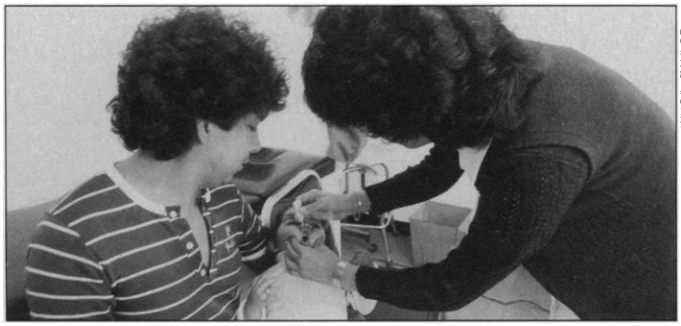
edited by JOHN TRAVIS



WHO/L. TAYLOR

Booster. Apparent eradication of polio in the Americas is providing hope for a more comprehensive global effort.

Good News, Bad News for Polio

The success of an intensive vaccine campaign that has left the Americas polio-free for the past year is fueling the drive to remove the crippling disease from the rest of the world—but some tough hurdles remain.

Paralytic polio strikes 120,000 new people every year, according to the World Health Organization (WHO). But in the Americas, the Pan American Health Organization (PAHO) appears to have eliminated the disease with a 7-year-old program that relies primarily on widely publicized "national immunization days." Twice a year children under 5 are given doses of oral polio vaccine. These mass immunization campaigns are bolstered by an aggressive surveillance program that also chases down each new case of paralytic disease, confirms whether it indeed was caused by wild poliovirus, and then saturates the local community with vaccine to "mop up."

Though the strategy attracted some initial skepticism because of the tenaciousness of the virus and the rickety health care infrastructure in many of the countries involved, the program appears to have paid off: The last case of polio surfaced in Peru on 23 August 1991. "It's the first time in the history of the world that an entire hemisphere hasn't detected polio for an entire year," says Ciro de Quadros, the epidemiologist who heads PAHO's polio program. De Quadros does caution, however, that "cases could erupt tomorrow." Poliovirus will not be considered officially eradicated until 3 years go by without a case.

The WHO's Expanded Program on Immunization (EPI) is now encouraging other countries to follow PAHO's lead to meet the announced goal of eliminating poliovirus worldwide by 2000. But success outside the Western Hemisphere is by no means certain. For instance, in the next region targeted, the Western Pacific, mass campaigns are being stymied in China and other countries because there's not enough vaccine to go around.

NIH Considers Gene Therapy for Lung Cancer

Next week, a committee at the National Institutes of Health will consider approving a trial of a novel lung cancer treatment that uses gene therapy to correct tumor-causing genetic abnormalities.

The targeted disease, non-small cell lung cancer, is the most common form of lung cancer and often results from the absence or mutation of the tumor suppressor gene p53 or through the action of an oncogene called k-ras. University of Texas thoracic surgeon Jack A. Roth at the M.D. Anderson Cancer Center in Houston hopes to counteract those problems in 14 terminal lung cancer patients by infusing their tumor cells with a retrovirus carrying either working p53 genes or an antisense version of the k-ras gene. In the latter case, the transplanted DNA produces antisense RNA that binds to the endogenous RNA, interfering with protein production of the cancer-causing k-ras gene.

Roth says he has achieved an 80% "cure" rate in mice with the k-ras gene therapy. That's remarkably different from the human survival rate for lung cancer, which has stood at 14% for the last quarter-century. Roth is optimistic that similar types of gene therapy may one day prevent some cancers by treating pre-malignant cells. But first things first. Roth's next step is to gain approval for his trial, which is designed to test the safety of the method, from NIH's Recombinant DNA Advisory Committee, where he has at least one cautious supporter. "It's a good idea," says Nelson Wivel, director of NIH's Office of Recombinant DNA Activities. But he cautions: "Whether or not it'll work is anyone's guess."

Europe to Launch Neuroscience Initiative

Following up on the United States' much-ballyhooed "Decade of the Brain" research effort, the European Community (EC) is also planning a neuroscience initiative, but with one small difference—it may actually devote some new money to the effort.

The European Commission—the executive arm of the EC—will formally inaugurate the program in Brussels on 23 September. Like its U.S. counterpart, which has been criticized as merely a fancy label for a repackaged set of existing programs, the European initiative so far lacks a major financial commitment. But a task force of leading European brain researchers, which has been meeting for more than a year, aims to change that. At the Brussels inauguration, it will call for the creation of a new line in the EC's research budget, devoted to brain research. Specifically, the task force wants the EC to launch a 5-year, $145 million program starting in 1994, running the gamut of brain research from basic neuroscience to clinical psychiatry and artificial intelligence.

Although starting new projects is difficult in the midst of a worldwide recession, the task force members are optimistic. One reason: They have cleverly tried to make the proposal politically attractive by calling for most of the new money to be spent on projects that would include major pharmaceutical industry involvement—not just academic research groups.

Sematech Slips Under Congress's Microscope

In an attempt to focus attention on shortcomings in U.S. "technology policy"—a likely campaign issue—a House committee plans to shine a spotlight next week on one of the federal government's oldest efforts to aid U.S. industry directly: the 12-member consortium of semiconductor manufacturers known as Sematech. While staffers to the House science investigations and oversight committee say they don't expect their hearings to be hostile, they do foresee some sharp questions aimed at managers of the 5-year-old consortium. Grist for the subcommittee's mill comes from a 19 August report by the General Accounting Office, which notes that although Sematech has achieved many of its original goals, most of the consortium's members have no interest in picking up the government's $100 million annual contribution to Sematech's $200 million budget as they had originally promised. "A good question for the government to ask is, 'At what point does this become an industrial entitlement program?'" says one staffer.

The committee also intends to address a number of "larger issues," including the question of whether Sematech's mission of restoring the competitiveness of U.S. semiconductor manufacturers and their domestic equipment suppliers is undercut by the "strategic partnerships" that many Sematech partners have signed with Japanese firms.