Briefing

Califano to Med Schools: Cut Back Class Size

In the past 15 years, the number of U.S. medical school graduates has virtually doubled, going from 8,000 in 1963 to more than 15,000 this year, mostly in response to federal pressure to boost medical school enrollments. But the days of quick growth are about to end.

On 24 October Health, Education, and Welfare Secretary Joseph Califano won a standing ovation from the Association of American Medical Colleges (AAMC) members when he announced at their annual meeting in New Orleans that HEW wants medical schools to "gradually reduce the size of their classes" over the next few years. Califano also said that the creation of new medical schools will not be encouraged and that HEW will continue its "strong opposition" to the admission of foreign medical graduates. And," Califano said, "we are seeking ways to deal with the growing problem of American students who return from training abroad."

Cutbacks are essential, Califano told the AAMC, since programs slated to wipe out doctor shortages during the 1960's have succeeded too well, and a "looming problem" of physician oversupply now threatens to fuel runaway health care costs without bringing significant improvements in overall health. Through the costs of hospitals, drugs, and health services, he said, every additional physician over the average career of 40 years adds $12 million in health care costs to the economy. By the year 2000, health care costs will reach $1000 billion—or about 12 percent of the Gross National Product. Yet he noted that as the number of surgeons rises in an area, the number of operations also tends to go up—with no clear indication that the extra surgery is necessary. The United States, for example, has twice as many surgeons per capita as England and Wales—and twice as many operations. And in some parts of Maine where the ratio of surgeons is highest, the number of gall bladder operations is more than double the number performed in other parts of the state. He also noted that studies suggest that with more surgeons in an area, there are usually higher surgeons' fees, which runs, said Califano, "directly counter to the laws of supply and demand."

Califano also promised the AAMC that he would pay more attention to incentives aimed at dealing with the decline in primary-care physicians and with geographical maldistribution. "We will review our reimbursement formulas, which presently discourage ambulatory care, to determine whether they are discouraging students from choosing to involve themselves in primary care." He also said that to combat geographical maldistribution, HEW is making a major commitment to the National Health Service Corps, a program started in 1970 that sends physicians and health professionals into underserved parts of the country. With current levels of support the Corps will have 2940 physicians in underserved areas of the country in the not-so-distant future. Said Califano: "It ranks in my estimation with the Peace Corps in its potential for good."

Healers to Healthy: Keep It That Way

In its simplest form, the message came tough and timeworn from the lips of the family physician. Lose weight. Cut back on alcohol. Stop smoking. Eat a better diet. Get more rest and exercise.

In a more sophisticated form, however, the message of prevention is getting a good deal of attention from medical policy-makers who are fighting an uphill battle against the climbing costs of treating chronic illnesses. One way to help healthy people stay in shape, according to Alexander Leaf of the Massachusetts General Hospital, who spoke recently at the annual meeting of the Institute of Medicine (IOM) at the National Academy of Sciences, is to have health insurance policies that really underwrite the cost of staying healthy, instead of focusing on diseases and medical crises. Leaf was a member of an IOM committee that studied a package of preventive personal health services—not normally offered under health financing plans—that could be offered by insurance companies or the federal government and might make prevention more than a nice idea. In the past, Leaf admitted, "we as physicians have been generally inept in influencing our patients to adopt life styles which promote health."

The Institute of Medicine's recommendations are being discussed by HEW as a basis for designing the benefits package of the National Health Insurance Plan. That piece of legislation is scheduled to be introduced by HEW in the next session of Congress.

According to Leaf, the need for nationwide preventive health services is real. One third of all people 40 years of age or older have never had an electrocardiogram, he said. One out of four women who subsequently have live births do not see a doctor during their first 3 months of pregnancy. One third of all people with hypertension have not talked about it with their doctor for at least a year.

Yet Leaf also noted that if the population of the United States now got the necessary preventive services, "the load on the system would be enormous." He recommended a review of those who might provide the basics of preventive health care. He and the committee also recommended a trial of regular preventive health services on some sizable group, such as the Armed Forces, so that the logistics and delivery of the system could be worked out.

Though the idea of a countrywide preventive health care system may be new, the underlying sentiment is, of course, timeless. Ralph Waldo Emerson summed it up more than 100 years ago. "Give me health and a day," he said, "and I will make the pomp of emperors ridiculous."

Congress to State: Take Stock of Science

Long laggard in dealing with the impact of science and technology on international affairs, the State Department is about to be forced into coming to grips with it and even into exerting some science-related bureaucratic clout.

On 7 October, President Carter signed into law the Foreign Relations Authorization Act, which contains a section, "Science, Technology, and American Diplomacy" (Title V), that forces the State Department to coordinate science and technology activities overseas. The legislation (*Science*, 2 June), originally introduced by Representative Clement J. Zablocki (D-Wis.), says the Secretary of State "shall have primary responsibility for coordinating and oversight with respect to all major science or science and technology agreements and activities be-

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tween the United States and foreign countries, international organizations or commissions of which the United States and one or more foreign countries are members."

Just what that will mean in practice is far from clear. The new legislation leaves most of the details up to the State Department by delaying implementation for 1 year, and requiring the Secretary of State to spell out by 20 January 1979 budgetary and personnel requirements to carry out the objectives of the legislation. Rather than relying totally on State Department personnel to implement its goals, the new law calls for the department to go out and consult with individuals, industries, universities, and other research institutions.

To some, the demand for technological literacy in the State Department has been put off for too long. Critics contend, for instance, that U.S. foreign policy on nuclear matters, especially as related to proliferation issues in the early 1970's, was inadequate at best. The State Department appeared to recognize the issue too late to deal with it effectively. And U.S. tardiness in getting preparations under way for the U.S. Conference on Science and Technology for Development, scheduled for next summer, is pointed to as another example of U.S. failure to deal with a set of potentially explosive issues.

But the situation may be about to change. The new legislation grew out of a massive study, *Scence, Technology and American Diplomacy* (three volumes, 2107 pages, 7 years in preparation by the Congressional Research Service), that was initiated by Rep. Zablocki and completed last year. For many, it became the "bible" on science, technology, and foreign policy. But in reviewing the study for the June 1978 issue of the *Bulletin of the Atomic Scientists*, W. Murray Todd, executive director of the Commission on International Relations of the National Academy of Sciences, took issue with the scope of the proposed international science policy. "The implicit assumption," he said, "that such a policy is needed can be questioned on the grounds that a policy would perforce have to be so broad and consequently so vague as to be no policy." Backers of the legislation, however, say that its impact is inevitable and that it is now just a matter of time before the State Department begins its crash course in science and technology.

William J. Broad

achieved widespread acceptance, and the question arose of whether there were still more quarks. Lederman took up the search while heading a large experimental group at Fermilab and, after a false start, found a particle three times as heavy as the J/psi and similar to it in many respects. The finding was not only evidence of a fifth quark, but also a hint at a sixth.

The new director's connections with Fermilab go back to the period even before the new accelerator proposal had a home. He was on the site selection committee, which toured the country evaluating proposed locations (46 states were eager to have the facility), he gave the dedication speech for the laboratory, and he led one of the first experiments to be conducted on the new accelerator. As spokesman for the "users" of the laboratory, he lobbied hard to get a comfortable meeting spot for the physicists who traveled there from all over the country to do their experiments, and when one was built, many suggested that it should be called "Leon's Place."

Lederman has been known at Fermilab both for his quickness of wit and for his delight in chiding Wilson over the idiosyncrasies of life at the laboratory.

In his speech given at the dedication of the laboratory, he praised Wilson as a man "whose charisma and artistry and impudence and unflagging optimism have alternately driven us up the wall but also occasionally to some heights of pleasure." A volume of correspondence between the two over Lederman's first proposal is notable for the repartee in Old English and Old French, and early this year Lederman presented Wilson with a memento of the upsilon experiment—a chrome-plated piece of burned out magnet. Lederman said that the piece (which caused a fire and delayed the experiment) should be memorialized because successes in experiments are duly recorded, but failures, which can be even more spectacular, are not properly honored.

Now that he has been named head of the $80 million per year enterprise that is Fermilab, Lederman will soon find himself in the same position that Wilson occupied for 11 years. "I never thought of myself as a laboratory director" or necessarily wanted to direct a large laboratory, Lederman told *Science*. "I never wanted to do anything except present great results and tell funny jokes," he said. But Fermilab, after operating for 5 years at accelerator energies of up to 500 billion electron volts, having committed to an ambitious project to double that energy within the next 3 years, and

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facing stiff competition from a new European accelerator of the same type in the same energy range, appears to be at an institutional watershed. Important questions have been raised about the balance of funding between accelerator development and experimental work. Lederman, rather than being on the outside, is now on the inside and beginning to grapple with questions about the laboratory's future.

"We have a great laboratory to build upon," he says, and he has high praise for the accomplishments of Wilson, whom he calls "a great physicist and truly one of the visionaries of modern science." During the months since he was selected, he has been spending 1 to 2 days a week at Fermilab and has been reviewing the funding of all aspects of the laboratory.

"I've been concentrating much of my time on the doubler project and the various options for it—what they can and cannot do," Lederman told *Science*. But at the same time, research on the present accelerator faces problems—limited funding and uncertain reliability. "Our budget is falling in real terms," he says, and first priority must be given to the present research program. "We are studying how much more money is needed to make this machine reliable and responsive to the physics community," he says. For lack of funds now, major parts of the lab are shutting down on a rotating basis (the meson area closure referred to as the "mesopause.")