News & Comment

Crisis in AID Malaria Network

Investigators are trying to learn why research funds ended up in Swiss accounts; the former director is fighting a sexual harrassment charge; and the program's budget has been cut

THE U.S. MALARIA RESEARCH PROGRAM has had several disappointments in the past year—in vaccine development, in funding, and in management—and it is trying to regain momentum.

But recovery is threatened by a scandal in the government's biggest project, the $8.5-million collaborative research network run by the Agency for International Development (AID). It has been torn apart for more than a year by personal and managerial battles.

The chief malaria research official at AID, James M. Erickson, was suspended from his post in April 1987 pending review of an accusation of sexually harassing a woman at the American Institute of Biological Sciences (AIBS), a nonprofit agency. AIBS has coordinated the malaria program for AID since 1982.

Erickson, 41 years old, began his career as an economic entomologist with a Ph.D. in population ecology from Cornell. He is a fast-talking, irreverent, and enthusiastic booster of the malaria program. Many credit him with raising it to high prominence after taking control in 1982. Although he now is barred from entering his office or touching his files, Erickson has been kept on full salary by AID. After 16 months of inquiry, the harassment charge is still unresolved.

Erickson denies the charge and has responded with a score of accusations against AIBS and AID, claiming that he was "set up" to hide other, substantive problems. He accuses AIBS of failing to perform its tasks.

The program has been run meanwhile by an acting director, James Heiby. In his first months he was given the unpleasant task of cutting funds and restructuring the agenda.

Erickson's critics have made additional accusations against him that have been referred to AID's inspector general, and, in turn, to the Justice Department. A Justice Department spokesman confirms that Erickson is under investigation for possible criminal offenses. Erickson meanwhile has sued AID, demanding a decision on the harassment charge. This plea comes to a hearing in the U.S. District Court for Eastern Virginia on 18 August.

Congress has jumped in, too. Senator Daniel Inouye (D–HI), chairman of the subcommittee that writes AID's appropriation and a long-time supporter of the malaria program, asked the General Accounting Office to take a look at the management of the program. In June, GAO began its investigation, and GAO staffer Jess Ford expects it will take "several months" to finish the job. Thus, three sleuthing agencies are poring over AID's records.

Scandal among the leaders often denotes deeper troubles among the troops, and this case is no exception. The underlying malaise, several scientists say, may derive from some disappointing human trials of prototype vaccines in 1986 and 1987, followed by a reorganization of the program and a cut-

James Erickson. *At the center of a bitter dispute over management of the malaria research program.*

back in funds. The new emphasis, AID says, will be on fundamental immunology.

Researchers are thus going back to their drawing boards, but with less money. Nyle Brady, AID's top science official, says the health account has been reduced this year from $201 million to $180 million. Of this, Congress set aside $30 million for foreign research on acquired immunodeficiency syndrome. Oddly, AID has decided to move ahead this year with preparations for field trials of malaria vaccines, even though no clinical successes are in hand and no candidates have been tagged for development. The first field test will be in Papua, New Guinea, and it will cost about $1.8 million this year to begin building facilities and collecting epidemiologic data. Brady's justification for this expense is that the foundations must be laid now so that it will be possible to move without delay once a successful vaccine is discovered. The net result of all these funding changes, AID officials say, is that its malaria researchers are being hit with a cutback of 33% below expected receipts.

A couple of projects have been dropped altogether and several have been cut drastically—by around 60%. It is difficult for an outsider to assess the impact on the science, and all knowledgeable witnesses seem to have an ax to grind. AID argues that those who got less deserved less, as judged by peer review panels. One widely respected malaria researcher, Ruth Nussenzweig of New York University, says she has learned of no great injustice and has "no major complaints." She estimates that her cut amounted to 12%. Her impression is that the malaria research network has undergone "more outside reviews" than in the past and that procedures are now "more in line with" those at other agencies.

Others, such as Susan Langreth of the Uniformed Services University in Bethesda, Maryland, are not as sanguine. "I was essentially terminated without a review," she says. She protested, and says that since then AID has threatened to repossess her microscope. She says the network has been "chaotic" ever since Erickson left.

One highly regarded researcher who does not wish to be named says, "the decision-making process is paralyzed." He describes Erickson as "a feisty guy who trod on too many toes." But he also rates Heiby as "excellent," given the difficult circumstances in which he is working. Another says AID is afflicted with a "curare syndrome"—showing vital signs but no animation. He thinks it may not be able to keep pace with fast-moving research outside the United States.

The new regime at AID, led by Heiby and his superior, Kenneth Bart, chief of the office of health, sees things improving rapidly this year. AID officials concede that there has been some grumbling, but they attribute this to a distaste for AID's new style of management, which is "more intrusive" than Erickson's.

However, the future remains clouded by the Erickson case. Uncertainty hangs like a pall over the program, even though the investigations began way back in January 1986. This was when Bart and some anonymous informants first talked to the agency's inspector general about Erickson. That inquiry ended in March 1986, finding "no testimonial or documentary evidence" of illegal activity. But it did find the appearance of a conflict of interest in that Erickson had had an affair with a woman at AIBS.

About a year later, another investigation of Erickson was launched, this time by AID's personnel office, on a charge of sexual harassment. Details of this charge and Erickson's responses are contained in a report by an independent sleuth from Boston, Ellen Delany, who was brought in to collect facts from March 1987 to October 1987. AID would not let Erickson see the "Delany report," though he was the target, until he filed under the Freedom of Information Act. AIBS sued to prevent its release. But Erickson got the three-volume report anyway and made it public. It reaches no conclusion.

This tangled case has no clear starting point, but perhaps the critical turn came on Sunday afternoon, 22 February 1987. On that day, according to his own affidavit in the Delany report, Phillip Winter, an ex-Army physician on the AIBS staff, phoned Bart, Erickson's boss, asking to see him at home. In a 3½-hour conversation, Winter laid out a case against Erickson. Erickson had begun to bother AIBS with complaints about its poor performance. But the real reason for Erickson's wrath, Winter told Bart, was that Erickson had had an affair with the project manager at AIBS, and she had cut it off. Winter claimed that Erickson was punishing AIBS for his romantic problems.

Erickson denies this, saying the affair ended in 1985. The woman's first affidavit in the Delany report says it ended in January 1986, and her amended affidavit says it ended in January 1987.

The woman at first did not want to file a complaint, according to sworn affidavits in the Delany report. However, after receiving some advice from Winter and Charles Chambers, AIBS' executive director, she did. She has since left AIBS. Chambers urged the staff to document instances of harassment. One staffer apparently taped Erickson's phone calls surreptitiously. On 18 March 1987, Chambers notified AID by letter that his staff was being harassed, sexually and otherwise, and could not do its work properly.

Erickson filed a formal complaint with AID, dated the following day, 19 March, accusing AIBS of various contract failures—not getting reports done on time, failing to carry out scheduled site visits, buying computers without formal approval. Erickson says he had been aware since the fall of 1986 that AIBS was slipping, but that the extent of the backlog did not hit him until early 1987, when he requested documents for the next funding cycle.

A bitter war of memos and affidavits ensued. Scientists in the network wrote to AID in 1987 and complained vehemently about the sloppiness of AIBS' work. Erick-

Vaccine Trials Disappoint

More than 20 years ago, the Agency for International Development (AID) began an unprecedented program of basic research in malaria. Its goal was to bring new talent to bear on this neglected tropical disease and to aim at making a vaccine. Although a common assumption at the time was that the malaria parasite was too complex to be attacked by vaccination, AID made a large funding commitment because malaria takes a huge toll in the tropics.

In the late 1970s and early 1980s, several researchers made exciting discoveries suggesting that AID's investment might soon pay off. A race began, sharpening rivalries among scientists and their sponsors, notably AID, the Walter Reed Army Institute of Research, the National Institutes of Health, and the Centers for Disease Control.

The most recent bit of competition led to an accelerated trial in humans of two prototype vaccines aimed at the mosquito-borne (or sporozoite) stage of the parasite—just one stage in its complex life. After injection by a mosquito, the sporozoite moves rapidly through the blood to the host's liver, where it incubates and bursts out several days later in an entirely new form that infects red blood cells. This blood stage is the one that causes illness and death, and it presents an entirely different antigenic profile from the sporozoite. In blood cells, the parasite develops further and is taken up again when mosquitoes bite. Inside the mosquito, it reproduces sexually to make new sporozoites.

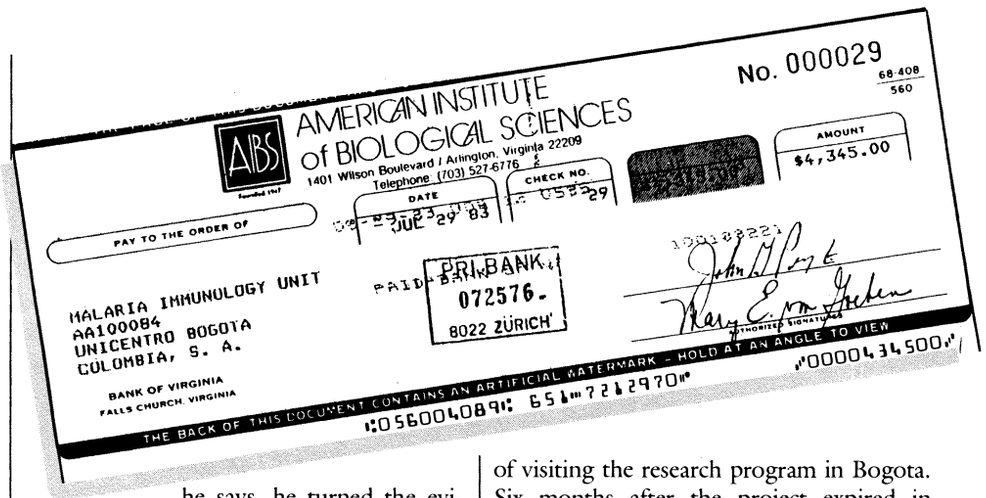
It is unlikely that any vaccine aimed merely at sporozoites will be 100% effective, and a single sporozoite, if it reaches the liver, can cause a full-blown infection. Thus, like engineers planning a Star Wars defense, scientists attacking malaria must come up with a complex vaccine that attacks malaria at more than one stage and does so in several ways.

In 1986 and 1987 rival teams, funded by AID, the U.S. Army, and others, tested two anti-sporozoite vaccines based on a protein taken from the deadliest type of malaria, *Plasmodium falciparum*. The teams created and delivered the antigen in different ways. In two successive trials, both research groups found that they could induce immunity in very few volunteers, roughly in one in three. Furthermore, the duration of immunity was short, indicating a failure to trigger the "memory" feature of the immune system. While researchers say they learned a great deal from the clinical trials of 1986–1987, they have been let down a bit, and are preparing now to step back from developmental efforts and put more time into examining fundamental mechanisms of the immune system.

This decision is reflected in an AID status report issued in July. Noting that "a practical vaccine is not at hand," it says the agency gives high priority to fundamental issues, such as studying "the nature of the immune response elicited by different antigens and by different approaches to presenting these antigens to the immune system." A recent strategy report by Colonel Carter Diggs, director of the Army's program, also stresses basic immunology. The Army hopes to find a good in vitro assay to measure the potency of sporozoite vaccines, which it finds "currently lacking." The Army also plans to investigate the role of T cells in protecting against malaria, a subject not adequately explored so far.

Meanwhile, U.S. researchers were surprised to read in *Nature* this March that a Colombian scientist, Manuel Patarroyo, and colleagues have tested a blood-stage vaccine in humans that appears to be very powerful, much more so than any tested in the United States. Patarroyo's methods and results have been discreetly questioned on several grounds, and the Centers for Disease Control (CDC) is now running a monkey trial that seeks to check his work. A CDC scientist says the results will not be in for several months. If they are positive, one can expect the U.S. competition to spring to life again. ■ **E.M.**

Swiss banks *and other non-Colombian accounts received 40 suspicious deposits of checks made out to a Colombian research institute. This check went to a bank in Zurich.*



son cites these as proof of the integrity of his case. The other side suspects the letters were solicited. Erickson denies it.

However, one scientist says he did poll the network for critical comments on AIBS in mid-1987 at the request of Wasim Siddiqui, a prominent researcher at the University of Hawaii. Siddiqui is valued for his contributions to malaria research over 20 years. Senator Inouye has taken an interest in his work. Siddiqui declined to comment, except to indicate that he did not act at Erickson's behest.

Asked how the trouble started, Brady said that he had no choice but to remove Erickson from office when the sexual harassment charge was filed, even though Erickson was "a personal friend of mine." After a "preliminary investigation," according to Brady, the inspector general "raised other questions" and referred the case to Justice. That is where it rests, and Brady will not discuss it further.

Erickson insists that he is innocent. He has been joined in his campaign of self-defense by a retired AID official, his predecessor at AID, Edgar A. Smith. They claim that AID is in danger of losing the malaria research network. They speak of a "conspiracy" by old rivals—leaders of the U.S. Army's tropical medicine program and the Centers for Disease Control—to channel funds, monkeys, and equipment to new people.

In defending himself, Erickson has flushed out many alleged improprieties in AID's program which he claims are more serious than those he is charged with. A sample follows:

■ **Swiss bank accounts.** Erickson claims that a consultant named George Diaz recently sent him copies of 40 checks valued at around $150,000 made out by AIBS in the early 1980s to the Colombian Instituto Nacional de Salud, a contract researcher for AID. They were deposited in Swiss banks and other accounts outside Colombia. The names of the endorsers are not legible. Erickson claims that he gave copies of the checks to AID's inspector general earlier this year, but that they have not been investigated. The inspector general declined to comment.

Chambers of AIBS says he wrote the checks, but never discovered anything funny about their destination until "a year and a half" after the bank returned them. He explains that AIBS writes about 1500 checks a month. When he noticed in early 1986 that they had been deposited in Switzerland, he says, he turned the evidence over to AID's inspector general and also sent copies of the checks to Erickson. Chambers says he believes his actions triggered investigations by AID and the Justice Department. However, the AID inspector general's first report of March 1986, makes no mention of this.

■ **Monkey business.** All agree that the AID network is swamped with surplus monkeys ordered by Erickson for vaccine trials. AID officials say they are running up room and board bills of more than $1 million a year. Erickson claims that the monkeys are not being used because AID has failed to set up protocols for their use and is reluctant to release them to researchers. AID officials say that they will develop protocols when needed; that they could release monkeys immediately if there were a need; and that the demand for them is in decline.

Meanwhile, AIBS and Matthew Block, president of Worldwide Primates, Inc., are engaged in a legal battle over the bills for housing AID's monkeys. Block holds AID responsible for a costly 1986 fiasco in Bolivia in which he narrowly escaped going to prison for exporting monkeys. His passport was seized and he fled the country hidden in a private plane.

■ **Cocaine connection.** Erickson claims that he was rarely asked to visit AID's research project in Bogota, Colombia, although he frequently traveled to other distant sites. But on a trip there in 1983 he was whisked away to see the U.S. ambassador, Lewis Tambs, who since then was questioned by Congress for his involvement in the Iran-Contra funding scandal. Erickson says Tambs asked whether AID could run a malaria control program in Colombia using aerial spraying. The U.S. government apparently wanted a "cover" for a scheme to spray coca plants with the herbicide Agent Orange. Erickson told the ambassador the plan would fail because no one uses aerial spraying to control malaria.

■ **Cooking a grant.** According to Erickson, Brady often took upon himself the task of visiting the research program in Bogota. Six months after the project expired in 1985, Erickson says, he suddenly received orders from Brady to fly down to Bogota and "pick up" a new grant application. When he arrived, Erickson says he found that the researchers there had prepared nothing. He then learned that they expected him to write it. At the suggestion of the local AID official, he says, he sketched an outline and dropped it off, but nothing ever came of it. When Erickson returned to Washington, he says Brady was "furious" with him for coming back empty-handed.

Brady says he has "no recollection" of asking Erickson to set up that specific program, although he "may have suggested" that Erickson keep up good relations with the Colombians in order to "maintain our monkey numbers."

There is little dispute about the fact that the malaria program was poorly managed in the past. Nor is there much doubt that both Erickson and AIBS can be faulted for mistakes. Current AID chiefs get no prizes for sensitivity, either. But the challenge at present seems to be to find a way of distancing the research program from its past and setting it on a new course. Erickson and Smith, his predecessor at AID, argue that the network is in dire straits, heading for disaster. Perhaps what is needed, Smith says, is an independent scientific review of the entire malaria program.

AID officials say they are assembling a new "Scientific Advisory Review Committee," including some respected immunologists, to devise a new research strategy. But they decline to release the names.

AID does not see the need for a comprehensive review of the intellectual side of the program. Nor does it give much weight to the argument that the review committee it is creating should report to an outside authority, not directly to Heiby, the program manager. Thus, despite all the snooping, reviewing, and fact-finding that is going on, there is still no plan for a truly independent inquiry into AID's goals and strategies for malaria research. ■ **ELIOT MARSHALL**