

(10). The secretaries and technologists are not as sensitive in detecting breast malignancy as the radiologists are, but further training may improve their performance.

About 40 percent of the roentgenograms in an average hospital radiology practice are chest examinations. Sheft *et al.* (12) have reported their experience in training x-ray technologists to screen chest roentgenograms. They selected 100 chest roentgenograms (52 known positive, 48 negative) as a test series. The performance of the technologists before training and after training is compared with that of senior radiology residents and staff radiologists.

For this screening, the technologists were asked to indicate all chest films which showed any type of abnormality. The results are shown in Table 2. The index of detector sensitivity, d_e' , shows that the technologists improved in ability to detect chest film abnormalities with training and experience. At the end of 5 months' experience, their screening performance did not differ significantly from that of the senior residents and staff radiologists.

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NEWS AND COMMENT

Higher Education: Will Federal Aid Favor Students or Institutions?

Representatives of the nation's colleges and universities have been making their annual trek to Capitol Hill to testify at hearings on higher education. In recent years these seminars have proved metaphorically academic since neither major legislation nor new money resulted. This year, however, practiced observers think things may be different.

What appears to be developing is a contest between the Nixon Administration and Hill Democrats, who control Congress, to determine the direction federal aid to higher education will take in the 1970's. The big question, which emerged early, is whether primary federal emphasis will be placed on aid to students or aid to institutions.

In his message on higher education on 22 February, President Nixon elaborated on the program he had already laid out in financial terms in his budget. The President advocates a legislative package designed to increase opportunities for higher education for students from low income families and to encourage research, reform, and innovation in institutions of higher education through creation of a National Foundation for Education financed at a rate of \$100 million for the first year.

The Nixon plans were met with immediate criticism and with counterproposals from Democrats on both sides of

Capitol Hill. House Democrats were quick to express misgivings about the potential effects of the Nixon proposals on students from middle income families and on private colleges and universities. Several Democrats have introduced alternatives which differ in detail but in most cases provide some form of general-purpose institutional aid.

Spokesmen for the higher education lobby have avoided direct attacks on the Administration program but have made it clear that it doesn't meet their needs. Inflation and increasing enrollments are putting painful pressures on colleges and universities, and the argument is being made that if federal action took the form of major increases in student aid the institutions would have no recourse but to push tuition higher and higher.

It is something of an exaggeration to say that the Administration has rejected institutional aid. As Department of Health, Education, and Welfare Secretary Elliot L. Richardson phrased it at House hearings, the Administration was not satisfied with proposals made so far for institutional aid. HEW officials have indicated that one of the tasks of the proposed National Foundation for Higher Education would be to look at the options on institutional aid. And Representative Albert H.

Quie (R-Minn.), ranking Republican on the House Labor and Education Committee, introduced the Administration's higher education bills but also introduced a measure of his own which would provide grants to colleges and universities based on the number of degrees awarded. It is fair to say, however, that in view of the Administration's concern about controlling the impending budget deficit, any substantial general-aid measure this year would hardly fit in with White House plans.

In many ways the Administration and its congressional opponents are re-fighting last year's battle from the same trenches, a battle that ended in an impasse. This year, however, there are some significant changes in circumstances. Through a legislative quirk, virtually all major education legislation expires in June. Financially, some colleges and universities are sinking, and the SOS's are getting through to their senators and congressmen. On the Washington scene, the higher education lobby continues to rise above its own heterogeneity and maintain cohesion. And all of this increases the likelihood of action.

At issue this year is the portion of federal aid legislation administered by HEW's Office of Education (OE). This legislation carries a major share of fellowship and student-aid money, construction funds, and financing for special-purpose "categorical" programs but can be compared with the visible tip of the iceberg. Federal funds actually expended in the higher education area amount to a total of nearly \$6 billion a year, but the bulk of the money goes into student aid and support of research. And most of the

Lederberg Opposes Cancer Authority

The campaign to wrest cancer research from the National Institutes of Health (NIH) (*Science*, 5 March) suffered a setback last week. Joshua Lederberg, a member of the commission that first called for the separate National Cancer Authority, defected to the pro-NIH forces. The Nobel laureate geneticist announced in a letter to Senator Edward M. Kennedy's (D-Mass.) Health Subcommittee that he no longer favored creation of the new federal agency.

"All health research should be knit together within a single agency, specifically an augmented and strengthened National Institutes of Health," said Lederberg echoing the sentiments of NIH officials and others who have opposed the authority. A few weeks ago, however, Lederberg endorsed the separate authority in his syndicated newspaper column.

Lederberg listed the following new developments as influential to his change of heart:

- President Nixon's new public commitment to health research in general and cancer research in particular.

- Evidence of a new balance, consistency, and efficiency in the Department of Health, Education, and Welfare under Secretary Elliot Richardson's leadership.

- Statements by Edward David, Jr., President Nixon's Science Adviser, on the integrity of scientific work in the health field and the disadvantages of extracting cancer work from the NIH.

In the past few weeks Administration officials, including David, have lobbied extensively against the Kennedy-backed proposal.—R.J.B.

funds come from sources other than HEW. In the higher education sector, Defense Department outlays for academic research and other purposes are put at over \$500 million annually. Spending on research, training, and services in the health area amounts to more than \$1 billion a year, and civilian agencies, including AEC and NSF, put perhaps another \$1 billion into higher education mostly to finance research. Veterans benefits, notably the GI Bill, amount to about \$1 billion a year, and Social Security student benefits add another half-billion.

Most of the remainder is contained in the three measures that expire in June: the National Defense Education Act (NDEA) first passed in 1958, the Higher Education Facilities Act originally enacted in 1963, and the Higher Education Act, which dates from 1965. Each of these developed in different legislative settings. NDEA was passed in the aftermath of Sputnik and covered the educational spectrum from elementary school to graduate education. The facilities act was passed late in 1963 partly in memoriam to the recently assassinated John F. Kennedy and partly because of Lyndon Johnson's legislative skills, but it also reflected congressional awareness of the

demographic deluge descending on the campuses. The Higher Education Act extended the spirit of the Great Society to higher education with grant and work-study programs for students from low-income families and an array of special programs such as the big one to assist development of libraries. The history of higher education legislation from the middle 1960's on, however, was one of high expectations, high authorizations, and low appropriations.

In 1968 the three major higher education laws were lashed together with some new minor programs in the Higher Education Amendments of 1968 for reasons that included logic, convenience, and common protection, but the pattern of relatively low funding or no funding continued.

The gap between amounts authorized by Congress and actually appropriated has been greatest in the sector of aid for construction which, since the later Johnson years, has been under tight rein to help contain inflationary pressures. Some \$2 billion was authorized for construction grants in fiscal year 1971, but only \$43 million was appropriated and that sum is in a special fund designated for use only by public community colleges and technical institutes.

The strictures are fairly widely spread, however—for example, some \$70 million is authorized under the Higher Education Act for undergraduate instructional equipment, but only \$7 million appropriated. An Educational Professions Development Act was the last of the big Johnsonian education bills enacted and is the most sketchily funded—of \$450 million authorized for personnel training and development for the current year, some \$67 million was appropriated.

Student aid has not been fully funded either—of more than \$500 million authorized for grants and work-study payments about \$327.7 million was appropriated, but the President's budget calls for increases to a total of \$971 million next year.

The Administration is adhering generally to the grand design it put forward last year. Legislation providing grants and direct loans for construction of academic facilities now on the books would be repealed, and specific authorizations for a number of categorical programs would be ended. Federal expenditures for student aid would be concentrated to provide grants, work-study payments, and guaranteed loans for students from low-income families. Students in other income groups and most graduate students would find federal aid limited essentially to a guarantee on loans obtained in the regular market. Students from families with incomes of less than \$3500 a year would receive maximum assistance of \$1000 a year in grant and work-study payments plus \$400 in interest-subsidized loans. Those attending colleges with costs exceeding \$1400 a year could apply for \$1400 "cost of education" loans. A student's eligibility would be scaled down as his family's income increased, with \$10,000 annual income (adjusted for items such as number of children from the family in college) being the cutoff point for the principal kinds of aid.

The Administration proposes that the NDEA undergraduate loan program be absorbed into other programs and that NDEA fellowships be phased out. This would be done by cutting out funds for new fellowships next year and reducing financing for remaining fellowships from \$47.3 million in the current year to \$26.9 million next year. Universities would regard the demise of the fellowships as one of the unkindest cuts, since they carry cost of education allowances.

Hearings on legislative proposals are

in progress in both House and Senate. Representative Edith Green (D-Ore.), chairman of the House Education and Labor subcommittee which handles authorizations for higher education, has expressed strong reservations over the Administration's approach. She is particularly critical of the potential effects of student aid proposals on students from middle-income families and the effects of the proposed treatment of institutional aid on private colleges and universities. These views have been seconded by other Democrats on the subcommittee. Representative Green has also said emphatically that she does not propose to preside over the liquidation of the NDEA loan program. She is known to be drafting her own higher education bill, which, when introduced, could have an important bearing on the ultimate outcome.

Other options are already available, however. Representative Carl D. Perkins (D-Ky.), chairman of the House Education and Labor Committee, is sponsor of a bill which is essentially an extension of existing legislation and which represents a fallback position. And Representative George P. Miller (D-Calif.), chairman of the House Science and Astronautics Committee, has introduced his perennial institutional aid bill (*Science*, 20 November 1970) which is known familiarly in the higher education community as the "Miller Bill."

In the Senate, the new chairman of the education subcommittee, Senator Claiborne Pell (D-R.I.), has introduced a bill which extends existing programs in higher education but adds a new provision that combines student

aid and institutional aid and is designed to put a "floor" under high education financing. Every student enrolled in higher education would be eligible for a grant of \$1000 minus the federal tax paid by the student or the person on which he is dependent; the institution he attended would get a cost-of-education allowance of \$1000 minus the tuition paid by the student.

At this point, the prospects are uncertain for these proposals and for the Quie bill. An immediate question is that of appropriations action in Congress. The House Appropriations Committee is moving along briskly and may report out the HEW funding bill containing the higher education funds by the middle of April. The extent to which the committee has followed the President's budget requests and has provided funds for existing higher education programs is likely to influence ensuing events.

One school of opinion holds that there is nothing wrong with higher education legislation which full financing wouldn't fix. And partisans keep green the memory of the revolt in the House which started with the adding of \$1 billion to the HEW appropriations bill and went on to an override of a Presidential veto (*Science*, 23 January 1970). An Emergency Committee on Full Funding, with membership drawn from among interest groups representing elementary and secondary education and vocational education as well as higher education, has been reactivated. The committee played an effective role in the uprising, and it remains to be seen whether the main effort of the education lobby will be

directed toward the appropriations or authorizations process.

Some of those who think that the chances for new initiatives in higher education authorization legislation are better this year cite improved communication between legislators and HEW officials. Secretary Richardson and Commissioner of Education Sidney Marland, who are in their first round of negotiations on behalf of HEW, had a series of meetings with Representative Green and other members of her subcommittee before hearings commenced. The idea of a National Foundation for Education may prove to be a mutually agreeable device for promoting innovation in higher education and resolving some differences over the fate of programs, but a fair amount of bargaining seems to lie ahead on the design of the foundation and on its relationship with the proposed National Institute of Education, which is supposed to provide a base for research relating to all levels of education.

The ultimate results for higher education this year may well depend on how well the cooperative atmosphere is preserved. A conservative odds maker would say that chances of a triumph for either the Nixon blueprint for student aid or a massive program of institutional aid is unlikely. What may well happen is that some additional student aid may be financed and a beachhead for institutional grants established but that higher education legislation will remain, essentially, as it is now—an untidy monument to Lyndon Johnson's Great Society.—JOHN WALSH

Population Act: Proponents Dismayed at Funding Levels

It was, by coincidence, the day after Christmas last year when President Nixon signed into law the grandest gift the federal government had ever bestowed on population research and the once tabooed field of family planning. As the first major federal legislation dealing solely with population affairs, the Family Planning Services and Population Research Act of 1970 authorized the President to spend \$225

million for family planning services and \$145 million for research over a 3-year period. This would be additional to a total of some \$75 million already being spent each year on services by the Health, Education, and Welfare Department (HEW) and the Office of Economic Opportunity. And it would supplement the \$40 million spent annually on population research, mostly through HEW and the State

Department. In brief, the Act was, as President Nixon said, "landmark legislation" that fulfilled his requests for greatly expanded birth control aid to the poor and for an "essential" increase in population research.

Thus it has come as something of a jolt to the Act's proponents that the Administration may end up spending none of the \$73 million the Act authorizes in fiscal 1971, its first year. Until recently, HEW officials expected to receive at least \$6 million of that for family planning projects around the nation this year. In the past 2 weeks, however, the Office of Management and Budget has denied even that small request. And to compound the post-Christmas letdown, the President's