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For immediate release:

"Patients Simply Get a Better Deal"… with PREDICT

"PREDICT allows doctors now to be much more effective in screening patients for cardiovascular disease from an individual healthcare perspective. We are also able to provide patients with a very much better and more accurate assessment of their health and the strategy for their treatment. Patients simply get a better deal with PREDICT." says Dr Tom Marshall, chairman of Procare, New Zealand's largest association of general practitioners.

PREDICT was the brainchild of Prof Rod Jackson of the School of Population Health at the University of Auckland and has its origins in a series of risk prediction charts which he had prepared based on earlier research and which were circulated to doctors' offices across New Zealand in the early 1990s. The charts involved 8 risk factors of cardiovascular disease (age, gender, ethnicity, blood pressure, total and HDL cholesterol level, diabetes and smoking) to help doctors evaluate a patient's risk of cardiovascular disease. While well received by GPs, they were not used on a day by day basis, as had been expected, especially in the area of selection of a therapeutic strategy for an individual patient.

It was Prof Jackson's idea that the chart would be used more regularly if it was computer based. He was aware that New Zealand's doctors are probably the most computer literate in the world. Most importantly he thought, an electronic risk assessment tool could be combined with "moment of care risk management advice". (He had learned from feedback about the charts that doctors did not necessarily make optimum treatment decisions just using the assessment tool). And so a computer-based cardiovascular risk - assessment and risk-management decision-making system was proposed.

The research which resulted in PREDICT, has to date been mainly funded by the Health Research Council of New Zealand (HRC). After a risk-management guideline was developed in 2002-2003 by the National Heart Foundation and the New Zealand Guideline Group, some development funding to press on with the work came from the National Heart Foundation, New Zealand Ministry of Health and Enigma Publishing Limited, a New Zealand-owned electronic media-based medical publishing company who have partnered the University of Auckland group in developing PREDICT. As the research got underway, its importance was underpinned by a big upsurge of international interest in evidence based medicine.

A key element of the research was the novel idea that the system would automatically generate an anonymised data base of all relevant patient information collected in the process of assessing each patient's risk. So as time went by, the system became smarter and could take account of minority groups both medical and ethnic. The New Zealand situation was particularly suited to this system. Because each individual has a unique identifier in the health system, even though a patient might change medical providers, the patients' PREDICT risk assessments can be electronically linked to their major health outcomes (including hospitalizations and mortality) and can be captured by the system in turn making the decisions of the system overall more robust on a population-wide basis.

The HRC provided the funds for Prof Jackson and his senior research partners Dr Sue Wells and Tania Riddell, to build an epidemiological database of New Zealand patients and Enigma took on the role of developing the software so that the database could be accessed from a doctor's office and it would be compatible with other systems being introduced to their offices at the time. If this enterprise turned out to be successful, it would be the basis of the world's most progressive clinically-based decision support system for cardiovascular risk management. Success depended on obtaining data on at least 40,000 patients in New Zealand and validating
the risk assessment tool the system uses; to date over 45,000 patients have had almost 70,000 risk assessments. The resulting software and database is called PREDICT.

At first medical professionals were cautious about PREDICT but a few champions, including Tom Marshall pressed on alongside Rod Jackson. They knew that doctors tended to focus on individual risk factors rather than the combined effect of all the risks present in their patient. To evaluate this total risk of the eight factors, computer based assistance was required – you cannot do the calculation in your head. Tom’s Procure organisation was keen to try the system in a beta-testing role and to examine the benefits of utilising all the available functions of PREDICT. Rod Jackson and Enigma supported by the likes of Tom Marshall caught the attention of the New Zealand Ministry of Health and in turn, the District Health Boards in some parts of New Zealand encouraged by the Ministry, took a closer look at the benefits of rolling out PREDICT across the primary healthcare system and beyond. Enigma began to look overseas at the opportunities as well. According to Prof Jackson, early results indicated that if the healthcare system was to target high-risk patients for cardiovascular disease using PREDICT to both screen for them and to determine the therapeutic strategies to be followed, the total number of treated patients would not change but by targeting the right patients, it would prevent over 30% more cardiovascular events than present standard practice without an increase in the cost of therapy. This leads to a significant reduction in the healthcare resources used including both hospital and post-hospital costs. Let's look at one example.

The Auckland District Health Board (ADHB) is one of three boards in Auckland (and there is another in Northland), currently planning or actually rolling out PREDICT among primary care practitioners. Tom Schaefer is Manager of ADHB's 'Our Health 2020 Programme’ within which the PREDICT project fits. "We can't fix everything" says Tom "and we choose very carefully where we invest. We have targeted cardiovascular/diabetes as one of those areas we should focus on. And PREDICT is a very systematised approach to this. It also helps us with the complications of the different populations we have in our region. We have high needs groups such as Asian and Maori which are complicated by a high incidence of diabetes" When asked about the financial benefits for his Board, Tom Schaefer says "There are going to be costs in setting up PREDICT, - additional drugs costs alone are going to be $2 million a year for us. We expect to break even over the first five years and after that it looks like net savings to us of between $15 million and $20 million a year. But…(Tom emphasises), it is the benefit to thousands of New Zealanders of improved care and quality of life which we see as the main outcome of PREDICT”. If ADHB's estimates are near the mark for all the other DHBs which are expected to sign up for PREDICT, tens of thousands of New Zealand lives will be improved out of sight, and maybe savings to our health system of $300 million a year when the system is imbedded.

And that's for cardiovascular disease alone. The PREDICT concept could be extended to other diseases. At Enigma Publishing, PREDICT has become their flagship product. Mike Stanbridge, Managing Director of Enigma says that they are finding the quickest take up of the PREDICT system outside the New Zealand DHBs is in workforce medicine. "One of our large clients in Australia discovered that 6% of the workforce were at serious risk through cardiovascular disease and that included the CEO himself! They understand that sick days sap 10 or 15% of the company's performance. PREDICT helps them identify those at risk and leads to selection of a therapeutic strategy." Enigma has already made sales of PREDICT in Australia and Singapore with several large deals pending in Australia. PREDICT has been integrated into MedTech, the leading New Zealand medical records system used by New Zealand GPs which is increasingly being adopted in Australia. Several other New Zealand-based organisation, Intrahealth have integrated PREDICT into their software and finding a new market in Canada and PREDICT is integrated with Dr Ashwin Patel’s Next Generation patient management system.

Without a doubt the aims of the original HRC research have already borne the hoped-for fruit. "This work to date and the seven papers either published or in press (two others submitted and three more well advanced) have already placed New Zealand at the forefront of the new field of computer-based clinical decision-making. And we're thrilled that the very first benefits are accruing to New Zealanders both healthwise and financially” says Prof Jackson. In addition, 5 masters degrees and 2 PhDs are being undertaken in the course of this research programme.