

useful lives. Now, with payment for all, the program is getting a lot of people whose lives can't be rehabilitated by dialysis alone, and that may account for the "failure" to rehabilitate.

Rettig, who has closely followed the politics and economics of the ESRD program, says that whether there is any effort to rehabilitate patients who are capable of working depends largely on the dialysis unit and the physician in charge. For example, one patient from a central Ohio dialysis center spoke at a seminar Rettig conducted and revealed that he was the only one of the approximately 40 patients at the center who was working. "Moreover," Rettig recalls, "this patient said that the other patients found it amazing to think that it was possible to return to work." A patient from a Washington, D.C. center who works full time says that his center's directors discouraged patient rehabilitation when they moved back the starting time for the evening dialysis shift from 7:00 to 5:30 p.m. When he complained that he didn't even finish work until 5:30 and the center is more than 10 miles from his office, he says he was told that he was being unreasonable.

The picture that Sadler, Rettig, and others paint of dialysis patients hardly resembles that envisioned by the Senate when it debated the amendment that established the ESRD program. In 1972 Senator Hartke said, "Sixty percent of those on dialysis can return to work but require retraining and most of the remaining 40 percent need no retraining whatsoever. These are people who can be active and productive, but only if they have the life-saving treatment they need so badly."

According to doctors who treat them, dialysis patients are often deeply unhappy. Edmund Lowrie, director of the Kidney Center in Boston, says that when patients are tested with the Minnesota Multiphasic Personality Inventory, their scores show that many are depressed and have a tendency toward hypochondria. "They feel captured by the medical profession," Lowrie says.

Alan M. Goldstein, a clinical psychologist at the John Jay College of Criminal Justice in New York, says that dialysis patients have a suicide rate seven times higher than the national average. This is comparable to the rate for patients with other chronic diseases, he explains. Some kill themselves outright, but others do so indirectly by missing medical appointments and failing to follow the strict diet required of those on dialysis.

In the early days of dialysis, suicide was essentially nonexistent, according to

Belding Scribner of the University of Washington in Seattle. But in 1964, Scribner predicted that as dialysis became less of an extraordinary treatment the number of suicides would increase. "Now dialysis is perceived as a burden rather than a way of saving lives," he points out. Before the ESRD program, patients with kidney failure expected to die and were so glad to be alive when they were given dialysis that suicide was virtually inconceivable. Also, of course, the early patients were carefully selected—they were young and had positive attitudes toward life, Scribner explains.

Now that dialysis is taken for granted, its burdensome aspects are brought into sharp focus. It is impossible for dialysis patients ever to forget that their kidneys have failed, for they must adhere to a rigid diet that is low in sodium, low in potassium, and low in fluids. Some patients, for example, are allowed only a pint of fluid each day. Sandra Madison, head nurse at the Kidney Center, explains that if patients break their diet regularly, they can develop life-threatening potassium or fluid imbalances. She has seen patients gain as much as 20 pounds in the 2 or 3 days between dialysis sessions because they ignored their fluid restrictions. Dialysis then can be extremely uncomfortable, causing severe cramps, weakness, and nausea. "The body does not easily adjust to extremes," Madison says.

Dialysis itself takes a toll on patients, whether or not they break their diets. The patients are not physiologically normal; they are anemic, prone to bone degeneration, and male patients often are impotent. Then there is the inconvenience of dialysis. It takes an average of 4 hours for a dialysis treatment and patients must be dialyzed three times a week. Although some patients are dialyzed at home with the help of a trained family member or friend, most go to dialysis centers such as the proprietary ones run by National Medical Care. But the staffs at the centers sometimes have strained relationships with the patients and the patients say they have inadequate avenues of complaint.

Lowrie explains that the close long-term relationships between patients and staffs at dialysis centers often led to difficult situations. The patients develop close ties with the doctors, nurses, and technicians, but in some cases these ties are not helpful. Lowrie says, "There are rules of behavior. A professional cannot show aggression. The patient is unbridled and can be unkind, to say the

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Use of Killer Weed Grows in Third World

"We need the world," says Kirt Wayne of Tobacco Associates, a Washington-based association that represents tobacco growers. And to the chagrin of international health officials, they are getting it.

With a slump in sales to North America and Europe, the U.S. tobacco industry has found in the developing countries a vast untapped market. "Try Winston," reads one of the Third World slogans, "the great taste of America." Aggressive advertising has paid off. Between 1974 and 1979, the average value of the tobacco products and leaf sent beyond U.S. borders went from \$650 million to \$2.15 billion. In Africa this has had a clear impact. Per capita cigarette consumption there during the past decade has increased 33 percent. Says Wayne: "The blended cigarette, which relies on high-quality American tobacco, is growing in popularity around the world."

International health officials are worried that the prosperity of the U.S. tobacco industry is now linked to the exportation of a potentially deadly habit. "The threat to many developing countries is immediate and serious," warns a recent World Health Organization report. "In the absence of strong and resolute government action, smoking disease will appear in developing countries before communicable disease and malnutrition have been controlled, and the gap between the rich and poor countries will thus be further expanded."

In response to this problem, the U.S. Department of Agriculture this year agreed to stop shipping tobacco to poor countries under the "Food for Peace" program. Up until this decision, between \$17 million and \$66 million in tobacco products had been sent each year during the past decade to such countries as South Vietnam, Cambodia, and, most recently, Egypt. Despite the halt to this practice, USDA still supports the U.S. tobacco industry, and thus indirectly the export of tobacco. Through the Commodity Credit Corporation and the price-support system, USDA spent more than \$337 million on the U.S. tobacco industry in 1979 alone. When this reporter called

another Washington-based tobacco association to get industry views of the future of this type of support, the receptionist who answered the phone said: "I'm sorry. No one is in the office today. They're all out of the country."

Fund for UN Science Center Short by \$200 Million

Think Big was the battle cry at the United Nations Conference on Science and Technology for Development, but the outcome, at least in terms of dollars, has been small.

Last August, 5000 professional and amateur problem-solvers descended on Vienna and sought a way to build up the science-based capacity of poor countries. Those representing the technological have-nots wanted a fund for the furtherance of Third World science that over a period of 10 years would automatically add up to \$4 billion. The technological haves did not. After much haggling in the cafés and conference rooms of Vienna, the long-time adversaries settled on a 2-year, voluntary fund of \$250 million.

At the UN pledging conference for this fund, held in New York on 27 March, the realities of world politics made still deeper cuts into the rhetoric of the Vienna accords. Actual donations came to a mere \$35.8 million.

Officials at the UN Development Program (UNDP) blame the shortfall on the inadequate time in which governments had to make dollar decisions, on the current chaos of the world economy, and on anger in some UN delegations resulting from a squabble over how to staff the new policy unit that was set up to help administer the fund (*Science*, 25 January). UN officials are optimistic about things picking up, however, saying other commitments have already pushed the fund to \$45.7 million.

A fact that puts these pledges in perspective is that the tab for the 2-week-long conference in Vienna—including five preparatory meetings held around the world and the travel, food, and lodging for the 5000 delegates and observers who flocked to Vienna—is said to be about \$50 million. Some estimates go as high as \$60 million.

The UN invited 163 governments to

attend the grand finale to all this globe-trotting and wine-drinking—the 27 March pledging conference. Seventy-eight showed up. Of the 35 countries who made donations, many were themselves technological have-nots. Lesotho, for instance, gave \$575, Fiji \$1000, the Dominican Republic \$3000, Kenya \$5000, and Paraguay \$3000. Several of the better-off developing countries agreed to contribute larger sums. Nigeria, for instance, gave \$250,000 and China agreed to contribute \$264,000.

As expected, major contributions came from the developed countries, Italy giving \$9 million, the Netherlands and Sweden each contributing \$5 million, Norway, Switzerland, and Austria putting in \$2 million apiece. France, Germany, and Japan said administrative reasons made concrete pledges impossible at the time. Canada said it has decided to put all funds for Third World science into its own International Development Research Center. The United Kingdom, the Soviet Union, and the eastern European bloc did not show up at the conference.

The U.S. pledge, once expected to be the cornerstone of the fund, amounted to a mere \$7.2 million. Officials at the State Department say it was the victim of across-the-board cuts dictated by the Office of Management and Budget. In the past, U.S. support of UN projects has usually amounted to about 20 percent of their total cost. It was thus expected that the United States would put up \$50 million toward the Vienna goal of \$250 million. By autumn, however, the U.S. portion had shrunk to \$25 million. December saw another ominous development. The United States cast the lone negative vote in the General Assembly over the staffing issue—a move seen by the technological have-nots as a U.S. ploy to cover further retreat from dollar commitments. Sure enough, when President Carter's budget request went to Congress in January, the figure had dropped to \$15 million. During the 27 March pledging conference, U.S. delegate Vanden Heuvel said the contribution would be between \$10 and \$15 million—and that it would not exceed 20 percent of the total. Since all contributions of 27 March reached only \$35.8 million, the U.S. donation was 20 percent or \$7.2 million. Even if further contributions should greatly expand the fund—a

hope that UNDP officials still hang on to—the State Department now says there is a \$10 million ceiling on the U.S. donation.

All this has not set well with UNDP officials. "The Carter Administration has really distinguished itself for being weak-kneed in the last lap of this whole operation," said one. "They put on a great song and dance in Vienna, and got a lot of kudos for being visible, encouraging, helpful, firm—all the good things. Now all the United States has done is convince everybody that they are at best incompetent and at worst acting in bad faith. And I'm being polite."

In addition to the dollar ceilings announced at the 27 March conference, the United States said its donation is guaranteed only if "significant contributions are made by countries receiving large incomes from oil exports." These donations have not yet materialized, though delegates from Saudi Arabia and the United Arab Emirates were present at the pledging conference and said their countries would eventually make some kind of donation. One oil exporter who did donate at the pledging conference was Venezuela, a country that had pushed hard at the Vienna conference for a large fund. Some observers expected that its contribution would be on the order of \$5 to \$10 million, but its pledge on 27 March came to only \$97,000. "We just don't know what went wrong," said one State Department official.

UN officials say they do. "Before the pledging, the U.S. delegation broadcast the fact that they were coming down to \$10 million," said one. "Other countries followed suit, and we have lost millions." State replies that the UN is using the United States as a whipping boy, and that global economic conditions probably accounted for the poor showing.

For whatever reasons, the slow start for the fund has left a gap that officials are anxious to fill. UNDP administrator Bradford Morse said at the pledging conference that the fund will become operational this May, and that an additional pledging conference will be held this fall. After the results from the 1980-1981 interim fund are in, he said, a team of specialists will decide if a larger, long-term fund for Third World science is an idea whose time has come.

William J. Broad