



Plea to let in a little bit of blue sky

Andrew Trounson

AUSTRALIAN scientific research is being hamstrung by a systemic failure to support high-risk projects and ideas, Nobel prize-winning scientist Barry Marshall has warned.

In the countdown to the federal Government's response to the Cutler review on research funding, Professor Marshall has called for a general funding boost and a simplified peer review selection process that can direct more money into curiosity-driven research. His concerns have been backed by the Academy of Science amid calls for some research dollars to be earmarked for high-risk projects.

"We have to fund enough so that there is some spare capacity in the system, so that people can take advantage of the opportunities or ideas that come up, and not delay them so that someone else can discover them," Professor Marshall told the *HES*.

Although such a broad approach would lead to some money being wasted on projects that failed, he said it was a necessary cost if innovative ideas were to pay off. He also wanted further incentives for commercial investment in research to supplement government money.

Professor Marshall is an example of high-risk research paying off. He and pathologist Robin Warren won the Nobel Prize in 2005 after challenging medical dogma to show that gastritis and stomach ulcers were caused mainly by bacterial infection. At one stage in the research, Professor Marshall infected himself.

He said peer review funding bodies such as the National Health and Medical Research Council were too conservative. Low success rates for grant applications

of just 20-30 per cent locked researchers into "masochistic" cycles where too much time and effort was wasted on writing up applications.

He said funding bodies paid too much attention to detailed methodologies rather than focusing on the ideas. Amid fears that a government funding boost for research will be delayed by the economic crisis, he complained that political support for science was patchy and too often a low priority was attached to science.

Australian Academy of Science president Kurt Lambeck said it was understandable that funding bodies were conservative, given limited funds, but the result was that potentially groundbreaking research was being stifled. "There is no slack in the system any more for people to do that bit of blue-sky research," Professor Lambeck said.

NHMRC chief executive Warwick Anderson said adequately funding blue-sky research was a challenge but limited resources were a problem for all areas of research funding. He rejected suggestions the NHMRC was excessively cautious.

"I don't think the system is actually as conservative as some people who don't get grants think it is," Professor Anderson told the *HES*. He noted the criteria for project grants included scores for innovation. And membership of peer review panels was limited to three years to prevent entrenched thinking.

But Sarah Meachem, president of the Australian Society for Medical Research, said project grants were problematic because much of the research had to be completed before funding was granted. Dr Meachem said a lack of funding for curiosity-driven research remained "an

enormous problem".

Professor Anderson said program grants were the NHMRC's main vehicle for backing higher risk research. These provide funding for five years and greater freedom for researchers, rather than tying them to targeted outcomes. However, they are given largely on the basis of track record, meaning newer researchers tend to miss out.

Professor Anderson said the key problems were limited government funding and a lack of funding diversity in Australia, where research dollars from charities and philanthropists aren't on the same scale as in the US or even Britain. "There wouldn't be anyone within the NHMRC who wouldn't like to have more money in all these funding schemes," he said.

Professor Anderson said feedback suggested reviewers were depressed by the number of good projects being turned down. He would like to be able raise the the NHMRC project grant success rate of 27 per cent. However, with applications up 15 per cent this year, that rate would come under downward pressure.

Professor Marshall said a lack of funds for postdoctoral researchers was also a problem as researchers were being diverted into teaching in order to make ends meet.

"I think smart PhDs need to see a career structure that pays them as least your average doctor's wages," he said.

To support mid-career researchers the Government is offering 1000 future fellowships over five years, each worth up to \$140,000 a year. But Professor Lambeck said the program was too small to create critical mass.



We can afford mistakes: Barry Marshall says funding bodies pay too much attention to detailed methodologies rather than focusing on the ideas

Picture: Andy Tyndall