NATIONAL INSTITUTES OF HEALTH

Strategic Plan Meets the Bureaucracy

If you have a copy of the glossy strategic plan put together by the National Institutes of Health (NIH), hang on to it—you just may own a collector's item. Only 2000 advance copies of the plan, which is meant to chart NIH's path into the 21st century, were printed and released in May. They were supposed to be followed by another 30,000, to be mailed to researchers as well as to movers and shakers in biomedical politics. But that mass printing and mailing has been put on hold by the Department of Health and Human Services (HHS), and it may never take place.

The latest setback to the embattled strategic plan infuriates the plan's patron, newly departed NIH Director Bernadine Healy. Problems began in early May, when NIH's request to print the additional 30,000 copies wound its way to Boyd Work Jr., a communication products manager at HHS who evaluates hundreds of such publication plans each year. The request spelled out how the five-color document was to be printed on pricey, 80-pound "vintage velvet" paper and sent out by first-class mail. The bottom line: a total of $5.55 per copy of the 118-page document. On reading those numbers, the efficiency-minded Work turned to his word processor.

Work fired off a memo to his superiors complaining of "extravagant profligacy." He questioned both the costs and the contents of the strategic plan. "Please provide assurances that this plan truly reflects the *vision* of the Clinton Administration and that it will in no way conflict with the Clinton Administration's *framework* for health care reform," he wrote. Work questioned how failing to publish the plan would "be detrimental to the legally mandated functions of NIH." He slammed the fact that it was printed on high-grade paper and that, in violation of government regulations, it included photographs that were not necessary to explain the text. He also noted that the glue intended to hold the whole production together was not adhering well to the coated paper.

When Healy read Work's memo, *she* came unglued. On 7 June, she fired off a memo of her own to Philip Lee, the assistant secretary for health-designate. Writing in her trademark understated fashion, Healy wrote that the Boyd memo "reads like it was written by an 'aparatchik' [sic] of the Brezhnev-era Kremlin, not by a fellow American and partner in HHS concerned with the health and well-being of this nation." She further stressed that the strategic plan was produced with the full knowledge of HHS Secretary Donna Shalala, Shalala's two predecessors, and key congressional committees. And Healy found it "remarkable" that Work would challenge NIH's need for a strategic plan at all. "Some low-level guy, 16 layers down in communication, can hassle NIH in a profligate way," Healy told *Science*. "It's unbelievable. It's Kafkaesque."

But to HHS, the Work memo is hardly a totalitarian nightmare. "As the memo from Boyd Work makes clear, we're taking a very close look at all publications, not just this one," says HHS spokesman Victor Zonana. Zonana said it may be printed on regular stock in black and white with no photographs. Or it may not be reprinted at all. "I imagine the new director of NIH will want to revisit the strategic plan that Dr. Healy and her team have formulated," said Zonana, adding that he didn't see how to justify printing more copies with Healy leaving. And so it may be that the strategic plan, which has come a long way since Healy commissioned it 2 years ago, may be headed for the old curiosity shop.

–Jon Cohen

CAMPUS TERRORISM

Universities on Alert After Bomb Attacks

In the aftermath of mail bomb explosions that seriously injured two researchers last week, security officials at universities across the country went on the alert and are warning faculty members to be on the lookout for suspicious packages. The Federal Bureau of Investigation (FBI) believes that both the bombs are the work of a serial bomber who has struck university and technical sites at least 12 times since the late 1970s. But the FBI says it does not know the bomber's motives or intentions.

Last week's bombings, if indeed the work of the suspected serial bomber, are his first attacks since 1987, when witnesses spotted a man placing what later turned out to be a bomb in a parking lot and were able to describe him to the FBI. The first of the most recent bombs exploded on 22 June when University of California, San Francisco (UCSF), geneticist Charles Epstein opened a package he received at home. Two days later, a similar bomb exploded in the hands of Yale computer scientist David Gelernter while he opened his mail in his office.

In the earlier attacks, the bomber mostly targeted computer scientists and high-tech professionals, although one University of Michigan psychology professor was injured in 1985. Seven of the 12 bombs prior to last week's attacks involved universities, leading the FBI to refer to the suspect as the university bomber. FBI spokesman Nestor Michnyak declined to comment on specific leads and theories that the agency was pursuing in the latest cases. He says that while "we've never been able to explain motive" in the earlier attacks, the agency has linked the explosions by forensic means.

Sketchy evidence. FBI drawing of suspect.

Investigators have not yet identified any reason why these two particular researchers were targeted. Epstein, a well-regarded geneticist and professor of pediatrics at UCSF, is the editor of the *American Journal of Human Genetics*. In the past, he served on the National Institutes of Health Recombinant DNA Advisory Committee, which reviews proposed experiments involving gene-splicing and human subjects.

Gelernter, director of Yale's undergraduate computer science program, is also a well-known researcher, prominent for his work in distributed computing and parallel processing. His brother, Joel Gelernter, is a Yale psychiatrist who specializes in genetics research. The switchboard at the Yale medical center where Joel Gelernter works received a call after the explosion from someone who said "you are next," but officials say they found no bomb and have no reason to believe that Joel Gelernter was a target.

Last week the U.S. Attorney General issued a warning to all U.S. universities to be on alert for further attacks, especially in computer and biomedical areas. In response, most universities warned their faculty and staff to watch out for suspicious packages and circulated updates on the explosions and the descriptions of the bombs. The Epstein bomb was described as a large padded manila envelope containing an object of about the dimensions of a videocassette. It was postmarked from Sacramento and bore the return address of James Hill, chairman of the chemistry department at California State University in Sacramento. Hill told the FBI that he had never heard of Epstein and did not send the package. He is not considered a suspect. The Yale package was also a manila enve-

lope postmarked in Sacramento.

An informal survey by *Science* of more than a dozen universities found that most had not instituted any special security precautions, such as mail inspections or x-ray screening. But nearly all had alerted campus mail service employees to watch for suspicious packages and distributed lists to faculty of danger signs to look for in examining packages. In the past, the university bomber has concealed explosives in wooden boxes (from small crates to cigar boxes), a book, and a burlap sack. Two other bombs were in envelopes, one of which claimed to contain a manuscript and the other a notebook. Brigham Young University (BYU) security officials, in a memo to faculty, noted that the bomber usually employed plastic explosives, which would feel like putty in a letter. Because the letter had traveled safely through the postal system, it would not be dangerous to feel it, although BYU stressed that the letter should not opened.

In another of the earlier attacks, the bomber disguised the package to look like a scientific instrument. That bomb, which exploded at the University of California, Berkeley, in 1982, was in a wooden box disguised with dials and gauges. Attached to it was a note that read "Wu—It works! I told you it would—R.V." A handle attached to the box was wired to the bomb. When Berkeley electrical engineering professor Diogenes Angelakos picked it up, it exploded, mangling his hand and wounding him in the chest and forehead. Many of the other bombs were in homemade boxes that had been carefully assembled with polished wood, a feature that the FBI considers the bomber's trademark.

In the absence of any solid clues, research groups began to speculate last week on the bomber's possible motives. Americans for Medical Progress, a group that opposes animal rights terrorism, called for a congressional investigation into "violent hate crimes against researchers." The National Association for Biomedical Research, another animal-research advocacy group, told its members that, while there was no evidence linking the attacks to animal rights activists, the incidents were a reminder that "members of the scientific community can be vulnerable and should remain vigilant."

The pattern of the attacks does suggest a bomber with a grudge against science or technology (or their practitioners), according to a 1989 FBI personality analysis. And the grudge may be rooted in personal experience. Based on some of the techniques the bomber has used in the past, including the use of a type of packaging similar to that used by makers of artificial human joints, the FBI is considering the possibility that he may have been, or still is, a lab technician, research assistant, or medical salesman.

–Christopher Anderson

EASTERN EUROPE

Joining Forces to Probe Environment-Health Links

PRAGUE—When Czechoslovakia split into two separate states in January, epidemiologist Vladimir Bencko, of Prague's Charles University, was a year away from completing a major study in a highly polluted district of central Slovakia. For 15 years, he has documented the incidence of several types of cancer in some 140,000 people living near a power plant that burns coal laden with arsenic. But after the so-called Velvet Divorce, his project was nearly orphaned in a reverse custody battle in which both sides tried to give the baby away. Bencko needed only a further $20,000, but that was too much for the new Czech and Slovak health ministries. "The Czech authorities didn't want to pay for it, because it was in Slovakia," he says. "And Slovakia wouldn't pay for it, because...well, I work in Prague."

Prime mover. Conte Institute head Arthur Bloom.

Fortunately, the International Agency for Research on Cancer, based in Lyons, France, stepped in to help complete the project on schedule. But Bencko's problems in obtaining funding are typical of what's happening throughout eastern Europe. Despite widespread evidence of health problems caused by more than 40 years of unrestrained pollution, Europe's impoverished new democracies are unable to release more than paltry sums for environmental health research. "This year my institute received only 65% of last year's budget," says Bencko. And Hungary's total 1993 budget for environmental health research is a minuscule $50,000. Like Bencko, many scientists therefore see collaboration with their Western colleagues—and the influx of funds that this can bring—as the best way to keep their research programs alive.

That's why a meeting* held here in April, which brought together more than 50 scientists from East and West, could be the key to ensuring that important research opportunities don't slip away. The meeting launched the International Scientific Committee on Environmental Health (ISCEH), which aims to pry money from the West to fund environmental research in central and eastern Europe. After all, says Arthur Bloom, a geneticist who heads the Conte Institute for Environmental Health Research in Pittsfield, Massachusetts, and is the driving force behind ISCEH, the results could be as valuable to Western researchers as to those in the East. By studying the pollution blackspots of eastern Europe, he says, it should be possible to resolve some of the uncertainties that make environmental risk assessment a notorious scientific quagmire.

"The situation in this region is analogous to that in Hiroshima after the atomic bomb was dropped," University of Colorado biometrician Philip Archer told the Prague meeting. "There is a window of opportunity to study the health effects on these populations." Ultimately, Bloom says that ISCEH aims to raise some $20 million to launch a network of 10 or more research "centers of excellence" across eastern Europe. With Western research agencies currently short of cash, however, Bloom accepts that this is a distant goal. So in the short term, ISCEH's steering committee of two dozen leading environmental health researchers is putting together a program costing perhaps a few hundred thousand dollars, which it expects to raise from sources such as the March of Dimes Birth Defects Foundation. The Conte Institute, an environmental "think tank" founded by Bloom in 1986, will coordinate and channel grant money to ISCEH if the funding agencies want it to.

The committee's initial priorities include improving east European birth defects registries, and launching a region-wide cancer epidemiology research project in collaboration with Alfred Knudson of the Fox Chase Cancer Center in Philadelphia, which will draw eastern Europe's isolated epidemiologists into a cohesive network. To coordinate the research, and help with fund-raising, Bloom aims by the fall to have opened an ISCEH office in France. And while some of these plans might sound like small potatoes, "there are a lot of basic scientific questions that can be answered in this region, with very modest amounts of money," says Bloom.

Take risk assessment, which still relies heavily on animal testing to evaluate the danger to humans from suspected toxins. Western molecular epidemiologists such as Richard Albertini of the University of Ver-

* Human Health and the Environment in Eastern and Central Europe, April 12-15.