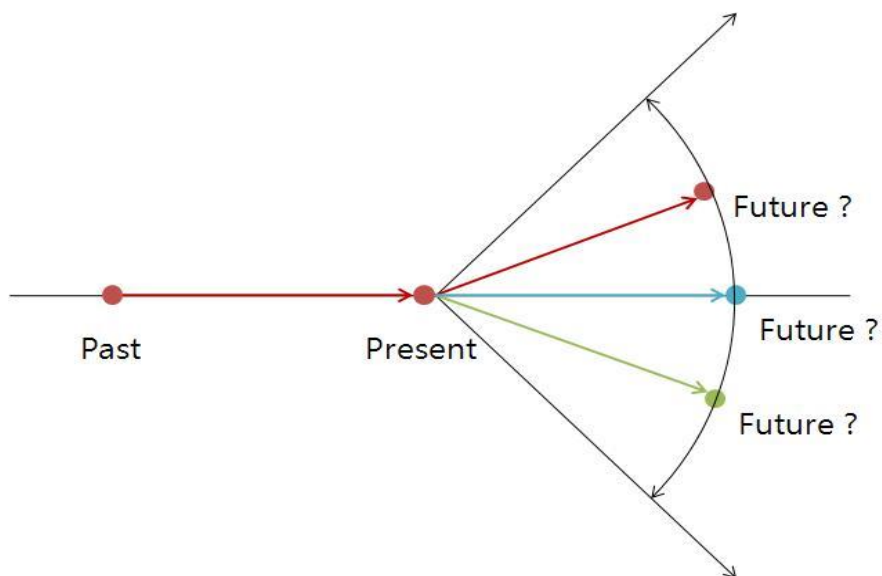
17 & 18 February, 2022

Presenters

Rory Wolfe, Monash University

Damjan Vukcevic, University of Melbourne

Thao Le Thi Phuong, Monash University

www.vicbiostat.org.au

Course Summary

This workshop gives an introduction to topical issues in the use of prediction models in health. The application of both regression models and machine learning approaches to the process of prediction model development for individuals will be discussed and illustrated with practical computing exercises in Stata and R. The methods for model validation will be described. The use of multiple imputation when developing a new model, in order to manage the challenge of missing data, will be described, and in this context relevant methods for variable selection and model validation will be explained.

Prerequisite knowledge for this workshop is a sound understanding of epidemiological and statistical concepts including multivariable regression models, and knowledge of either Stata or R. The course will be delivered online via Zoom over two days (1:30-5pm AEDT).

Timetable

Time	Topic	Lecturer / Demonstrator
THURSDAY 17th February		
13:30 - 14:30	**Introduction and overview**	Rory Wolfe
14:30 - 15:00	Computer practical – exploratory analysis of Framingham dataset, and Introduction to published examples of model development	Rory Wolfe
15:00 - 15:30	Afternoon tea	
15:30 - 16:30	**Creating basic prediction models**	Damjan Vukcevic
16:30 - 17:00	Computer practical	Damjan Vukcevic
FRIDAY 18th February		
13:30 - 14:30	**Model performance and validation**	Damjan Vukcevic
14:30 - 15:00	Computer practical	Damjan Vukcevic
15:00 - 15:30	Afternoon tea	
15:30 - 16:30	**Missing data and other practical issues**	Thao Le Thi Phuong
16:30 - 17:00	Practical; Discussion of published examples of model development	Thao Le Thi Phuong, Rory Wolfe