

Predicting and managing cardiovascular risk in primary care

PREDICT, a powerful web-based tool for supporting the assessment and management of cardiovascular risk, can trace its roots back to colour risk charts developed in New Zealand in the early 1990s and used internationally.

Professor Rod Jackson, the head of the Section of Epidemiology and Biostatistics in the University of Auckland School of Population Health, says that they developed the charts to help predict a patient's risk of having a cardiovascular event in the next five years, so clinicians could take the likely magnitude of treatment benefits into account when making patient management decisions.

The basic assessment requires seven factors including age, gender, whether the patient smokes, blood pressure, total cholesterol and HDL cholesterol levels and whether the patient has diabetes.

However, Professor Jackson says that research showed clinicians were not using the risk charts enough, usually because they didn't have time or couldn't find one.

They decided a computerised system would be best because most GPs now used a computer during consultations, he says.

"So why couldn't, at the press of a button, the computer find all the risk factors in a patient's notes, plug them into this prediction chart and within seconds tell the clinician what the patient's risk is?"

Working with Auckland software company Enigma they developed a web-based platform which combines PREDICT with patient management guidelines to create an electronic decision support system.

Professor Jackson also points out that the system allows them to get useful information by linking patient outcomes to their risk profiles. This means that the current prediction tool, developed using American data, will eventually be replaced by one using New Zealand data generated by the PREDICT system.

"The whole concept will give us the opportunity for practitioners country-wide to actually partake in research without adding to their workload, and then feed back to them."

PREDICT is being used by the general practitioners in Procure, a group of over 500 GPs in the Auckland area. This group has already conducted over 5000 risk assessments.

A new version of PREDICT will include diabetes risk management, and Professor Jackson says that's a very attractive proposition to GPs.

"Cardiovascular disease and diabetes go together and to have one module that actually allows them to manage both at the same time is a huge plus for practitioners."

This research is funded by the Health Research Council of New Zealand. DHBs, the Ministry of Health, National Heart Foundation, and New Zealand Guidelines Group have also been major partners in the project.



Professor Rod Jackson

Key words:

- cardiovascular and diabetes risk management, PREDICT software

Key facts about cardiovascular disease in New Zealand:

- the leading cause of death (40%) and morbidity
- the major modifiable risk factors for cardiovascular disease are smoking, hypertension, high serum cholesterol, diabetes, obesity, exercise and diet
- two to three times higher death rate for Maori.

Aims of our research are:

- to develop a web-based system (PREDICT) which provides clinicians with 'moment of care' cardiovascular risk assessment and evidence-based decision support for risk management.

What our research has shown so far:

- that the web-based PREDICT system is both practical and helpful to clinicians in predicting a patient's risk of having a cardiovascular event in the next five years and for providing evidence-based management support.