PROPOSAL FOR ESTABLISHING A CARDIO-PULMONARY FUNCTION LABORATORY AT THE MIDDLESEX GENERAL HOSPITAL

THE NEED: CONGENITAL HEART DISEASE, RHEUMATIC HEART DISEASE, CANCER OF THE LUNG, AND TUBERCULOSIS OF THE LUNG ARE CONDITIONS WHICH OFTEN LEND THEMSELVES TO SURGICAL CORRECTION. FOR THE MOST PART OPERATION MUST BE PERFORMED AT LARGE INSTITUTIONS WHERE IT IS POSSIBLE TO MAKE THE NECESSARY PRELIMINARY TESTS TO INSURE SUCCESSFUL SURGERY. PROPER MEDICAL TREATMENT OF MANY CHRONIC DISEASES OF THE HEART AND LUNGS REQUIRE SIMILAR METHODS OF TESTING. THE PROBLEM IS OF GROWING CONCERN TO PHYSICIANS AND HEALTH EXPERTS BECAUSE SUCH CHRONIC DISEASES AFFECT PREDOMINANTLY MIDDLE-AGED AND OLDER PERSONS, WHO NOW CONSTITUTE AN INCREASING PROPORTION OF OUR POPULATION AS A RESULT OF OUTSTANDING ADVANCES IN OTHER FIELDS OF MEDICINE AND SURGERY.

IN ADDITION TO THESE PROBLEMS, WHICH ARE LARGELY OF MEDICAL INTEREST, A NUMBER OF RELATED PROBLEMS HAVE BECOME IMPORTANT IN NEW JERSEY BY REASON OF THE LARGE NUMBER OF INDUSTRIES COMING INTO THIS STATE. THESE ARE THE PROBLEMS WHICH INVOLVE SO-CALLED INDUSTRIAL HAZARDS, CHIEFLY EXPOSURE TO FUMES AND DUSTS, AND CONCERN WORKERS IN SANDBLASTING, FOUNDRIES, CERAMICS, ROCKWOOL, ETC. IT IS A MATTER OF GREAT IMPORTANCE TO THE WORKER AND TO HIS EMPLOYER TO BE CERTAIN WHETHER OR NOT AN ALLEGED PULMONARY DISABILITY ACTUALLY EXISTS, AND, IF PRESENT, IN WHAT DEGREE. IN FAIRNESS TO THE PARTIES CONCERNED TESTS OF PULMONARY FUNCTION SHOULD BE PROVIDED WHICH CAN BE ACCEPTED AS AUTHORITATIVE AND IMPARTIAL.

BASICALLY, HOWEVER, THE NEED FOR THESE TESTS TRANSCENDS ANY ONE TYPE OF PERSONAL INTEREST AND CONCERNS ALL OF US INASMUCH AS ALL OF US HAVE A "HEART" AND A "LUNG" AND ALL OF US AT ONE TIME OR ANOTHER MAY BE GREATLY BENEFITED BY THE RESULTS OF SUCH TESTS.

SCIENTIFIC TREATMENT OF THE CONDITIONS JUST ENUMERATED HAS ADVANCED GREATLY SINCE THE TIME WHEN THE TESTS NEEDED WERE MERELY THE X-RAY AND CERTAIN ROUTINE EXAMINATIONS OF THE BLOOD AND URINE. IT IS IMPERATIVE THAT ACCURATE INFORMATION BE OBTAINED OF THE EFFICIENCY OF OXYGEN EXCHANGE IN THE LUNG BETWEEN AIR AND BLOOD. KNOWLEDGE IS ALSO NEEDED OF THE PRESSURE WITHIN THE BLOOD VESSELS OF THE LUNG AS A MEASURE OF RESISTANCE TO BLOOD FLOW THROUGH THE LUNG. IN MANY INSTANCES EARLY STAGES OF DISABILITY CAN BE RECOGNIZED BY SUCH MEASURES AND A PATIENT MAY BE GREATLY BENEFITED BEFORE HIS DISEASE REACHES A HOPELESS STAGE.

AT THE PRESENT TIME THERE IS NO CARDIO-PULMONARY FUNCTION LABORATORY IN THIS STATE WHICH IS RECOGNIZED AS SATISFYING ALL THE REQUIREMENTS. PATIENTS WITH THE CONDITIONS MENTIONED MUST GO TO CARDIO-PULMONARY LABORATORIES OUT OF THE STATE, SUCH AS THAT OF THE COLUMBIA UNIVERSITY MEDICAL CENTER IN NEW YORK CITY OR LABORATORIES IN CLEVELAND, NEW ORLEANS, PHILADELPHIA OR ELSEWHERE.

SET-UP AT MIDDLESEX GENERAL HOSPITAL: THE NEED OF ESTABLISHING A CARDIO-PULMONARY FUNCTION LABORATORY HAS BEEN CAREFULLY REVIEWED AT SEVERAL MEETINGS HELD AT THE MIDDLESEX GENERAL HOSPITAL SINCE THE BEGINNING OF 1956. THESE MEETINGS WERE ATTENDED BY REPRESENTATIVES OF THE MEDICAL PROFESSION, INCLUDING SPECIALISTS IN CHEST DISEASES, SURGEONS, AND CARDIOLOGISTS, ALSO REPRESENTATIVES OF MANAGEMENT AND LABOR IN INDUSTRY, AND THE STATE HEALTH DEPARTMENT. THE IMPORTANCE OF SUCH A LABORATORY IN THIS AREA WAS RECOGNIZED CLEARLY AND NECESSARY EXPLORATORY STEPS WERE TAKEN. MIDDLESEX GENERAL HOSPITAL ITSELF HAS AGREED TO PROVIDE THE NECESSARY SPACE AND FACILITIES. DEAN RAPPLEYE OF THE COLUMBIA UNIVERSITY MEDICAL SCHOOL HAS APPROVED AN ARRANGEMENT WHEREBY DR. ALFRED FISHMAN WILL SERVE AS CONSULTANT TO ASSIST IN THE ESTABLISHMENT AND SUPERVISION OF THE PROJECT. OTHER NECESSARY PERSONNEL HAVE BEEN MADE AVAILABLE, INCLUDING THOSE SPECIALLY TRAINED IN THIS WORK AS WELL AS NECESSARY TECHNICAL ASSISTANTS.

PROPOSED BUDGET:

CAPITAL EXPENSES

Cardiac catheterization unit	$6,000
Carbon Dioxide Analyzer	2,200
Collecting Tissot Spirometer	1,000
Small Spirometer	750
Fluoroscopy unit for spot films	7,500
Image Intensifier for above	2,500
Recording Unit (3 pressure channels with ECG)	6,000
Van Slyke Apparatus (two)	700
Scholander Gas Analyzer	300
Ph meter	485
Mercury (metallic)	500
Miscellaneous (burettes, pipettes, syringes, other glassware, etc.)	2,500

SALARIES:

ANNUAL

Physician (Specialist in Cardio-Pulmonary physiology)	$15,000
Technician	4,000
Consultant (Dr. Fishman)	3,000
Total	$22,000

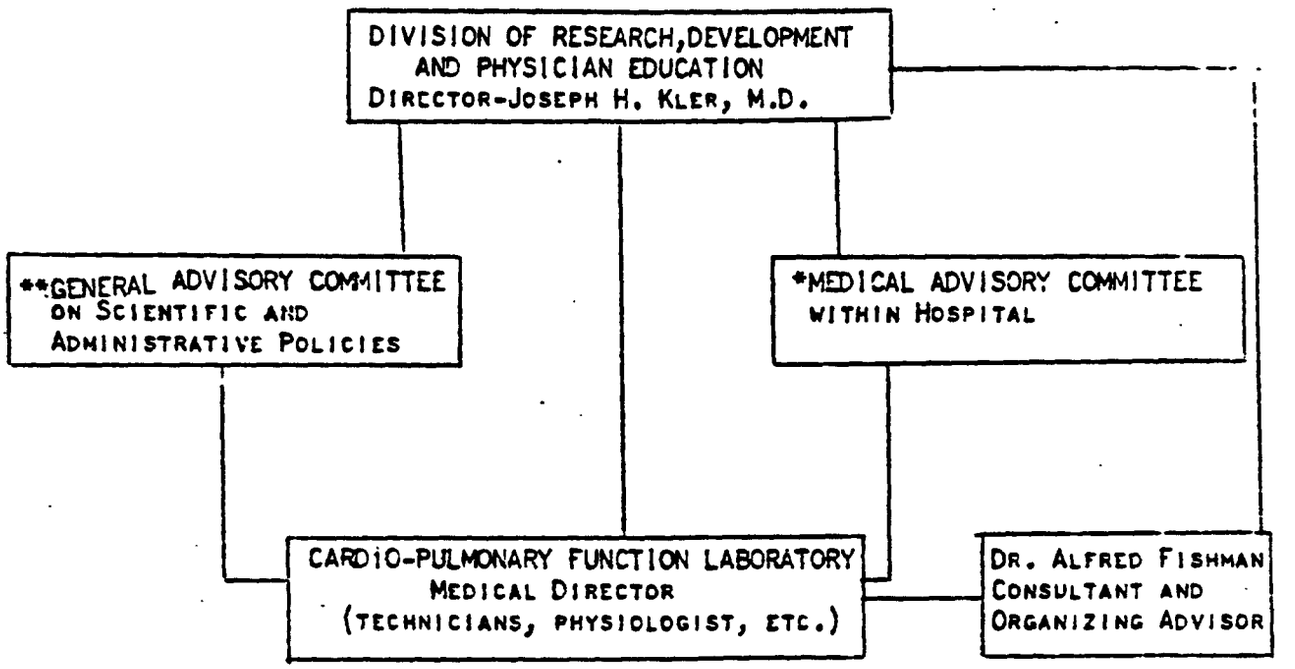
It is estimated that within 5 years this laboratory would be entirely self-supporting. It will be necessary however to obtain sufficient funds to enable the laboratory to secure its necessary equipment and to engage needed personnel. On the basis of a 5-year budget $150,000 has been proposed of which $50,000 will be necessary for the first year (1957) and $25,000 annually (average) for the succeeding 4 years. The income from patients should be more than sufficient to pay for new equipment, repairs, and for added personnel as the work increases.

The laboratory is to be operated as a regular department of the Hospital with special emphasis also on research. Patients will be referred by private physicians as well as by employers. Fees for private patients have been set tentatively at $50.00 for pulmonary function studies and $75.00 for cardiac function studies. Indigent patients will be tested without charge. The laboratory is to serve the entire state without discrimination.

The aforementioned organization and budgetary proposals have been reviewed and approved by a Committee composed of members of the medical profession, representatives of the State Health Department, of Labor, of the New Jersey Tuberculosis League, of the New Jersey Rehabilitation Commission, of the New Jersey Manufacturers Association, of the New Jersey Chamber of Commerce, of the Self Insurors Association, and of several industries.

TABLE OF ORGANIZATION

CARDIO-PULMONARY FUNCTION LABORATORY
IN THE MIDDLESEX GENERAL HOSPITAL



**GENERAL ADVISORY COMMITTEE COMPOSED OF REPRESENTATIVES OF:

INDUSTRY - (A) COMPANIES REPRESENTED BY N.J. MANUFACTURERS ASSOCIATION
(B) COMPANIES REPRESENTED BY SELF-INSURORS ASSOCIATION
(C) COMPANIES REPRESENTED BY MUTUAL INSURED COMPANIES

LABOR - (A) A.F.L.
(B) C.I.O.

MEDICAL SOCIETIES - (A) MEDICAL SOCIETY OF N.J. BOARD OF TRUSTEES
(B) N.J. HEART ASSOCIATION
(C) N.J. TUBERCULOSIS AND HEALTH ASSOCIATION
(D) N.J. CHAPTER OF AMERICAN COLLEGE OF CHEST PHYSICIANS
(E) AMERICAN CANCER SOCIETY - N.J. DIVISION
(F) N.J. SOCIETY OF INDUSTRIAL PHYSICIANS

STATE AGENCIES - (A) N.J. REHABILITATION COMMISSION

DIRECTOR, DIVISION OF RESEARCH, DEVELOPMENT AND PHYSICIAN EDUCATION TO ACT AS CHAIRMAN
ADMINISTRATOR, MIDDLESEX GENERAL HOSPITAL TO ACT AS SECRETARY.

*MEDICAL ADVISORY COMMITTEE TO BE COMPOSED OF FOLLOWING:

DIRECTOR, DIVISION OF SURGERY (TO BE CHAIRMAN)
CHAIRMAN, DEPARTMENT OF GENERAL SURGERY
DIRECTOR, DIVISION OF MEDICINE
CHAIRMAN, DEPARTMENT OF CARDIOLOGY
DIRECTOR, DIVISION OF LABORATORIES AND LABORATORY RESEARCH