

MEDIA RELEASE

Broadband Disease Management Network Aims to Transform the Treatment of Chronic Disease

Melbourne (25/7/07)

The treatment in Australia of chronic diseases such as diabetes and depression moved a step closer towards major transformation with the announcement of a new approach to disease management using broadband networks and internet technologies.

The project, called *CDM-Net* (Chronic Disease Management Network), was announced today by the Minister for Communications Information Technology and the Arts, Senator Coonan, and the Victorian Treasurer and Minister for Innovation, John Brumby.

The Australian Government is contributing \$2 million to the \$8.7 million project under the Clever Networks Program and the Victorian Government a further \$2 million through the Department of Innovation, Industry and Regional Development, the Department of Human Services, and Multi Media Victoria.

The project is being led by Precedence Health Care in collaboration with Barwon Health.

Precedence CEO, Professor Michael Georgeff, said the impact of *CDM-Net* was potentially profound.

“By helping doctors plan, track and intensively manage the care of people with diabetes, the evidence indicates that we may be able to reduce hospital admissions and other adverse events by more than 50%. We could also reduce the risk of diabetes’ complications such as limb amputation, blindness, and kidney disease.

“*CDM-Net* will do this by using the internet to connect and share information across a patient’s entire care team, including doctors, specialists, hospitals, and other care providers. It will continuously monitor key health parameters of patients, such as blood glucose levels and medications, and help them to adhere to their care plans by sending them reminders and alerts.”

Professor Georgeff says *CDM-Net* is one of the first examples in the world of an internet-based chronic disease management service that uses emerging mobile technologies and remote monitors.

“At Precedence Health Care’s operations centre, a range of intelligent monitors and computer systems, backed up by trained nurse educators, will continuously track the care of patients. These systems will use broadband and mobile networks to help coordinate the patient’s care team, communicating with healthcare providers and patients through mobile phones, SMS, web portals, and email.”

The project will develop *CDM-Net* for use in the Barwon South Western Region of Victoria, reaching from Geelong to the South Australia border. It involves a

consortium of leading industry and health care organisations, including Barwon Health, Cisco Systems, IBM, Intel, Working Systems Solutions, Diabetes Australia Victoria, and the GP Association of Geelong. Research and evaluation of the project will be carried out by Monash, Deakin and Victoria Universities with the assistance of CSIRO's e-Health Research Centre.

Professor Georgeff says by the end of the project, he expects that *CDM-Net* will have substantially increased the uptake of best-practice care plans and improved adherence to these plans. In turn, this will lead to improved health outcomes, more effective and efficient care delivery, reduced hospital admissions, greater quality and safety of care, improved access, fewer adverse events, length of stay, waiting lists, morbidity and mortality.

"*CDM-Net* should also help increase workforce productivity and participation rates, allowing people to stay in the workforce longer and reducing days off sick.

"This project is one of the first in Australia to bring together government and the private sector to tackle one of the most challenging problems in health care. It has the potential to create a new export industry in information-based health services and technologies.

"In the same way that the internet has transformed other industries with companies such as Google, Amazon, and mySpace, *CDM-Net* could lead the way in transforming the care of a third of our population and begin to make some headway in the health of indigenous communities," Professor Georgeff added.

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(See also additional background information following this release)

Additional Background

According to the American College of Physicians, chronic illness is the single greatest challenge facing organised medical practice.

For example:

- more than 750,000 Australians are diagnosed with diabetes,
- another 500,000 are estimated to have the disease but do not know they have it,
- a further 1.5 million persons are pre-diabetic, and
- the incidence of the disease is growing at 9% per annum.

Diabetes is estimated to cost Australia's health care system more than \$3 billion per annum and non-healthcare costs such as travel, special diets, and carer expenses are estimated to nearly double this cost. Poor management of diabetes leads to early death, heart attack, stroke, leg and foot amputations, blindness, and kidney failure.

Chronic disease significantly impacts labour market participation and productivity. In the US, the workforce participation rate for diabetes sufferers aged over 55 years is 10-15% lower than for non-sufferers. With over a third of Australians suffering major chronic disease, such numbers represent a massive productivity loss to the nation.

Conventional approaches to health care are not well suited for the prevention and treatment of chronic disease. Unlike acute care services, which are designed to respond to trauma and acute episodes, chronic illness requires close monitoring and ongoing management across an entire team of care professionals. People with chronic disease need to be provided with a care plan that details medications, treatments, tests, and referrals tailored to their specific circumstances. This plan needs to be tracked continuously, together with prompts and reminders, to help ensure compliance.

Instead, healthcare providers largely operate in disconnected silos. This hinders the continuity of care, as patients move between doctors, hospitals, and other care providers. Doctors often do not know what medications and tests have been given to patients by other doctors, even when they are members of the same care team. More than 50% of doctors do not follow best practice guidelines and 30-50% of patients with chronic disease are hospitalised because of inadequate care management. In Australia, despite Commonwealth financial incentives, **fewer than 14% of people with chronic disease are placed on care plans.** Worse still, **less than 1% of patients are tracked for adherence to care plans,** rendering all but a small portion of those plans all but useless.

Many people with chronic disease have difficulty managing their own care. Even without complications, diabetes management requires self-management training, regular and timely laboratory evaluations, clinical nutrition therapy, compliance with medication regimes, regular self-monitoring of blood glucose levels, and regular podiatric and ophthalmic examinations.

The Productivity Commission 2007 report on the National Reform Agenda estimates direct healthcare savings for better prevention and management of chronic disease could be \$4 billion annually.

The same report estimates that improved management of chronic disease could also provide an additional 175,000 full time equivalents to the workforce or approximately \$5.4 billion annually to GDP from increased workforce participation and productivity.

CDM-Net aims to help achieve these benefits by increasing the uptake of care management plans, providing continuous support for adhering to those plans, and better coordinating the delivery of care across the care team.

CDM-Net care management services are provided by an Operations Centre, which is manned by nurse educators and other healthcare professionals. The Operations Centre uses a range of decision support and monitoring software connected to a broadband network to collect health information and monitor health events across the whole continuum of care. The communication between care providers, their patients and *CDM-Net* can take place via any communication channel, including phone, SMS, email and web-based portals and services.

Using *CDM-Net*, healthcare providers will find it easier to manage and track their patients, as well as being immediately alerted to conflicts in medications across care providers or serious changes in patient condition. Patients and their carers will be reminded of appointments, medication renewals, and tests, followed up to ensure compliance, and provided with continuous feedback on key health parameters.

In addition to the health benefits, a recent report from Victoria University's Centre for Strategic Economic Studies ["An Economic Evaluation of the HSW Initiative", May 2005] estimates that the use of internet-based health technologies such as *CDM-Net* could help seed an information-based health services industry worth over \$1 billion per year to the domestic market and \$1.2 billion per year in exports within 10 years.

Precedence Health Care

Precedence Health Care Pty Ltd is a new company established to provide broadband-based disease management services for the chronically ill. It was founded by Professor Michael Georgeff in 2006 and commenced operations in 2007.

Professor Georgeff is Chief Executive Officer of Precedence Health Care. He is also Professor in the Faculty of Medicine, Nursing and Health Services Research at Monash University. He serves on the Boards of various companies, including Working Systems Solutions.

In the 1980s, Professor Georgeff was Program Director in the Artificial Intelligence Center at SRI International (formerly Stanford Research Institute). During this period, he and his team created one of the first implementations of an intelligent software agent, using it to help control NASA's space shuttle during space missions.

In 1988, Professor Georgeff was invited back to Australia by the Prime Minister, Mr. Robert Hawke, to set up the Australian Artificial Intelligence Institute (AII). As Founding Director, he established AII as a world leader in intelligent agent technology and its application to solving a wide range of commercial and social problems.

Professor Georgeff is a Fellow of the American Association for Artificial Intelligence and a Fellow of the Australian Computer Society. In 1990, the Bulletin proclaimed Professor Georgeff one of Australia's "national assets", the only technologist among the fifty-five persons so recognised.