

## NEWS

# Further delays to full Agent Orange study

A study to investigate the health effects of Agent Orange on Vietnam War veterans is being obstructed by the US Department of Veterans Affairs (VA), claim scientists and veterans' organizations.

The department compensates veterans exposed to Agent Orange who have since gone on to develop conditions known to be linked to dioxins in the herbicide, such as non-Hodgkin's lymphoma and soft-tissue cancer. But for many other diseases, the department says there is not enough evidence to establish a link. The list of diseases that are accepted for compensation purposes comes from better-documented studies on industrial and other accidental exposures to dioxins.

In 2003, the US Institute of Medicine (IOM) recommended that the VA should commission a large-scale, independent epidemiological study on how the herbicide affected the health of veterans. The recommendation received strong bipartisan backing by both congressional and Senate veterans committees. But five years later, the VA has yet to act, and instead has pursued its own \$700,000 internal study to 'validate' the models endorsed by the IOM. The VA also asked a different panel of experts at the IOM — not involved in Agent Orange research — to look again at whether such a study was needed. It reached much the same conclusions as the first panel.

"The whole thing makes me very sad, as we have lost five years," says Jeanne Stellman, an Agent Orange expert now at SUNY Downstate Medical Center in New York, who doubts that the department will ever support the study.

It was a paper by Stellman and her colleagues (J. M. Stellman *et al.* *Nature* 422, 681–687; 2003) that prompted the IOM's initial recommendations. Her team analysed data from flight records of US military aircraft and provided the most detailed computerized maps — or geographical information systems — of where, when and how much herbicide was sprayed in Vietnam. The US Air Force sprayed Agent Orange from 1961 to 1971 to wipe out the jungle vegetation concealing their Viet Cong opposition. Stellman's team calculated that four times more dioxin was sprayed than had previously been estimated.

Her system could allow researchers to combine

data on the positions of individual troops and databases of the health of veterans and so make a study feasible, the IOM decided. In November 2003, a bipartisan group from the veterans committees of both the Congress and Senate requested the VA to "immediately contract with IOM to establish an \$8 million epidemiology research programme for independent investigators". But in a reply the following month, the then VA head Anthony Principi snubbed the request, declining to contract with the IOM, arguing that it was better placed to contract out that research itself. It has yet to do so.

The IOM's latest report says that the in-house research the VA has launched cannot meet its stated goal of validating the model, is "insufficient" and "falls short of the complete array of work that the committee believes would be appropriate".

In testimony to the IOM panel last year, Mark Brown, director of the environmental agents section of the VA, said that he still considered an epidemiological study to be "a little naive... due to the lack of usable exposure and troop location data". Brown said that the department's existing approach to veteran compensation was adequate.

"Not to follow up on the Stellman work would be missing an opportunity," says David Savitz, chair of the IOM panel and an epidemiologist at Mount Sinai School of Medicine in New York. It would go some way to redressing the dearth of studies on herbicide exposure in veterans, Savitz

says. It is not so much about dioxin science per se, for which much better data are available elsewhere, he says, but about learning more about the exposure and health of Vietnam veterans. There is an element of "social justice", he says, but ultimately, whether the study is pursued is also a political question.

Congress first mandated such a large-scale epidemiological study in 1979. But the US Centers for Disease Control and Prevention in Atlanta, Georgia, cancelled it, handing back much of the \$70-million funding, arguing that a pilot study showed that it was impossible to disentangle the effects of Agent Orange from other causes. Many politicians and scientists argued at the time that

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the study was politically rigged to fail.

In the latest twist, a paper published on 12 March in the *Journal of Exposure Science and Environmental Epidemiology* reports that the Stellman system overestimated the drift of herbicide from flight paths when compared with other crop-spraying aerial-dispersion models. The paper concludes that the system therefore "cannot be used to provide individual exposure estimates for the purpose of conducting epidemiologic studies". The work was sponsored by Monsanto and Dow Chemical Company, firms that manufactured Agent Orange and remain embroiled in lawsuits involving veterans.

The authors, from the consultancies M. E. Ginevan & Associates in Silver Spring, Maryland, and Infoscience.com in Carmichael, California, presented a draft of the paper to the IOM panel, which concluded that it did not seem to fundamentally detract from the model. Richard Clapp, an epidemiologist at Boston University in Massachusetts, says that he "is not impressed" by the new paper. "It strikes me as manufacturing uncertainty, and primarily

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Agent Orange was used to defoliate jungle vegetation during the Vietnam War.

aimed at undermining the Stelman exposure index, which the US National Academy of Sciences committee also evaluated and ultimately endorsed," he says. "The Stelman model is not perfect," he concedes, "but it is a substantial, significant improvement over existing methods." The new paper's authors were unavailable for comment before *Nature* went to press.

Almost all research on veterans is funded by the VA. Several researchers interviewed by *Nature* complain that non-VA scientists face enormous difficulties in gaining access to the department's data. One of the key IOM recommendations, says Savitz, is that government agencies should create a clearing-house to streamline and ease access to military data. This could "set a model for future conflicts," he says. John Sommer, executive director of the Washington bureau of the American Legion, a veterans body, says he intends to renew discussions with Congress and the VA. "We will push to have the study done." ■

**Declan Butler**

See Editorial, page 781.

## Deal for Holy Land artefacts

A draft agreement on how archaeological sites and artefacts should be allocated in the event of an Israel-Palestine peace deal was received positively last week by Israeli archaeologists in Jerusalem.

There are nearly 7,000 archaeological sites in the West Bank and East Jerusalem, of which about 1,000 have been excavated, according to a database compiled as part of the work on the agreement. Finds include artefacts such as the Dead Sea scrolls. But the future disposition of these sites has not been discussed in the framework of talks between Israelis and Palestinians, even though such excavations are closely tied to both national identities and to historical and political claims to the territory.

Under the draft agreement, control of sites and artefacts would be determined by territorial sovereignty, and artefacts removed since Israel gained control of the West Bank in 1967 would be handed over to the new state. It also recommends that the designated world-heritage site containing the Old City of Jerusalem be enlarged to include important sites nearby. Archaeology here would be governed by a special regime in which both Israelis and Palestinians would participate. However, Israeli scholars would be allowed five years to complete study and publication of finds in such areas before their repatriation.

In the case of specific items of

archaeological heritage that have unique symbolic value — such as the Dead Sea scrolls — the agreement recommends that both sides consider loan and exchange pacts.

Debby Hershman, a curator at the Israel Museum in Jerusalem, welcomes the draft but says that it does not guarantee cooperation. "Countries Israel has signed peace agreements with — Jordan and Egypt — and to which artefacts have been repatriated, have consistently refused to loan these objects to Israeli museums," she says.

The scrolls are a particularly emotive issue. Uzi Dahari, deputy director of the Israel Antiquities Authority in Jerusalem, likes the agreement, but says that the scrolls must remain in Israeli hands. Nazmi al-Jubeih, one of the Palestinian members of the working group, disagrees. "We do not accept the argument that the scrolls are part of Israeli heritage. Jewish heritage is part of our heritage and our history as well." International treaties, al-Jubeih notes, usually make territorial sovereignty and not cultural affiliation the determining factor in deciding who controls sites and artefacts.

Al-Jubeih will present the draft to Palestinian scholars and officials at a public meeting similar to the one held in Israel, and he says it has been well-received by those who have already seen it in the Palestinian community. ■

Haim Watzman



### THE BIG BLOW

An eruption in the year 1600 may have changed the world's climate.

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## Costa Rican biotech centre in peril

Costa Rica is on the verge of losing a multimillion-euro donation from the European Union (EU) to build a state-of-the-art biotech facility, because of government procrastination.

The EU put forward €10.9 million (US\$17.3 million) for the National Centre for Biotechnological Innovation (CENIBiot) in 2005, but is threatening to withdraw it because the Costa Rican government has so far failed to produce the necessary contracts to purchase equipment and begin construction at the facility. The government, which is to contribute €4 million, is finally expected to issue its first tenders this week. But these will have to be answered, reviewed and approved by the end of this year if the money is to be kept. "The project is at a critical stage," says Roelf Smit, the first councillor at the European Commission's

delegation in San José, Costa Rica.

CENIBiot was conceived as a technology-transfer laboratory to meet the needs of the Costa Rican economy, mainly in agriculture. Planners hope the centre will aid Costa Rica's coffee, pineapple and banana trade and lead to the development of locally grown biofuels. But two years after its inception, equipment has not been purchased and renovations have yet to begin at the site in a San José suburb. Marta Valdez, CENIBiot's director, declined to comment on the exact cause of the delay, and the government's Ministry of Science and Technology did not respond to *Nature's* enquiries.

Smit says the decision to recall the money is standard procedure for the EU. "We don't want to have money sitting around for more than three years," he says. ■

Geoff Brumfiel