There is just one problem with the image of a healthy country lifestyle. The statistics.

People in remote and rural areas have, on average, higher rates of cardiovascular disease, asthma and diabetes than their urban counterparts. Added to this is the difficulty over the past decade in attracting doctors to country areas and retaining them.

The Federal Government has instigated a wide range of initiatives to address the shortfall of General Practitioners in regional areas, including recruiting overseas trained doctors, increasing the number of rural places for medical students and introducing extra subsidy payments for regional GPs.

The ARC has joined the campaign to strengthen regional health services by funding a research project to determine the specific barriers standing in the way of not only attracting GPs to the bush but, more importantly, keeping them there.

The three-year study will be co-ordinated through the University of Ballarat, Victoria, in conjunction with local industry partners The Ballarat and District Division of General Practice and the Beaufort and Skipton Health Service.

Project leader Dr John McDonald said the study involved a comprehensive series of surveys and face-to-face interviews with GPs divided into five main groups, ranging from those who see themselves as rural practitioners to those who have no intention of moving away from the city or larger regional centres. In between lie perhaps the most crucial group — those who practised in rural areas but only for a limited time. By understanding this group, a clearer picture should emerge both of the forces at work driving GPs back to the city or keeping them in an urban environment throughout their careers.

"The findings of the study will give both the medical profession, governments and regional and rural communities a better understanding of the measures needed to attract — and keep — this most crucial front-line health professional."

Australian researchers are combining molecular biology with agricultural science to produce a new sugarcane product that has at least 10 times the value of the commonly marketed sucrose product.

The work of the University of Queensland and sugar industry giant CSR has the potential to create a new export industry. The project will be also of benefit to Australia's sugar cane industry and its workers, bulk handlers and growers, as well as companies and individuals attracted by the research and development potential.

Dr Robert Birch, Associate Professor in the University of Queensland's Department of Botany, said publicly released too much detail about the new product but said: "The research project involves the development of a new product which will allow the sugar plant to convert sunlight into a value-added product. The plant will become its own bio-factory."

The three-year project, funded by the ARC, involves monitoring and developing the genetic technology as well as the development of production systems needed for the new product.

"The idea of combining our two special strengths — molecular biology and agriculture — with the Australian sugar cane industry is a natural partnership," Dr Birch said.

"The results of this and other projects will allow rural industries to generate new income for themselves and in particular, through value-added agriculture, for the Australian economy.
Australia will be assessing the various elements of all three futures exchanges, replaced open outcry trading with electronic screen-based trading. Savings on the cost of the physical space, facilities and wages involved in a central trading floor, and greater opportunities for overseas interaction were behind the move.

"We will be assessing the various elements of all three futures exchanges, including the technology, how they operate, their markets, how they settle — all the things which have a very different impact on the efficiency of the systems," Dr Frino said. "The research will provide new analytical foundations which will help the Australian and regional financial centres.

Already SIGMA's acquisition of two-thirds of the New Zealand's financial markets through its ARC-funded centre has improved the efficiency of the businesses and reduced costs. It is expected that the move will benefit Australian companies and businesses."

The ARC-funded centre for telecommunications and security of encrypted messages — both of which will be crucial to the development of Australia's communications and banking industries.

"It is vital that we are able to develop an Australian protocol so that we can have our own encryption and not be forced to rely on encryption methods developed in other countries," Dr Frino said.

"The new ARC grants reflect the importance of basic research as a platform for the Australian and international future. Never before has our research effort been so vital to our future."

Thawing Frozen Secrets

Professor Tom McMeekin and his team of researchers at the University of Tasmania have discovered new bacteria previously thought to exist only in the frozen continent. By analysing samples of soil, water and faeces from the frozen continent, the research team has found new bacteria that are producing PUFA (polyunsaturated fatty acids).

"By analysing samples of soil, water and faeces from the frozen continent, we have found new bacteria that are producing PUFA (polyunsaturated fatty acids). We are now looking at the potential of these bacteria to help develop new medical treatments," Dr McMeekin said.

"These bacteria are producing PUFA (polyunsaturated fatty acids), which are essential for the production of new medical treatments. We are now looking at the potential of these bacteria to help develop new medical treatments."

AQA in LeapFoward

The development and success of Australia's communications and banking industries are contingent on the advancement of basic research at the Australian and international levels. The ARC is leading the country in the development of new and innovative technologies in areas such as communications, cryptography (the encoding and decoding of information), and quantum mechanics (the laws of physics at the microscopic level) to areas such as telecommunications and security.

"These message encryption codes are critical to the protection of our communications and information systems, and are essential to the functioning of our society," Dr Frino said.

"The new ARC grants reflect the importance of basic research as a platform for the Australian and international future. Never before has our research effort been so vital to our future."

The ARC backing for Australia's research is part of a global effort to develop new and innovative technologies in areas such as communications, cryptography (the encoding and decoding of information), and quantum mechanics (the laws of physics at the microscopic level) to areas such as telecommunications and security.

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