percent, a figure unattainable 2 years ago.

In the transplantation of kidneys, four essential disciplines are involved: renal physiology, vascular anastomosis, urologic management, and immunosuppressive chemotherapy. Yet our laboratories are sought out each year by visitors who wish to spend 2 to 3 days with us so that they may then return home and take over the transplant problems in their own hospitals. Usually these are individuals who are familiar with only one of the four disciplines involved and often devoid of teammates to assist them.

An urgent problem therefore arises concerning what sort of regulation should be undertaken in such a field. The "free enterprise" system which is so characteristic of our country in medicine and surgery shows itself at its very weakest when such a development as this suddenly explodes into clinical application.

An analogy with the development of open-heart surgery suggests itself, but there is an important difference. Open-heart surgery for the repair of congenital or acquired defects became available 10 years ago as the result of work in three or four laboratories. Many hospitals then wished to enter the field. But in the case of open-heart operations there was a wonderfully effective deterrent to irresponsible application: the procedure itself. No one in his wildest dreams would undertake the extracorporeal pump oxygenation and total body perfusion of a fully anesthetized patient in late congestive heart failure, with thoractomy and cardiotomy of the left ventricle, without first carrying out an extensive series of experiments in the laboratory to assure his competence in such simple matters as the maintenance of proper circulation and normal blood chemistry. In short, the pump oxygenator itself was a sufficiently complicated and fearsome device to constitute a deterrent to irresponsible adventure.

Unfortunately, kidney transplantation has no such built-in deterrent. It looks deceptively easy. Even though mortality and morbidity are still impressive, anyone who is caring for a patient with renal failure and who is competent to join two blood vessels together with fine sutures may feel entitled to undertake the operation. But he should be discouraged unless he has taken pains to assure his own knowledgeability and competence in the field. Any surgeon who wishes to transplant kidneys in people should take at least a year off from his ordinary activities to set up a laboratory enterprise in which the entire procedure can be performed repeatedly in experimental animals and with accurate biochemical control. The members of the four-man team should spend, not days, but several months working together in the laboratory on this problem. The responsibility of surgeons and of organized medicine is here very grave indeed. A new therapeutic device of remarkable effectiveness, awaited for centuries, has finally arrived because of the development of chemical compounds that suppress the formation of antibodies. The chemistry is complex; the simplicity of the surgery should not blind us to the hazards.

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News and Comment

NIH: Budget Hits $1-Billion Mark for First Time, But No One Seems To Be in a Mood for Celebration

The National Institutes of Health was certified for the billion-dollar-a-year rank this month, a milestone that might normally evoke a speech, or at least a cheer or two, especially if it's recalled that just one decade back the budget was $81 million.

But this is clearly a time of doldrums on the scientific-financial scene, a condition that was reflected by the hearings and report recently released by the House Appropriations subcommittee which reviews the NIH budget.*

The subcommittee, in reporting out $1.045 billion for NIH, a $70-million increase over the current budget, accurately noted that NIH's budgetary growth had tapered off sharply, and it described the budget as "disappointing," "unduly mechanical," and "one of the most conservative . . . submitted to Congress in recent years."

Nevertheless, the subcommittee, for the second straight year, refrained from its previous practice of piling funds on top of the amount requested by the administration. Its decision clearly reflects a judgment that neither the executive nor the congress is in a mood, for the present, at least, to resume the fast growth that characterized research and development expenditures through the 1950's and the first two years of this decade. Conceivably, something might have been tacked on to the budget and steered through Congress, but the executive branch can't be made to spend what it doesn't want to spend. And in this election year, the Johnson Administration has made it clear that it isn't fooling about keeping down the federal budget.

As a result, the subcommittee took the administration's request of $1.049 billion, cut out a perfunctory $4 million, and let it be known that though it was very unhappy about NIH not getting more, it wasn't going to try to do anything about it. For the subcommittee to have cut anything at all if it felt the overall total was inadequate may seem contradictory, but in a billion-dollar budget, $4 million can be easily absorbed, and in a conservative congress a little pruning looks good, even if it is financially insignificant.

Throughout the hearings, which, by House custom, were held behind closed doors, subcommittee chairman, John

* "Hearings on Department of Labor and Health, Education and Welfare Appropriations for 1965," parts 2 and 3, and "Committee Report," available without charge from Appropriations Committee, U.S. House of Representatives, Washington, D.C.

E. Fogarty (D–R.I.), repeatedly expressed his displeasure to NIH officials. But Fogarty, who is the best friend they ever had—and they know it—couldn't work up any steam against the NIH witnesses. The cause of his ire is a situation, rather than a man or a group, and situations don't respond to tongue-lashings. The House is deep in several studies and investigations of science and research, and is inclined to stick close to the status quo until its thoughts are clarified; NIH itself is the object of a comprehensive study convened by the White House Office of Science and Technology—a study, incidentally, that isn't setting records for quick starting; and the President's economy campaign has made it seem almost sinful for any federal agency to grow. The net effect is an atmosphere not the least bit favorable to the old tactic of adding 30 or 40 percent to the President's request, and making it stick.

As they do year after year, the NIH administrators formally stated their allegiance to the budget laid down by the President. Then, under questioning by Fogarty, they offered their independent, "professional judgment." In virtually every case, this judgment, as might be expected, was that they could use a great deal more money than was actually being sought.

Trimming Process

When the whole story was laid out, it looked like this: the institutes and divisions that make up NIH submitted to NIH headquarters budgets totaling approximately $1.304 billion. NIH headquarters shaved off $264 million; the Department of Health, Education, and Welfare, of which NIH is a part, cut off another $48 million; and the Bureau of the Budget, which is the final White House checkpoint for budgetary policy and review, cut off another $33 million. With a few adjustments and transfers, and a separate $58-million item for construction of health research facilities, the final amount was the $1.049 billion that was submitted to the subcommittee.

NIH Director James Shannon made it clear that he wasn't too happy about the fiscal surgery, but he stated the case quite accurately when he told Fogarty that the budget is "a compromise between professional aspirations and capabilities and opportunities on the one hand, and realities of availability of funds on the other."

Fogarty repeatedly declared the budget just wouldn't do; that in many areas higher costs would consume the budget increase, thus preventing an expansion of activities. "Overall," said Fogarty, "it looks like a standstill budget to me. In some places you are falling behind instead of keeping up with the going programs." No one disagreed.

From 1953 to 1963 the subcommittee regularly came to this same conclusion, but during that period it joined with its Senate counterpart to add a total of $700 million to the executive's medical research budget. But in view of the congressional and executive mood of the moment, such tactics could involve the committee in a fight that would cost a lot of prestige and gain very little additional money for medical research. As things now stand, Fogarty and his subcommittee colleagues can rightly claim that they have never been rebuffed by their parent committee or by the whole House.

The hearings were fairly routine and produced no great revelations.

No Health Center

The Public Health Service's long-proposed environmental health center remains just a proposal, still bogged down on the very question of where it should be located. Early in the hearings, which stretched over several days in February, the Public Health Service said the question of location "was up in the air." On the last day of the hearings, HEW Secretary Anthony J. Celebrezze said Beltsville, Maryland, was the choice, but the subcommittee didn't seem to be impressed with his reasons. In its report it said, "as has happened in connection with past requests for this facility . . . the Committee was presented with a considerable amount of confused and indecisive information." And it cut out the $1.5 million sought for planning the center.

On the thorny subject of accountability requirements for NIH grants, Fogarty and Surgeon General Luther L. Terry had a somewhat peppery exchange. Fogarty noted that he had had many complaints from grantees. "They claim you are sending in more people to check and audit—almost policing them. Many of these people I have talked to think you have gone too far."

Replied Terry: ". . . if you want to know, my frank belief is that the institutions were not discharging their fiscal management responsibilities as well as they could." He added that things had indeed been tightened up, but "I do not feel that our actions thus far have been harmful to the research effort in this country."

Fogarty replied that the people he had talked to would not agree, and Terry came back with: "Well, there are a lot of people, researchers, that would like for you to have a barrel of gold coins, give them a shovel, and let them come up and dip out what they need and not give an accounting for it at all."

Shortly thereafter, the discussion went off the record, but in its report, the subcommittee stated that it "reiterates its admonition of last year that the Public Health Service exercise a high degree of vigilance that its actions not diminish the basic independence and integrity of the institutions of higher learning and the essential conditions of scientific freedom."

At last year's session, Representative John Lesinski (D–Mich.) requested that vinegar be studied as a sweat-producing agent in tests for cystic fibrosis. Lesinski failed to follow up on this inquiry, at least during the course of the latest hearing. However, he was concerned this year over whether NIH had "studied the possibility of diet in relation to fungus disease," and he asked the question of Justin M. Andrews, director of the National Institute of Allergy and Infectious Diseases. The following dialog ensued:

Dr. Andrews: We have not made any efforts in that direction; no sir.

Mr. Lesinski: I had quite a heavy infection of the feet, athlete's foot, a fungus you call it, and I went on a citrus diet and it cured it.

Dr. Andrews: Really?

Mr. Lesinski: I do not know whether I became immune to it or what, but I have not had any trouble since.

Dr. Andrews: What type of juice?

Mr. Lesinski: Fresh grapefruit juice.

Dr. Andrews: I see.

Mr. Lesinski: So you have made no research along that line?

Dr. Andrews: No. We have not concerned ourselves, I think, with skin diseases of any sort, particularly.

Mr. Lesinski: Although I do get it around my fingers in the spring and in the warm part of the year I get it on my fingers. What would be the cause of that?

Dr. Andrews: I have also forgotten the name of that; it is prickly heat, is it not?

Mr. Lesinski: Call it what you will, it comes and goes.

—D. S. GREENBERG