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ASIA EDITION

New Zealand invests $0.45M in precision health studies

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Aim to improve surgical scheduling and reduce ED overcrowding

The Health Research Council of New Zealand and Precision Driven Health (PDH) have awarded two Postdoctoral Fellowships to the value of $452,422 as part of a jointly funded call for research in precision health.

Precision health is an emerging model of healthcare that combines all information unique to an individual and identifies prevention and treatment strategies that will be effective for them based on genetic, environmental and lifestyle factors. This includes applying new data science techniques to understanding the massive volume of data on an individual that is being captured by health information systems, consumer devices, social networks, genetic testing and other sources.

Empowering individuals with their information, as well as presenting the right information to individuals and their healthcare team at the right time, are of key importance in precision health.
See below for this year's successful recipients.

2020 PDH-HRC Postdoctoral Fellowships
Mr Thomas Adams, The University of Auckland
Improved surgical scheduling software
24 months, $213,033
Lay summary: The aim is to develop software that schedules elective surgical sessions quickly and in a way that reduces the chances of the sessions running overtime. The software would use novel machine-learning techniques that incorporate historical surgery data to estimate the probability that sessions run overtime. Further research into improved prediction of surgery durations, for use in scheduling sessions, that utilises individual patient data would also be performed.

Dr Zhenqiang Wu, The University of Auckland
Developing a decision support system at ED triage for predicting health outcomes
24 months, $239,389
Lay summary: Emergency department overcrowding is a major global healthcare issue. The consequences are well-established, usually affecting patients (poor outcomes), staff (stressed) and healthcare system (long length of stay). Without increases in the number of EDs and staff, an effective way is to optimise the use of existing resources. This study intends to develop a decision support system at ED triage time, to predict hospital admission and longer ED length of stay by using a wide range of routinely collected big data (DHBs Health Records System and MoH database). This system has the potential to meet the ED health target of a 'shorter stay' and 'lower hospital admission rates' by accurately identifying high-risk patients at an early stage of ED and making more effective interventions for them. If so, this decision support system can be widely

used by ED triage assessors in the near future, with the potential to improve the quality of acute care.