

without the input of an independent ethics committee was during the Third Reich," says Andreas Scheil, a professor of law at the University of Innsbruck and a member of the ethics committee.

Last October, in response to the committee's inquiries, Hubert Hrabcik, the director of the Ministry of Health's office for public health, wrote a letter to the committee saying that the legal situation was ambiguous but there seemed to be no obligation to approach an independent ethics committee.

But shortly after Hrabcik sent his letter, the urologists surprised the committee by suddenly producing the first page of an application to the health ministry for a phase III study of 90-100 patients, with the same registration number as the 2001 application — and dated to the same month — as the phase I study that had been denied. The committee says that it never saw this document, and some members have questioned its authenticity.

Strasser and his department head Georg Bartsch, who is also a witness in the Bollmann case, are currently under a gagging order. But their lawyer Dietmar Czernick told Nature that they did not require ethics approval for operations done outside of clinical trials. These treatments began after the clinical trial had been completed, although not yet published, Czernick claims, and at that point they considered the procedure to be "well-established therapy".

Czernick claims that Strasser and Bartsch believed they didn't need ethics approval for the trial itself because the law was "complicated and unclear" on the point. "They had the approval of the federal Ministry of Health which did the job of an ethics committee", Czernick says.

Financial issues are muddying the situation. TILAK paid an estimated €1.2 million for Innovacell materials for 200 patients, for trials it now thinks may have been uninsured and unapproved. Normally the sponsor of a trial — in this case Innovacell — pays such costs itself.

No one is suggesting that the procedure is harmful to patients. But researchers carrying out the treatment at sites outside Austria have not had the high success rate reported by the Innsbruck team. "It looks tremendously good, but as always it is important to repeat the good results in independent sites," says Giacomo Novara, a urologist at the University of Padua, Italy.

The Lancet is publishing an 'expression of concern' in its 3 May issue about the confusing reference number in the registration document in the trial they published. "We will wait for the outcome of the investigations before deciding about further actions," says the journal's senior executive editor Sabine Kleinert.

Alison Abbott

## US ocean-research projects in dire economic straits

America's fleet of research ships is struggling in financial doldrums threatening marine projects around the globe. The number of vessels is shrinking, funding for new vessels is being sidetracked and the forecast is for even fewer ships and higher costs. Already, the annual number of research days at sea has been cut by 20%.

"When the cost of equipment is driving the agenda, that is a death knell for a field," says geophysicist Marcia McNutt of the Monterey Bay Aquarium Research Institute in Moss Landing, California, who chairs the US research fleet's governing council. "You end up doing what research you can do, instead of what research you should do."

The fleet is overseen by the University-National Oceanographic Laboratory System (UNOLS), a consortium of 61 research institutes. The ships are affiliated to various institutions and provide vital platforms for scientists investigating topics from ocean chemistry and circulation to sea-floor core extractions. Annually, the fleet now provides about 4,000 research days at sea, down from about 5,000 before 2000, UNOLS officials say.

The UNOLS receives US\$80 million a year for fleet operation directly from the federal budget. This year, the funds have been supplemented by money from a private foundation and a Saudi university. Research teams apply to funding agencies, such as the US National Science Foundation (NSF), for individual scientific cruises — ship time for a deepsea cruise runs at about \$50,000 per day.

There are 23 ships currently in service, varying from regional vessels for nearcoast studies to oceanic cruisers. In 2002, there were 27 ships. By 2017, 15 ships are

projected, with only 11 by 2025 — at which time the global vessels would be down to three from today's six.

It takes years to design and refit or build a ship. For more than four years, the NSF, which funds most ship projects, has been planning to build a \$123 million Alaska-region research ship to replace a decommissioned vessel. But there is no ship funding in the NSF budget that is now before Congress — and long-term funding is unknown.

The ship RV Marcus Langseth, which will be the first ship to carry out threedimensional models of the undersea crust, offers an example of the challenges faced. The newly rebuilt Langseth undertook her first research cruise in February after long delays and vast cost-overruns, involving difficulties securing high-tech crew members who are also sought by oil and gas companies, and costly problems operating its seismic system for visualizing seafloor formations. NSF officials say an audit is underway on the Langseth project, where costs at a Nova Scotia shipyard were \$600,000 above the bid of \$4.4 million for refitting. A worldwide lack of available shipyard space means that costly delays are systemic in the shipbuilding industry.

The JOIDES Resolution, a core-drilling vessel, is another delayed ship. It was to have been rebuilt by the end of 2007, but now isn't expected to be ready until at least August. The Integrated Ocean Drilling Program, an international partnership of scientists and research institutions that operates the ship, says the Singapore shipyard doing the refit will consume all contingency funds in the \$32 million retrofit budget, funded by the NSF. Rex Dalton

The costly RV Marcus Langseth set off on her first research cruise in February.



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