

Wolf's spokesman Daniel Scandling says that the congressman sought to ban NASA and the OSTP from fostering relations with China after NASA administrator Charles Bolden visited the country last year and invited Chinese officials to visit NASA facilities in return. "Congressman Wolf is deeply concerned by China's spying and theft of technology and doesn't think it is wise to give the Chinese access to advanced space technologies," Scandling says.

Few existing NASA activities will be

curtailed by the ban. But because much of US science relies on the OSTP for high-level coordination, the ban could derail activities by more agencies than Wolf intends to target. He has publicly questioned the wisdom of NSF activities involving China, but Scandling says that Wolf has no immediate plans to block cooperation by other agencies. Wolf's subcommittee has already approved a bill that would extend the ban into the 2012 fiscal year; it is now awaiting passage through the House.

But Mu Rongping, a science-policy analyst at the Chinese Academy of Sciences in Beijing, doesn't expect a major withdrawal from China-US activities by the United States. It is clear that cooperation on funding of projects and mobility of researchers is win-win for both sides, he explains.

"US bilateral activities in the fields of science, technology and innovation policy are important and necessary for both countries, not just for China," he says. ■



Until clean water and sanitation are readily available in Haiti, cholera outbreaks will continue.

## PUBLIC HEALTH

# No quick fix for Haiti cholera

*As outbreak enters its second year, relief bodies move to roll out vaccine for the first time.*

BY DECLAN BUTLER

A year after cholera broke out in the aftermath of the January 2010 Haiti earthquake, the epidemic has disappeared from the headlines, but it continues to wreak a deadly toll. Mortality rates remain high in some areas, but donor funding for front-line response teams is drying up, even as a newly approved vaccine offers a glimmer of hope.

The epidemic has already caused almost half

a million cases, half of which have required hospitalization. Haiti's health ministry says that roughly 6,500 people have died from their infections — a figure widely believed to be an underestimate.

The Pan American Health Organization (PAHO) in Washington DC expects the epidemic to ease partially, but nonetheless predicts a further 250,000 cases next year, says Peter Graaff, the PAHO/World Health Organization (WHO) representative in Haiti.

Shanchol, a vaccine approved by the WHO

for worldwide use on 29 September, could brighten the outlook. It was developed by the International Vaccine Institute in Seoul with support from the Bill & Melinda Gates Foundation, and is produced by Shantha Biotechnics in Hyderabad, India, a subsidiary of vaccine company Sanofi Pasteur. Two groups of non-governmental organizations (NGOs) operating in Haiti now intend to include the vaccine in their own emergency responses to cholera.

At US\$1.85 a dose, Shanchol is cheaper than the only other currently available cholera vaccine — Dukoral, made by Crucell, based in Leiden, the Netherlands. Shanchol is also given orally, and requires fewer doses in children under six, who are among the most vulnerable to cholera. The vaccine's benefits "are really clear for the outbreak contexts in which MSF works", says Julia Hill, vaccines policy adviser at Médecins Sans Frontières (MSF), also called Doctors Without Borders, in Geneva, Switzerland.

MSF has one of the largest ongoing emergency-response operations in Haiti, treating as many as one-third of all reported cholera cases. It intends to begin vaccination with Shanchol soon in Haiti; it is also considering a vaccination campaign in West and Central Africa, where cholera is currently resurging. MSF has yet to finalize details of its campaign, but will probably focus vaccination efforts on vulnerable groups, such as people in remote rural areas, who lack timely access to treatments.

Because mountainous communities can often be reached only after half-a-day's journey on foot, "a whole village can be infected before help arrives", says Michel Van Herp, an epidemiologist in the MSF office in Brussels. Van Herp oversaw MSF's field response at the start of the epidemic, when as many as 9% of cases resulted in fatalities. In the capital, Port-au-Prince, that figure has now been brought down below 1%, but in remote rural areas, death rates as high as 5–10% persist, he says.

A separate campaign aims to vaccinate 100,000 vulnerable Haitians using 200,000 doses of Shanchol. That effort will be carried out jointly by GHESKIO, an NGO based in Port-au-Prince, and Partners in Health (PIH), a non-profit organization in

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One year of cholera:  
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► Boston, Massachusetts, that is affiliated with health groups at Harvard University in Cambridge, Massachusetts. The group intends to launch its campaign in January 2012, says Louise Ivers, a senior adviser to PIH working in Haiti. The lack of clean water and sanitation in Haiti, and the poor prospects for improving that infrastructure in the near future, makes for a “compelling argument” to use cholera vaccines, she says.

The WHO opposed vaccination during the chaos of the initial cholera outbreak in Haiti; Claire-Lise Chaignat, coordinator of the WHO’s Global Task Force on Cholera Control, argued at the time that the logistics would have been impossible to manage (see *Nature* 468, 483–484; 2010). But the chaos has subsided, and the peaks in numbers of cholera cases are coming less frequently, so the WHO now supports targeted vaccination in Haiti, says Chaignat.

Eventually, the Haitian government will have to assume responsibility and run its own vaccination programmes, but persuading them to do so could be tough, warns Van Herp — not least because there is little economic or political interest in the rural target communities that might benefit most. Van Herp and other experts also warn that cholera vaccination is no panacea. The focus of relief efforts must be on rehydrating the dangerously ill with a cheap and highly effective oral solution of glucose and salts, he says. Building infrastructure to provide clean water and sanitation is the only way to prevent cholera in the long term.

But a reduction in donor support for NGO frontline responders is hindering these efforts, says Pascale Zintzen, MSF’s deputy head of mission in Haiti. “Different international groups dependent on donors are no longer receiving funds or having their funding renewed,” she says. At the same time, the government’s health ministry has been slow to launch projects with the funds it has already received, she complains. Ivers adds, “Over the past few months, we have seen a number of cholera treatment centres closing down.”

Graaff says that Haiti needs to begin integrating routine cholera surveillance and treatment into the health services, moving away from its reliance on emergency response. Ivers argues, however, that the Haitian government is years away from being able to make that transition, and that continued support from NGOs is essential.

“I think it is a little misleading to suggest that it’s OK that there is less support, because the government is somehow going to take over,” she says. “Does it have the money, the supply chain and the human resources to provide the services that are needed? I don’t think the ministry of health has any of those things.” ■



V. ZUNINO CELOTTO/GETTY

Milan’s San Raffaele Scientific Institute may have to shut down if it can’t be rescued from bankruptcy.

## BIOMEDICAL RESEARCH

# Vatican bids for Italian institute

*Debt and death hit San Raffaele research centre.*

BY ALISON ABBOTT

One of Italy’s most prestigious biomedical research centres now faces bankruptcy, against a backdrop of rumours fed by intrigue among power-brokers, allegations of fraud and corruption, and a violent death. Next week, a court will decide whether to leave the Milan-based San Raffaele Scientific Institute to its fate, or allow a consortium led by the Vatican Bank to rescue it.

The institute, which includes a 1,400-bed research hospital, a basic-research centre and a small university, has run up debts approaching €1.5 billion (US\$2.1 billion). The debt has been attributed to poor investment decisions and overzealous expansion, and criminal investigations have begun into alleged corruption in the institute’s financial dealings. Most granting agencies have now suspended payments to the scientists there, and many companies are no longer supplying consumables. “We are still working, but in low gear,” says immunologist Maria Grazia Roncarolo, the institute’s scientific director.

Scientists inside and outside Italy are appalled. “The San Raffaele is one of the most high-quality research centres in Italy, perhaps

in Europe,” says Paul Herrling, chair of the institute’s scientific advisory board and head of developing-world medicine at Novartis in Basel, Switzerland. “It has one of the best set-ups for gene therapy in the world — it needs to be saved.”

The charismatic figure at the centre of the story is 91-year-old Luigi Maria Verzé, the Catholic priest who founded the hospital in 1971 and formally remains chair of the San Raffaele del Monte Tabor Foundation, which runs the institute. He added on a large building in 1992 to expand the facilities for basic research. In 1996, he founded a university on campus with three faculties — medicine, psychology and philosophy — in alignment with his belief that humans comprise body, mind and soul.

The San Raffaele Scientific Institute is nonetheless constitutionally secular, and Verzé has never imposed restrictions on research or teaching activities. His acknowledged skill in appointing productive scientists — frequently interviewing them himself — allowed the research centre, home to 221 permanent and

332 contract scientists, to blossom.

Last year, the institute received €75 million in

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