Impending Shortage of Cytotechnologists

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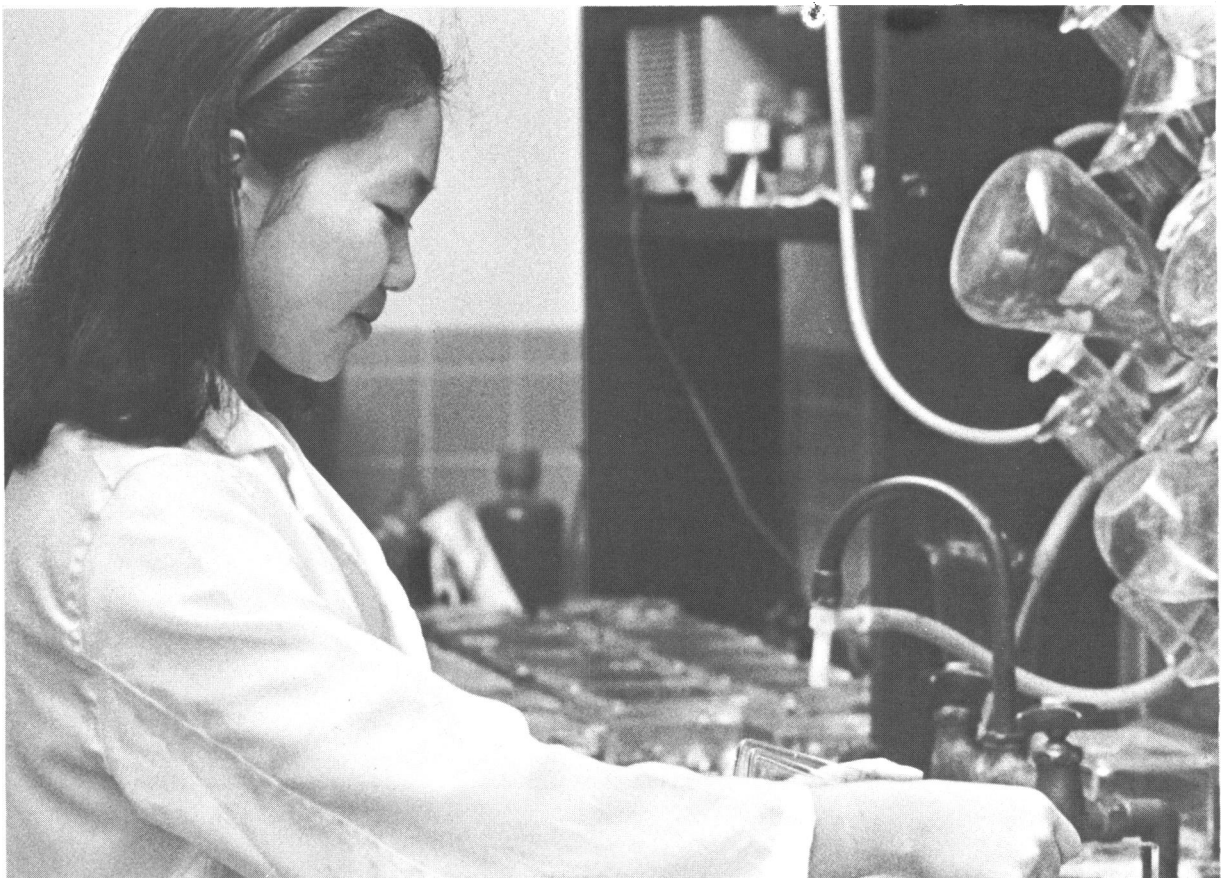
At the very time when the Administration is pressing for an increase of $100 million in Federal expenditures for the conquest of cancer, a shortage of cytotechnologists, who are valuable in research as well as control, may occur. When Congress passed the Partnership for Health Act and section 314E became effective in June 1970, cancer was among the categorical diseases that lost Federal support for control activities. The Cancer Control Program, which was funding 78 training programs in cytotechnology, ended.

Cytotechnologist in big city hospital prepares slides for microscopic examination



The program had been spending up to $1.2 million annually, or $2,300 per student, to subsidize free tuition, and up to $250 a month in stipends for the year of required training and internship. As a result, cytotechnology was one of the few allied health occupations with almost enough manpower for the current demand.

ASCP Survey

Before the effects of the categorical cut in school funds, a survey in February 1970 of all cytotechnologists known to the Registry of Medical Technologists, American Society of Clinical Pathologists (ASCP), by Cyril Fullmer, M.D., chairman of the ASCP cytotechnology subcommittee, showed a shortage in only 14.6 percent of the cytology laboratories employing ASCP-registered cytotechnologists.

The ASCP survey surfaced other facts. Gynecological material constitutes between 76 and 90 percent of the cytology workloads. Not much is done for potential lung cancer victims, for example. Yet this research by Fullmer shows that cytology could provide the clue to bronchogenic carcinoma long before X-rays in approximately one of every 125 persons in susceptible age groups who have smoked a pack of cigarettes every day for 40 years or two packs a day for 20 years, and in one of every 300 persons who have smoked a pack each day for 20 years.

These clues to bronchogenic carcinoma could be revealed at a sufficiently early stage to do something about it if clinical techniques were utilized more frequently to obtain sputum samples from nonsymptomatic patients, and if sophisticated methods could detect the location of resectable lesions in the presence of positive cytologic findings and in the absence of X-ray evidence. Other areas requiring intensive cytologic analysis are specimens of body cavity fluids and samples from genitourinary, gastrointestinal, oral, and other sites.

Just how many cytotechnologists would be needed if all the women who should have Papanicolaou smears were to get them is another question—and one that has not been answered. In the meantime, the number of people susceptible to cancer, as well as the number of cancer sites, has immeasurably expanded the role of the cytotechnologist.

Training School Trends

By April 1971, with no cancer control grants, the situation for both schools and students had deteriorated. In September 1971 the National Committee for Careers in the Medical Laboratory (NCCML) made a survey, funded by the American Cancer Society, of the 120 American Medical Association-approved schools of cytotechnology. One hundred percent of the schools responded.

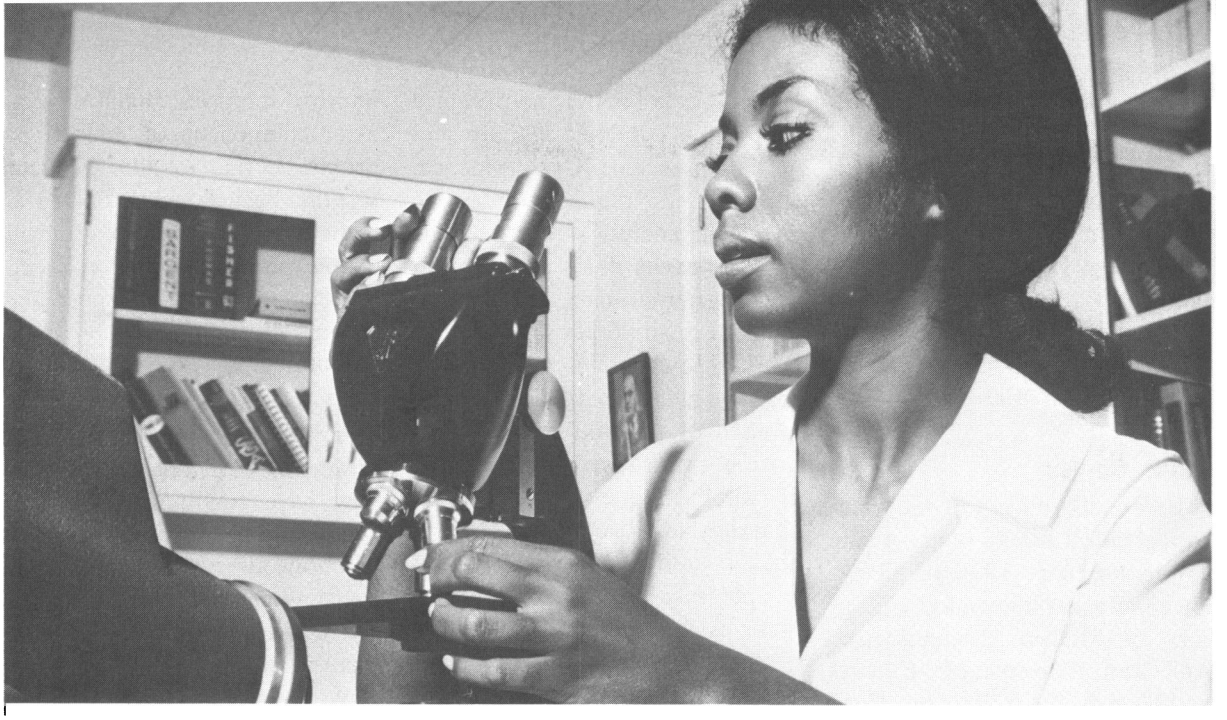
Nineteen schools with a capacity of 104 students had discontinued training or were scheduled to discontinue it. Four others reported that they were operating on a limited basis. This decrease is reflected in the number of students enrolled and graduating. Enrollment dropped from 475 in 1970 to 442 in 1971, with 398 expected to graduate as compared with 429 the previous year.

The Allied Health Professions Personnel Training Act provides Public Health Service basic improvement grants for colleges qualifying as training centers for the allied health professions. These grants are to be used to improve the professional or technical component of educational programs that qualify students for the baccalaureate degree or higher. Since professional certification requirements for cytotechnologists total 3 years post high school, most of these programs do not qualify.

The trend is changing, however. NCCML's September 1971 survey showed that nine schools now have training programs in cytotechnology affiliated with institutions awarding degrees at the baccalaureate level, and 25 others are working toward degree programs.

Without Public Health Service grants or other support, many schools cannot afford to stay open, nor will the 2-year college students study the required extra year without the support or attraction of a degree. Of the schools still open, 67 have scholarships or stipends from other sources, ranging from $25 to $250 monthly for a student. Most resources come from the hospitals where the training is done or from divisions of the American Cancer Society; a few come from State or county health departments, government loans, and professional societies. None comes from the Office of Education's guaranteed loan or work-study programs since the Office's accreditation unit has not recognized any accrediting agency to approve educational programs in cytotechnology. Some aid is in the form of tuition, board and room, and so on. Some students are supported by pathologists and other physicians, who send them to schools of cytotechnology to be trained, with the understanding that they will return to work in their laboratories.

The need for continuing edu-



Cytotechnologist checks for abnormalities

cation was emphasized by cytotechnologists during the annual scientific meeting of the American Society of Cytology (ASC) in November 1970. A special meeting of ASC associate members was held to discuss priorities and needs in the field of cytotechnology within the framework of NCCML's Task Force on the Future of Manpower for the Medical Laboratory. Those attending gave priorities to more workshops and seminars, more teaching materials, a standardized curriculum, degree programs, and a career "ladder."

Cytotechnology, as a health occupation, is not very old. As a training program it was officially recognized in 1958 by the American Medical Association Council on Medical Education, which at that time approved "Essentials for Cytotechnology Schools." These essentials called for 2 years in college and 6 months of clinical training. By 1962 the essentials had been increased to 6 months of training in an approved school, with an additional 6 months of work experience acceptable to the director of the school. By December 1967, a full year of training was the minimum required by the AMA Council on Medical Education.

Differences of opinion exist concerning the exact level at which cytotechnologists should be trained, but there is general agreement that the present two-plus-one formula adds up to nothing either in terms of degrees as a rung on the career ladder or as sufficient educational background to prepare senior cytotechnologists, many of whom have supervisory and teaching responsibilities.

At the other end of the scale, particularly in large laboratories, is an increasing number of screeners, as well as cytopreparatory and staining technicians, who are trained on the job, who get no academic or other recognition, and who consequently are "boxed" into what they are doing with nowhere to go. The education subcommittee of the American Society of Cytology's Advisory Committee on Cytotechnology in 1970 recommended further investigation into curriculums involving both colleges and schools of cytotechnology in a joint effort leading to degrees.

The allied health school program, with its 2- and 4-year degrees from junior college and college, might offer a solution. Certainly, such a two-level approach would fit in with present Government funding policies, and while there wasn't enough money in 1970 to do very much, it is possible that President Nixon's committal to cancer research and control in the form of a $100 million increase in Government funds might help. At the same time, such a commitment will increase the demand for cytotechnologists.

Career Appeal

That cytotechnology is an attractive career for those with certain aptitudes is evident from Fullmer's ASCP survey. Of those

queried, 510 found their work "stimulating and rewarding," 313 found it "fairly interesting" and only 54 described it as "monotonous and tiring." There also was evidence that those who did not like the work quit sooner than other laboratory personnel.

A nationwide survey of ASCP-registered laboratory personnel in 1969–70 by the National Committee for Careers in the Medical Laboratory showed that new cytotechnologists work an average of 3.8 years before resigning for the first time as compared with medical technologists, who work 5 years. It has been suggested that time and money could be saved if aptitude tests were used to screen those unsuited for cytotechnology.

Fewer years of education are required for cytotechnologists, but their salary levels are almost as high as those of 4-year medical technologists. The 1971 national survey of hospital and medical school salaries, sponsored annually by the University of Texas Medical Branch, Galveston, showed the mean to be $8,532 as compared with $9,864 for medical technologists.

Conclusion

Currently, NCCML is working on a project sponsored by the American Cancer Society to explore needs and answer some problems confronting the schools of cytotechnology. Co-chairmen of the advisory committee are Sidney A. Coleman, M.D., professor of pathology at the University of Tennessee's Institute of Pathology, and Arline Howdon C.T. (ASCP), chief cytotechnologist, Johns Hopkins Hospital. A major problem is the impending shortage in personnel, which will be alleviated if training grants and stipends are restored to agencies as a result of the new legislation concerning cancer.

Without financial pressures, perhaps other needs in the field can be met. During the November 1971 scientific meeting of the American Society of Cytology in Washington, D.C., the education committee agreed to write a basic curriculum, evaluate continuing education programs, and set up a tentative point system for attending workshops.

Progress also is being made toward the establishment of a registry of cytopathology with the Armed Forces Institute of Pathology, which will contribute to standardizing procedures. The Division of Counseling and Testing of the Training and Employment Service, Manpower Administration, U.S. Department of Labor, has been persuaded to develop aptitude tests for screening potential students of cytotechnology. Related to this activity, the NCCML staff is working with leaders in the education and utilization of cytotechnology on the creation of a true career ladder for the field.

Cytotechnologists discuss slide of tissue sample taken from patient. Microscopic examination of such slides can detect uterine and some other forms of cancer