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Health & Medical News - Where are all our number crunchers? - 07/12/2004

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Where are all our number crunchers?

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ABC Science Online

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A shortage of statisticians could delay future health and drug research, a leading Australian researcher warns.

Dr David Mitchell, research leader at [CSIRO Mathematical and Information Sciences](#), says biological research is generating data that could help fight diseases such as breast cancer or leukaemia.

But he says there are too few qualified people who can spot the hidden clues.

"This sort of data is going to get enormous, but the number of people able to deal with it is tiny," says Mitchell, a molecular biologist supervising a group of statisticians.

The [Statistical Society of Australia](#) is also worried about the shortage of qualified statisticians and is inviting the public to comment as part of a review.

Details of the review are available on the society's [website](#), with submissions closing on 14 January 2005.

There is also a shortage of students studying statistics, Mitchell says, with most science graduates studying biology rather than mathematics.

"In 2003 enrolments, there were about 3000 PhD students, about half of which are in biological science," Mitchell says.

"That's not really surprising considering there's a wealth of discovery in there; it's the hot area.

"But there were only 186 [postgraduate] students in mathematical sciences and not all of those will be statisticians."

Will the shortage delay research?

Statistical analysis can unlock complicated data, like data from genes on a microarray, a microchip or other substrate that allows thousands of DNA sequences to be analysed



All this data and no-one to analyse it (Image: iStockphoto)

automatically and simultaneously.

But without expertise Mitchell fears the benefits of research may be delayed.

"Developments like prognostics for breast cancer, and diagnostics for leukaemia and other cancers will still happen, but it will be slowly," Mitchell said.

Professor Terry Speed, an expert on microarray statistical analysis from the [Walter and Eliza Hall Institute of Medical Research](#) in Melbourne, believes researchers will still reach their goals.

"We would like to think that a highly trained person will get there, but that's not to say a lot of people who are not so highly trained are somehow not smart or will jump to conclusions," Speed said. "It's a question of efficiency, rather."

He said that before he joined the Walter and Eliza Hall Institute seven years ago, researchers there had never had a statistician.

"No one thinks they're hopeless. They've done OK."