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R E P O R T

HEALTH PROBLEMS OF BLACK POPULATIONS

An International Conference on Health Manpower Development and the
Role of the University

Sponsors: Howard University College of Medicine
and

The African-American Scholars Council

Support: Grant No. A.I.D./afr-G-1077
The United States Agency for International Development
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Washington, D. C.

Dates: February 3-7, 1975

Forward

The objective of this conference was directed toward the roles which universities can play in health manpower development, training, utilization and distribution. Special emphasis was placed upon the training and upgrading of skills and responsibilities of certain health professionals and paramedical personnel.

Discussions were also held for the purpose of identification of the role and assistance which universities may provide in national health planning, with particular regard to enhancement of health manpower plans of African countries. Areas of cooperation between certain U.S. universities and those located in black-ruled countries were identified.

This conference was an international cooperative endeavor to gather and synthesize the enormous amount of research material, concerning the health care of Black people, that is now available with universities of the African and American continents. It began a program of idea exchange and coordination of efforts that will be mutually beneficial.

The main accomplishment of this conference was its role as an opener of dialogs between medical professionals and other health workers in Africa, the Caribbean and America. The bringing together of the academic world and health agencies in examining health needs of the community resulted in a unanimous vote to establish a team that will look into problems raised in the conference and continue the dialog thus begun. The objective being to establish cooperative projects for the solution of health care problems.

Appreciation is expressed to all who contributed to the success of this conference.

Margaret E. Grigsby, M. D.
Conference Director

Monday - February 3, 1975

FIRST INTERNATIONAL CONFERENCE ON HEALTH PROBLEMS OF BLACK POPULATIONS

Opening of the Conference

Dean Marion Mann
February 3, 1975

Distinguished visitors, ladies and gentlemen. There are 18 members of this conference from 7 different countries of Africa, North and South America, as well as faculty of Howard University and other universities in the United States. These individual participants represent universities, ministries of health, the World Health Organization, the African-American Scholars Council and the United States Agency for International Development.

The germination of the idea for this conference occurred in the mind of Dr. Margaret Grigsby about 2 years ago. Recognizing that we in this country and institutions in the Caribbean and in Africa were trying separately to resolve problems of health care among our people, she perceived that an exchange of ideas and coordination of effort could be mutually beneficial.

She approached the African-American Scholars Council with this idea, and jointly they sought the organizational and financial support of USAID. Additionally, Dr. Grigsby traveled last summer to many of the countries here represented, and was enabled thereby to assemble a proper format for the conference.

We are here to discuss health problems of black populations, focusing upon the themes "health manpower development" and "the role of the university in the solution of health problems." The development of concepts for paramedical manpower and professional training will be explored as a means of extending health services in Africa and the Americas. Findings from the conference will provide guidelines for the role which universities can play in enhancing the health manpower plans of specific countries.

1
Bryant has stated that "the problem of providing health care to large numbers of people on limited resources is a legitimate object of academic concern and the finding of solutions to those problems will require sophisticated and rigorous research." The challenge to the universities lies in resolving the dilemma of scholarly pursuits versus community involvement.

2
King has stated that a developing country is fortunate if it had as few as 15,000 patients for each of its doctors, or can spend more than \$1.00 a year per capita on medical care. Doctors are scarce and must spread their services over many patients. In industrialized countries the problem is not so much of an overall shortage of physicians as a maldistribution of physicians.

However, more doctors do not necessarily raise health standards. The team approach would seem to offer the greatest opportunity for extending health services to greater numbers of people. Improvement of the utilization of all members of the health team is fundamental to the improvement of health services and control of costs of medical care.

Full utilization of manpower and resources is essential to the growth and welfare of any country, whether developing or industrialized. This utilization is hindered by sickness and excess mortality whether in the population as a whole, or in a major minority segment of the population.

Special attention has been focused on the need for adequate education and training of physicians for their role as the leading members of health teams. However, any adaptation of training programs for physicians must also be reflected in the training programs for other professional and auxiliary health personnel.

Physicians assistants must be seen as important members of the health team, especially in view of the present lack of medical personnel in rural and urban areas. There is need for definition of the role and duties of physicians vis-a-vis other members of health teams. 3
Physicians, in addition to their professional activities in preventive and curative medicine, should

also be responsible for managing, teaching, and supervising the other professional and auxiliary health personnel who form health teams at different levels.³ The nurse's role can range between working with the physician in planning and policy to implementation with other professional and auxiliary workers. Scarcity of doctors, dentists, pharmacists and nurses defines the role of auxiliaries as that of extending the effectiveness of professional personnel.¹

In the United States the underserved minorities and the aged, those for whom health care is unavailable, inaccessible or prohibitively expensive experience health care crises. Forces within and outside of the medical profession are pressing for change, including a more equitable distribution of medical service, better cost control and change in physician's education.

In this country, geographic distribution of physicians varies substantially from distribution of the population. The Middle Atlantic census region has almost twice as many physicians for its population as the East South Central region. In 1970-71, 33 U.S. counties had no practicing physician. Medical services are concentrated heavily in the suburbs and sparsely in the central city and in rural areas. Right here in Washington, D.C. in 1970 the physician-person ratio in the Southeast section of the city was about one doctor for every 2500 people, whereas in the Northwest sector it was one doctor for only 220 people..

Those individuals most likely to serve disadvantaged communities--physicians from minority groups themselves--are in short supply. With a U.S. population that is, conservatively, 11% Black, only 2% of all physicians are Black. Among a total enrollment of almost 48,000 medical students in 1972-73, only 2600 (5.5%) were Black. In 1972-73, Howard and Meharry, the two predominantly Black medical institutions, were graduating close to 40% of all Black physicians. Although these figures represent an increase in minority

enrollment compared to figures of just a few years ago, it is very clear that the Black population is far from being adequately represented in the professional medical sector.

Legislation of the sixties encouraged an increase of U.S. physician manpower and medical schools, and medical school enrollments have increased nationwide. By the end of 1973, this country had 114 schools of medicine. That same year, U.S. institutions graduated almost 11,000 physicians and a total of 48,000 students were enrolled in medical school. By 1978, it is projected that this country will have 15,000 medical graduates per year.

A rise in the number of medical schools and enrollments have not been the only changes in recent years. Curriculum changes have been initiated as well. The length of the education process has grown shorter with a sizeable number of schools providing a three instead of a four-year program. Many schools are offering more elective time to their students and individualizing curricula, thus allowing students to tailor their schooling to future career needs. Some schools are introducing the student to actual patient care in the first two years of his medical training. Due to the shortage of primary care physicians, emphasis appears to be shifting slowly from using the hospital patient as the exclusive focus of a student's clinical education to exposing him to patients in an ambulatory care setting. And the team approach to education--educating physicians, nurses, pharmacists, physicians' assistants, dentists and social workers together in some areas--has been considered as one method of grooming these trainees for more effectively and efficiently delivering health care services. Programs and goals of different medical schools vary greatly; however, their faculties instruct diverse groups of medical students, house staff, graduate and sometimes undergraduate students, engage in biomedical

research and patient care with a variety of national, state and local aims.

This array of programs accounts for the high cost of medical education. In this country, the average annual cost of educating a medical student in 1972-73 was about \$13,000: \$7,700 for instruction, of which 43% is faculty cost, \$3,300 for research and \$1,800 for patient care. Of the \$13,000 only \$3,400 is offset by research and patient care income, the remainder requiring financing from education funds. Financing comes from many sources including federal funding (about half), non-federal grants and contracts, internal funds and state and local subsidies. The contributions of these sources fluctuate as allocations for capitation and research grants fluctuate. A high portion of medical students receive support from scholarships and loans to meet their average expense of \$5,330, and the amounts are increasing.

The method of financing medical education in the future will be one of the determinants of how medical education will look in the coming years. The shape of medical education will also be determined by the nation's system of health care. If public and private pressure continues for a more equitable distribution of medical care and better cost control, the type, role, location and utilization of physicians will change. The University which is responsive to the community and state and federal governments, will reflect these changes.

In summary, this conference will provide an interchange which will allow the formulation of realistic plans and methodology for the solution of major health problems affecting these populations.

To date, there has not been a coordinated study of the health problems of black populations with an overview of the major geographic areas where those populations are located.

Although some of the problems can be traced basically to poverty, this is only one facet of the overall problem. Health problems are related to environment, heredity, and geography as well as economic and sociologic factors.

Education and training of health personnel is a priority problem in most parts of the world. ³ This problem has been assigned the highest priority in the activities of the WHO/African Regional Office for the next decade. More rapid and efficient development of health manpower is essential in order to render minimum health care and to solve major public health problems.

Medical educators throughout the world are faced with the problem of how to relate education to local and national needs and plans. This Conference may look to developing new approaches and ideas relevant to those needs, the aim being eventual to have the universities concentrate upon and to coordinate research on these problems.

This research would encompass health manpower development, health care delivery as well as the many aspects of diseases. A cooperative effort between Howard University and selected universities and health agencies in Africa and the West Indies should be productive of plans and methodology for use in solution of health problems.

A conference to initiate such a cooperative effort would logically be the first step. It is therefore with great pleasure that I declare this Conference open and wish you every success in your deliberations.

Dr. Calvin Sinnette

THE SIGNIFICANCE OF THIS CONFERENCE

Dean Mann, distinguished dais guests, Your Excellencies, colleagues, and friends. It is with great pleasure that I address this gathering of eminent health professionals on what I consider to be a historic occasion. I appreciate this opportunity to meet and hear learned authorities in the health sciences and to re-establish contact with old associates; particularly my former colleagues on the faculty of medicine at the University of Ibadan, Nigeria. My sense of deference stems from being chosen to participate in a conference on "The Health Problems of Black Populations". This is a unique event in health history and it is my firm belief that such rare moments should be accorded the special regard they deserve.

This conference is sponsored by Howard University College of Medicine in association with the African-American Scholars Council. In my capacity as the official representative of the Council to this conference, I would like to tell you, in the next few moments, something about the Scholars Council and share with you what the Council believes to be the significance of this conference.

The African-American Scholars Council was founded in 1971 by black American scholars and professionals with one of its stated objectives being a desire "to work with their African counterparts toward the solution of common problems of economic and social development" (*italics mine*). 1972 marked the beginning of program activities and since that time the Council has awarded 60 grants to African scholars and scholars of African descent. Though many of the grants have been in the disciplines of the social sciences, agriculture and business, a number of awards have been made to researchers in the health sciences. I shall just mention three of the health sciences

awards. A Ghanaian pharmacologist was given an award to continue research on the constituents of certain West African medicinal plants. Another award was made to a black American conducting a nutritional study of pilot programs designed to control vitamin A deficiency in Zambia. The final grant to which I shall refer is one awarded to a Nigerian scholar who is examining the factors which influence the loss of Nigerian medical and paramedical personnel to industrialized nations. This last award has obvious relevance to the problems of health manpower development which we shall be discussing throughout this conference.

The Scholars Council has used a variety of additional approaches in seeking to fulfill its objective to support African economic and human resource development. Last year, the Council held a conference to explore methods which could provide immediate and long-term mitigation of the nutritional crisis in the drought-stricken Sahel. More recently, it enabled two African scholars to attend scientific meetings in the United States. The Council has also collaborated with institutions and other organizations in developing projects which seek a solution to common problems. In October 1973, with support of the Ford Foundation, the African-American Scholars Council, in conjunction with the Westerfield Advisory Committee and Atlanta University, co-sponsored a three day conference on economic development which focused on the ever increasing gap between the industrialized and pre-industrialized nations. This highly successful conference generated many favorable comments and reactions. From a personal standpoint, I was most gratified by the sincere appreciation expressed by African scholars, many of whom had attended previous conferences in the United States but had

few opportunities for exposure to the Afro-American intellectual community. We view our participation in this conference, therefore, as being quite consonant with an established policy of joint effort.

There is another matter which should be emphasized and which I hope you will keep in mind during this meeting and in the months ahead. The Council is particularly anxious to encourage and stimulate the scholarly activities of younger researchers. An important reason for Council participation in this event is a belief that it will generate new ideas and concepts which merit further investigation. I can assure you that, although our financial resources are modest, our grant awards committee will carefully review and sympathetically consider any well-conceived proposal either submitted by younger researchers or in which younger researchers are to play a significant role.

The Council, I must add, has an abiding interest in all major developments occurring within the black world. Although present financial arrangements tend to confine activities to the African continent and the United States, we welcome this opportunity to join with participants from the Caribbean and certainly hope we can play a role in the development of projects involving all segments of the black Atlantic triangle. Here too, we see such cooperative efforts as conforming with another Council objective which states, "Concerned about the growing gap between the haves and the have-nots, both within the highly industrialized nations and on a world scale, the Council seeks ways to alleviate the fundamental problems of economic dependence brought about by the inequitable distribution of the world's wealth".

To my knowledge, this conference is the first attempt to examine the health problems of black populations on a somewhat global context. The accomplishment of this remarkable achievement is a tribute to the vision and single-mindedness of the Conference Coordinator, Dr. Margaret Grigsby. But now that we are all assembled, what next? Over the years, each of us has participated in a full share of conferences, seminars, symposia, colloquia and the like; sometimes traveling to distant corners of the globe to do so. I daresay that if the number of hours spent collectively at this and other such meetings were combined, it might well add up to quite a few years. I do not believe we should underestimate the tangible and intangible value of such activities. Nevertheless, the time that has been spent is a sizeable investment on the part of our respective institutions, agencies, communities and families. We would be remiss and morally irresponsible if we do not attempt to secure the highest returns on the investment. The ultimate significance of this conference, depends, then, not on the adoption of recommendations from the body - valuable as they may be, but on the creation of a mechanism to ensure the translation of ideas into reality.

As we enter into our deliberations, we should seek to conduct them with candor and honesty. We must also have the courage to think the unthinkable. There may be an underlying assumption that the health problems faced by black populations are peculiar to our ethnicity. But, is this assumption valid? Do black populations confront difficulties in health manpower development that are different from any other group of poor nations or exploited peoples? It is incumbent on us to answer these and other searching questions, for unless we do, we stand open to the charge that we are simply duplicating the activities of existing international or regional bodies. We should not be surprised to hear skepticism voiced from traditionally unsympathetic

quarters. In fact, we can expect it. If, on the other hand, we do not meet the challenge head-on, we risk justifiable criticism from our respective constituencies. In all honesty, I cannot respond to such questions with complete assurance or conviction. I am confident, however, that answers can be found in our collective wisdom. If we adhere steadfastly to the search for truth, I am convinced that we shall arrive at decisions which will be unsailable. Moreover, we will have been guided by truth, something quite unusual in contemporary affairs.

Turning to a somewhat different matter, I hope we shall have an opportunity to discuss the issue of traditional health systems vis-a-vis health manpower development. The experience of the People's Republic of China in this area has received considerable attention within the past two to three years. But traditional medicine has been practiced by black populations for many generations. We need to hear the views held by the various black populations on this subject and to know their experiences in attempting to incorporate the traditional practitioner in the health team. In July 1972, the Association of African Universities held a Workshop on the emerging issues confronting African universities. At the meeting, Professor A.N. Nhonoli, who was then Dean of the faculty of medicine at the University of Dar-Es-Salaam, Tanzania, declared, "We should aim at creating a self-sustaining indigenous scientific community." This statement is, of course, quite pertinent to health manpower development. As we seek new strategies to accelerate the process of creating self-sustaining indigenous health manpower, it is of more than passing interest to examine the prospects for utilizing the traditional health sector.

An examination of the health problems of black population is, indeed, a most ambitious undertaking. This conference is merely the first step in the legendary journey of a thousand miles. By looking at these problems through a new prism we are creating a new health dialogue. I am convinced that this dialogue has the potential for improving the health status of black people. I am equally convinced that the derivatives of this dialogue have the potential for benefitting all mankind. I should sound a note of caution, however, by pointing out that although dialogue is a usual precondition for agreement or consensus, the terms are neither synonymous nor congruent. I am prompted to voice this caveat because of something I saw quite recently. About three weeks ago I paid a visit to a very distinguished Afro-American social scientist. On the mantle behind his desk hangs a small plaque on which is inscribed the following statement:

I know you believe you understand what
I said BUT I am not sure you realize
that what you heard is not what I meant.

Might I suggest, Mr. President, that, during this week as we go about the business of creating the new health dialogue, we have an obligation not only to understand what was said but, more importantly, to do everything possible to ensure that what we heard is what was meant.

3 February 1975

HEALTH MANPOWER DEVELOPMENT IN LATIN AMERICA AND THE CARIBBEAN

Dr. Charles L. Williams, Jr.,

Deputy Director

Pan American Health Organization

IN THE OPENING SESSION OF THIS CONFERENCE, IT SEEMS APPROPRIATE TO REFER TO CERTAIN PROBLEMS, AND POSSIBLE SOLUTIONS THAT THE PAN AMERICAN HEALTH ORGANIZATION HAS IDENTIFIED IN THIS HEMISPHERE.

HEALTH MANPOWER IS ONE OF OUR PRIMARY CONCERNS, A KEY ISSUE, FOR LATIN AMERICA AND THE CARIBBEAN. LET ME BRIEFLY REFER TO SOME OF THE CHARACTERISTICS OF THESE TWO SUBCONTINENTS, WITHOUT ATTEMPTING TO BE COMPREHENSIVE. I THEN WILL TRY TO FOCUS ON SOME HEALTH MANPOWER ISSUES AND SUGGEST SOME ALTERNATIVES FOR ACTION.

THE SEPARATE COUNTRIES OF LATIN AMERICA AND THE CARIBBEAN VARY VERY GREATLY IN BOTH THEIR PHYSICAL AND HUMAN CHARACTERISTICS. THIS EXTENSIVE AREA COMPRISES VERY LARGE COUNTRIES SUCH AS BRAZIL, WITH NEARLY 100 MILLION INHABITANTS AND SMALL ISLAND COUNTRIES WITH LESS THAN 200,000 PEOPLE. IT CONTAINS LARGE CITIES AND MEGALOPOLIS AREAS SUCH AS THE STATE OF SAO PAULO WITH 12 MILLION URBANITIES AND ITS PROBLEMS OF CROWDED SLUMS, URBAN POVERTY, MINORITY GROUPS AND SOCIAL PROBLEMS SUCH AS POLLUTION, INDUSTRIAL HAZARDS, AND UNEVEN DISTRIBUTION OF MEDICAL CARE. THERE ARE

ALSO LARGE UNDERPOPULATED AREAS WITH ISOLATED POPULATIONS, RURAL POVERTY, MALNUTRITION, EXTREME MALDISTRIBUTION OF INCOME, LACKING ELEMENTARY MEDICAL CARE, MANY WITH NO HEALTH SERVICES WHATEVER SAVE FOR NATIVE PRACTITIONERS.

RATHER THAN QUOTING STATISTICS AND INDICATORS THAT REFLECT ONLY NATIONAL AVERAGES WITH ALL OF THEIR LIMITATIONS, AND KEEPING IN MIND THE OBJECTIVES OF THIS CONFERENCE, LET ME MENTION SOME ECONOMIC DATA THAT GIVE US A HINT OF THE IMBALANCE OF LATIN AMERICAN SOCIETIES.

A FIRST HINT IS PROVIDED BY THE DISTRIBUTION OF INCOME. IN 1970, IN LATIN AMERICA AS A WHOLE, THE RICHEST 5% OF THE POPULATION RECEIVED 33% OF THE NATIONAL INCOME, WHILE THE LOWER 50% OF THE POPULATION RECEIVED ONLY 13.4% OF THE TOTAL INCOME.

ANOTHER HINT IS PROVIDED BY STATISTICS ON EMPLOYMENT. IN 1970, LATIN AMERICA HAD AN UNEMPLOYMENT RATE OF 47.4%. THIS IS TO SAY THAT 47.4% OF THE TOTAL POPULATION, MALE AND FEMALE, BETWEEN 15 AND 64 YEARS OF AGE WAS NOT EMPLOYED.

FOR COMPARISON, THE AVERAGE RATE OF UNEMPLOYMENT IN THE DEVELOPED COUNTRIES WAS 32.1%. AS 40% IS CONSIDERED THE ALARM FIGURE, THE LATIN AMERICAN SITUATION SURELY AMOUNT TO A SORT OF PERMANENT ECONOMIC CRISIS.

STATISTICS SHOW SIMILAR INEQUITIES IN HOUSING, WAGES, LITERACY, AND LEVELS OF EDUCATION.

IF WE WERE ABLE TO SEPARATE HEALTH INDICATORS BY SOCIOECONOMIC GROUPS, THE DIFFERENCES WOULD BECOME MORE IMMEDIATELY APPARENT. WE WOULD THEN KNOW THE REAL HEALTH STATUS OF RURAL POPULATIONS, MARGINAL POPULATIONS, AND MINORITY GROUPS.

BLACK POPULATIONS REPRESENT A SIZEABLE THOUGH VARIABLE PROPORTION OF THE TOTAL OF LATIN AMERICA AND THE CARIBBEAN. PAHO IS UNABLE TO ANALYZE NATIONAL HEALTH STATISTICS BY RACE OR ETHNIC ORIGIN, MAINLY BECAUSE IN LATIN AMERICA THOSE FACTORS ARE NOT RECORDED. NONETHELESS, EVEN WITHOUT FORMAL STATISTICS, WE KNOW VERY WELL THAT BOTH BLACK AND INDIAN POPULATIONS CONSTITUTE A DISPROPORTIONATE SHARE OF THE LOWER ECONOMIC GROUPS. ACCORDINGLY, THEY HAVE MORE THAN THEIR SHARE OF MALNUTRITION, DISEASE, AND OTHER CONSEQUENCES OF POVERTY.

THE III MEETING OF MINISTERS OF HEALTH, IN SANTIAGO, CHILE, IN 1972, APPROVED THE "TEN YEAR HEALTH PLAN FOR THE AMERICAS".

THE CENTRAL GOAL OF THE TEN YEAR PLAN IS THE EXTENSION OF HEALTH SERVICE COVERAGE TO ALL AREAS WHOSE INHABITANTS NOW HAVE NO ACCESS TO HEALTH CARE OF ANY KIND. THIS REPRESENTS NO LESS THAN 37 PER CENT OF THE POPULATION

OF LATIN AMERICA AND THE CARIBBEAN. IN ABSOLUTE FIGURES, THIS MEANS ABOUT 100 MILLION HUMAN BEINGS IN A CONTINENT WHOSE RATE OF POPULATION GROWTH IS THE HIGHEST IN THE WORLD.

IT IS WIDELY ACKNOWLEDGED THAT THE SHORTAGE OF PERSONNEL IN ALL CATEGORIES IS ONE OF THE MAIN OBSTACLES TO DEVELOPMENT OF HEALTH SERVICES AND IS THEREFORE A THREAT TO THE SUCCESS OF PLANS FOR THE DECADE. SERIOUS SHORTAGES IN HUMAN RESOURCES ARE A KEY PROBLEM. WHAT IS NEEDED TO PRODUCE THEM IS NOT JUST MONEY AND MANPOWER, BUT TIME AS WELL. THUS THE EFFECTS OF CORRECTIVE MEASURES TAKEN AT THE BEGINNING OF THIS DECADE WILL ONLY BEGIN TO BE FELT BY 1980.

THROUGHOUT THE ENTIRE REGION THERE IS A GENERAL SHORTAGE OF HEALTH MANPOWER WITH ONLY A FEW RESTRICTED AREAS REACHING ADEQUATE LEVELS. STATISTICS GATHERED IN 1970 SHOW 540,000 HEALTH WORKERS, INCLUDING PHYSICIANS, DENTISTS, NURSES, PHARMACISTS, SANITARY ENGINEERS, VETERINARIANS, HEALTH INSPECTORS, MEDICAL TECHNICIANS AND HEALTH AUXILIARIES OF VARIOUS KINDS. THIS MANPOWER REPRESENTS A GENERAL AVERAGE OF 20 HEALTH WORKERS PER 10,000 POPULATION.

IN 1970, THE OCCUPATIONAL STRUCTURE OF TOTAL HEALTH MANPOWER SHOWED THE FOLLOWING PATTERN: PHYSICIANS 6.9 PER 10,000 POPULATION; NURSES, 2.3; AUXILIARIES, 8.8; MEDICAL TECHNICIANS, 0.9; AND ADMINISTRATORS AND PUBLIC HEALTH PERSONNEL, 1.6.

THE SITUATION VARIES FROM COUNTRY TO COUNTRY, BUT IN GENERAL THE PROPORTION OF TECHNICAL OR PREUNIVERSITY LEVEL PERSONNEL, VIS-A-VIS UNIVERSITY GRADUATES, IS TOO LOW. IN 1968, THE OVERALL TOTAL OF 540,297 HEALTH WORKERS WAS DISTRIBUTED AS FOLLOWS :

UNIVERSITY LEVEL	252,812 PERSONS	45%
TECHNICAL	62,029 PERSONS	12%
AUXILIARY	224,456 PERSONS	42%

THESE FIGURES UNDERLINE THE FACT THAT THE DEFICIENCY AT THE MIDDLE LEVEL CONSTITUTES TODAY THE MOST SERIOUS MANPOWER PROBLEM IN LATIN AMERICA AND THE CARIBBEAN.

TO REACH THE GOALS OF THE TEN YEAR PLAN, SEVERAL CHANGES IN OUR ORIENTATION ARE NEEDED.

DURING THE 1960's , CONFRONTED WITH AN ACUTE OVERALL SHORTAGE, THE GOAL WAS TO PRODUCE HEALTH MANPOWER IN ALL CATEGORIES. THUS IN THE 60's, THE SHORTAGE DIMINISHED AND SOME SIGNS OF OVERPRODUCTION APPEARED. ON CAREFUL ANALYSIS, THE APPARENT OVERPRODUCTION IN SOME CATEGORIES APPEARS CLEARLY AS MAL DISTRIBUTION RATHER THAN OVEPALL OVERPRODUCTION.

THE TYP SEEKS TO CORRECT THIS AND THE EMPHASIS IS PUT ON PLANNING OF HUMAN RESOURCES SO AS TO PROVIDE A WELL-BALANCED HEALTH MANPOWER. ANOTHER CHANGE IS THE SHIFT OF EMPHASIS FROM THE HIGHER PROFESSIONS TO MEDIUM AND LOWER LEVELS OF EDUCATION. SPECIAL ATTENTION IS GIVEN TO HEALTH TECHNICIANS, PRIORITY GOES MORE AND MORE TO HEALTH AUXILIARIES.

NEVERTHELESS, EVEN WITH AN IMPROVED SUPPLY OF INTERMEDIATE HEALTH WORKERS (TECHNOLOGISTS AND TECHNICIANS); EVEN WITH MORE HEALTH AUXILIARIES; EVEN WITH MAXIMUM DELEGATION OF FUNCTIONS, IT IS UNLIKELY THAT WE WILL BE ABLE TO EXTEND HEALTH COVERAGE TO ALL RURAL POPULATIONS.

WHERE THEN IS THE SOLUTION? PAHO IS STUDYING THE POSSIBILITY OF CALLING UPON THE POPULATION ITSELF, MAKING USE OF ITS POTENTIAL RESOURCES, DEVELOPING SOME SORT OF VOLUNTARY HEALTH AGENT FROM THE COMMUNITY ITSELF. FURTHERMORE, IT SEEMS TO US THAT A CAREFULLY PLANNED TRANSFER OF HEALTH KNOWLEDGE FROM THE HEALTH PROFESSIONS TO THE POPULATION IS NEEDED. THIS TRANSFER OF KNOWLEDGE WOULD STIMULATE SELF-IDENTIFICATION AND, EVENTUALLY, SELF-RELIANCE ON THE PART OF COMMUNITIES.

WE MIGHT THEN REVERSE OURSELVES AND CONSIDER THE POPULATION ITSELF AS THE FIRST AND MOST IMPORTANT RESOURCE TO PROMOTE, MAINTAIN AND PERHAPS RESTORE HEALTH. TRADITIONAL HEALTH TECHNICIANS AND PROFESSIONALS MIGHT

THEN SERVE PRINCIPALLY AS AN EXTENSION OF THE PRINCIPAL RESOURCE, ACTING AS A REINFORCEMENT TO COMMUNITY RESOURCES, AS A LOGISTICAL AND EDUCATIONAL SUPPORT.

THIS IS, OF COURSE, NOT A NEW IDEA. AND WE ARE AWARE OF THE FACT THAT ATTEMPTS TO DEVELOP IT HAVE MORE OFTEN MET WITH FAILURE THAN SUCCESS. BUT IT IS AN APPROACH RELATIVELY UNTRIED IN THE AMERICAS, AND WE FEEL THAT IT SHOULD BE TRIED.

ANOTHER CHANGE IS IN THE GREATER PRIORITY GIVEN TO HEALTH MANPOWER IN THE DESIGN OF HEALTH PROGRAMS. WHAT IS THE TRADITIONAL WAY IN WHICH HEALTH PROGRAMS OR PROJECTS ARE DESIGNED? WE START BY STATING PROGRAM OBJECTIVES, WE DERIVE FROM THEM THE MEANS REQUIRED -PHYSICAL, FINANCIAL AND OTHERWISE. AS A FINAL STEP IN THIS LOGICAL PROCESS, WE ESTIMATE HEALTH MANPOWER REQUIREMENTS.

BUT WHAT IS THE REAL SITUATION IN THE WORLD? THE PROCESS OF RECRUITING, TRAINING AND UTILIZING HEALTH MANPOWER IS POSSIBLY THE MOST COMPLEX IN PROGRAM IMPLEMENTATION. THE PROCESS IS CLOSELY RELATED TO THE WORKING OF SCHOOL SYSTEMS AND THE GENERAL MANPOWER MARKET, AND IS SUBJECT TO SOCIAL AND ECONOMIC CONSTRAINTS MOST OF WHICH LIE OUTSIDE OF THE HEALTH SECTOR. AS A RESULT, MANY PROGRAM FAILURES ARE DUE TO HEALTH MANPOWER FAILURES.

OUR CONCLUSION IS THAT PRIORITY ATTENTION MUST BE GIVEN TO THE HEALTH MANPOWER COMPONENT FOR TRUE LONG RANGE PLANNING, 10 YEARS OR MORE, THE DEVELOPMENT OF MANPOWER MAY DEPEND UPON PROGRAM OBJECTIVES. BUT FOR IMMEDIATE AND INTERMEDIATE PLANNING, WE MUST REVERSE THE PROCESS. ONCE PROGRAM OBJECTIVES ARE DEFINED, AN ANALYSIS OF MANPOWER RESOURCES AND CONSTRAINTS SHOULD LEAD TO THE PROGRAMMING OF SERVICES. IT IS MORE REALISTIC TO ADAPT SERVICE PATTERNS TO AVAILABLE MANPOWER RATHER THAN TO FIT MANPOWER TO PRE-ESTABLISHED SERVICE PATTERNS.

AT THIS POINT I AM LED TO COMMENT ON ONE OF THE PROBLEMS WHICH OUR WESTERN CULTURE INEVITABLY LEAVES US WITH. IN THE AMERICAS, AND INDEED IN AFRICA AND MANY OTHER PARTS OF THE WORLD, OUR MEDICAL AND HEALTH PRACTICES ARE HISTORICALLY DERIVED FROM THOSE OF WESTERN EUROPE. THEY ARE HIGHLY QUALITY CENTERED. WE SET STANDARDS TO WHICH MEDICAL SCHOOLS ADHERE FOR THE TRAINING OF PHYSICIANS. THE RESULT IS A WELL EDUCATED PROFESSIONAL WHICH IN MANY COUNTRIES HOWEVER, IS NOT PREPARED IN SUFFICIENT NUMBERS TO PROVIDE HEALTH CARE FOR MORE THAN A RELATIVELY SMALL PROPORTION OF THE POPULATION. THIS RESULTS IN LARGE GROUPS RECEIVING NO HEALTH CARE AT ALL, WHILE OTHERS MORE PRIVILEGED, RECEIVE HIGH QUALITY SERVICES. FOR LATIN AMERICA, AS I HAVE

SAID, THE PORTION OF THE POPULATION WHICH RECEIVES NO CARE IS 37% OF THE TOTAL.

THIS SITUATION IS QUITE UNSATISFACTORY, AND FROM THE ETHICAL POINT OF VIEW, QUITE DIFFICULT TO JUSTIFY. WHY COULD WE NOT START WITH THE PREMISE THAT EVERY POPULATION GROUP WILL RECEIVE CARE AT WHATEVER LEVEL SOCIETY CAN AFFORD. IN EFFECT, THE IDEA WOULD BE TO FIX QUANTITY, OR COVERAGE, AND VARY THE QUALITY OF SERVICE WITH THE RESOURCES AVAILABLE. THIS WOULD SUBSTITUTE FOR OR MODIFY PRESENT PRACTICE IN WHICH QUALITY STANDARDS ARE PRE FIXED AND COVERAGE DETERMINED BY AVAILABLE RESOURCES.

PLANNING OF HEALTH SERVICE PROGRAMS IN THIS MANNER WILL NOT BE EASY AND WILL LEAD INEVITABLY TO MANY CONFLICTS. BUT I AM NONETHELESS PERSUADED THAT IT WOULD BE WORTH THE TRY.

ALL THE POSSIBLE ALTERNATIVES MAY BRING GREAT CHANGES IN OUR PRESENT CONCEPTS OF HUMAN RESOURCES, HEALTH MANPOWER, AND HEALTH CARE. THESE CHANGES MAY, EVENTUALLY, BRING NEW PERSPECTIVES TO RURAL POPULATIONS, MINORITY RACIAL AND ETHNIC GROUPS, AND OTHER POVERTY RIDDEN GROUPS IN LATIN AMERICA AND THE CARIBBEAN.

"Health Manpower Development
and the Role of the University" *

Dr. Samuel C. Adams, Jr.
Assistant Administrator,
Bureau for Africa,
Agency for International Development,
Washington, D.C. 20523

Mr. Chairman, participants to this conference, ladies and gentlemen. It is a pleasure to be present and greet you on what may be a unique occasion. This is perhaps the first conference of its kind which addresses the issue of the role of universities in dealing with problems of health manpower development for black nations. This is a problem of primary concern to developing countries in general and Africa in particular. The level of improvement in health care services in these countries, over the next decade, will depend in a large measure upon how successful universities are in performing their roles.

* Delivered at the "Conference on Health Problems of Black Populations: Health Manpower Development and the Role of the University," sponsored by Howard University Medical School and African American Scholars Council, Washington, D.C., February 3-8, 1975.

I would like to commend Howard University and the African American Scholars Council for their foresight in initiating the dialogue on this problem which led to the implementation of this conference. We at A.I.D. the Africa Bureau in particular, are proud to be associated with you, in whatever small measure, in the support of this conference.

We would like to especially congratulate the African and Caribbean universities which have indicated their concern for this problem by accepting invitations to participate in the conference. Further, your willingness to share your ideas with those of us who are endeavoring to assist less developed countries in the development of effective health delivery systems is greatly appreciated.

I need not remind you of the many health problems faced by the majority of the people on the African continent, i.e., those conditions due to infectious and communicable diseases, poor environmental sanitation and poor nutrition. The health problems are aggravated by the severe shortage of health manpower, shortage and maldistribution of health facilities, and lack of transportation and communication facilities. As a result of these conditions, it has been estimated that as much as 80-85% of the population of many African countries do not have access to modern or organized health care services. We also recognize that many of the diseases occurring in developing countries are preventable by modern technology and know-how, i.e., by public health methods such as environmental sanitation, immunizations, communicable and vector borne disease control, and proper nutrition.

We in A.I.D. are under a mandate from the Congress and the Administration to reorder our priorities for assistance in several areas, with health being one of foremost importance.

We were made even more aware of the urgency of this mandate as we listened to President Ford's State of the Union Address on January 15, 1975, particularly as it referred to international affairs. I would like to quote brief pertinent portions of this message: "So let there be no mistake about it: international cooperation is a vital fact of our lives today. This is not a moment for the American people to turn inward. More than ever before, our own well being depends on America's determination and leadership in the world."

Again, I quote: "..... The developing nations are also at a turning point. The poorest nations see their hopes of feeding their hungry and developing their societies shattered by the economic crisis. The long term economic future depends on cooperative solutions."

As a result of these mandates and/or strong presidential support A.I.D. has significantly elevated the priority of health programs

and health activities throughout the Agency. In essence, a new and increased emphasis has been placed on health programs. The Africa Bureau responded to this new emphasis by developing operational guidelines and plans for increasing our range of programs in the health sector in Africa. These guidelines represent our initial efforts. We believe this will be a dynamic process as we acquire greater experience and identify new opportunities for assistance in the health sector.

These program guidelines and plans for action in the health sector of Africa look at four major problem areas of concentration in less developed countries, namely:

1. National Health Delivery Systems

Africa Bureau will support development of national health delivery systems, with an emphasis on integrated low-cost rural health delivery systems. Such programs must have the support of leadership of national governments of host countries, coordinated donor inputs, and strong tie-in of a health system to each national culture and fiscal system. Integrated services minimally should include: nutrition, Maternal Child Health and Family Planning, health education, environmental sanitation and immunization programs. A.I.D. program inputs should additionally focus on infrastructure strengthening: Health planning, health manpower development and training, managerial and administrative training and technical.

assistance for development of administrative and financial management systems, as well as assisting in the development of vital statistics and demographic data systems.

2. Disease Control and Other Health Programs

In support of development programs the Africa Bureau will support environmental analysis of health factors and health programs in relation to development programs, i.e., economics, agricultural, rural and human resources development programs. Examples: (1) Control of water-borne diseases such as schistosomiasis and onchocerciasis in relation to irrigation projects; (2) analysis and control of malaria and trypanosomiasis in resettling of new lands; and (3) potable and safe water supplies, health education, nutrition programs in support of agricultural and rural development programs. It should be kept in mind that certain of the major communicable diseases can be effectively controlled only on a regional basis.

3. Selected Program Efforts

Africa Bureau will support special health efforts related to populations at great risks due to drought, famine or

other calamities (e.g., Sahel region). Inputs from A.I.D. can include such items as emergency supplies of medicine, vaccines, equipment and certain logistical support.

4. Family Planning and Use of Title X Funds

Africa Bureau takes the position that child spacing and family planning services from natural and essential components of a minimal health package maternal child health program. In this context, whenever and wherever feasible family planning services will be programmed or built into integrated health delivery systems or service projects.

As you are well aware, there is a pressing need for increased efforts in regard to manpower training development and utilization. We in A.I.D. feel that appropriate and relevant training of health manpower is the keystone to the success of any health delivery system, without which the latter are doomed to failure.

Historically, we find that far often attempts have been made to initiate or introduce Western medical approaches into Africa to solve health care delivery problems. In too many instances these approaches have proved either inadequate or unsatisfactory for the most part. This situation is not unique to developing countries, but exists to a lesser extent in the so-called "developed" countries. In the U.S. and other Western countries,

we are facing similar problems in the organization and delivery of health care services, particularly for our inner-city and rural poor. We too suffer from shortages of trained health manpower, maldistribution of health manpower and facilities, and often lack of coordination in the use of resources. All of these factors combined result in inequitable provision of health care services for large segments of our population. One major activity ongoing in this country, which has pertinence to what you will be discovering during the conference, is in the area of health manpower development and training. We are not only upgrading the skills and responsibilities of many health workers, but we are also developing new categories of health manpower, as well (e.g., Nurse Practitioners, Medex, Clinical Pharmacists, Surgical Technicians, etc.). These moves are intended to extend our health manpower resources, as well as to improve the efficiency of their utilization.

I think we all realize that if we are to solve many of our health problems, particularly in developing countries, we must seek and find new approaches. What is also needed is development of viable partnerships between donors and host country nationals, in which universities could take the lead in helping develop the new approaches required. Universities the world over can no longer remain in relative isolation from the mainstream of society's

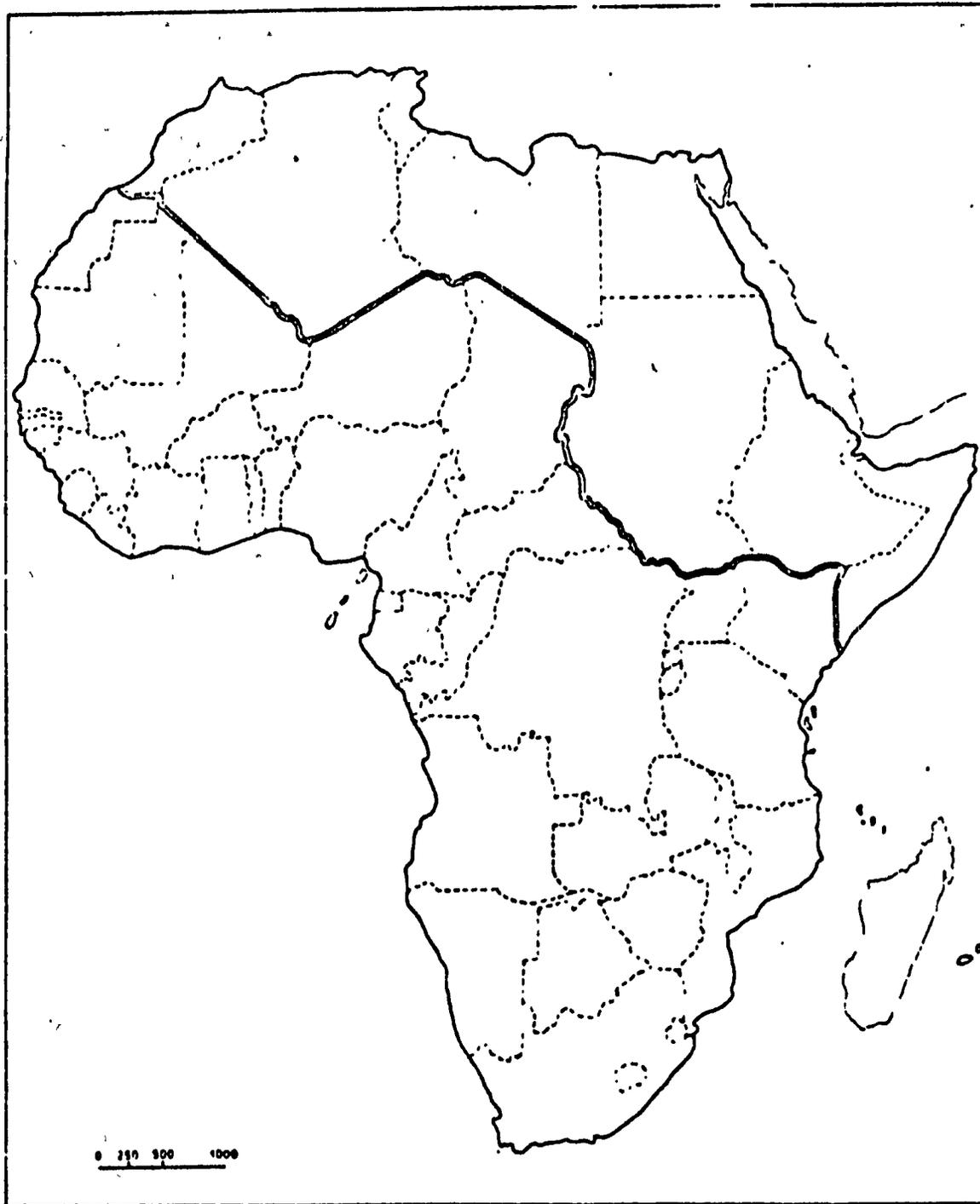
overall needs by retreating to the traditional functional areas of education and research. They must also address the area of community service needs of society and actively participate in finding solutions to these problems as well. In essence, universities must utilize their human and physical resources to contribute to the social and economic development goals of their countries. It is quite appropriate and timely, therefore, that these assembled here should be addressing yourselves to these problems in health, particularly in the area of manpower training, development and utilization. We in A.I.D. shall be anxiously awaiting the results and outcomes of your deliberations over the next few days, with a view toward how we may be more effective in planning and implementing our assistance strategy in the health sector.

Again, may I extend my congratulations to all of you for your foresight and dedication. May I also wish you all possible success in your endeavors.

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Manpower Profile in the African Region

Dr. Hamad El'Neil



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- Few countries in the African Region have one physician for every 10 000 persons.
- In many countries more than 50% of the physicians are foreign and therefore constitute only a temporary professional population for the country.
- Except in a few cases 50% of the physicians are in the capital city.

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The results are that only 20% of the population has adequate health care available while the other 80% are virtually deprived of any form of modern scientific health care.

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Example (1) from the African Region

Population	4 000 000
<u>Number of physicians</u>	64
- National	9
- Foreign	55 (86%)

Ratio

- whole country	1/59 000
- capital city	1/1800
- rest of country	1/124 000

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Example (2) from the African Region

Population	8 000 000
<u>Number of physicians</u>	408
- National	146
- Foreign	262 (63%)

Ratio

- whole country	1/13 000
- capital city	1/300
- rest of country	1/34 700

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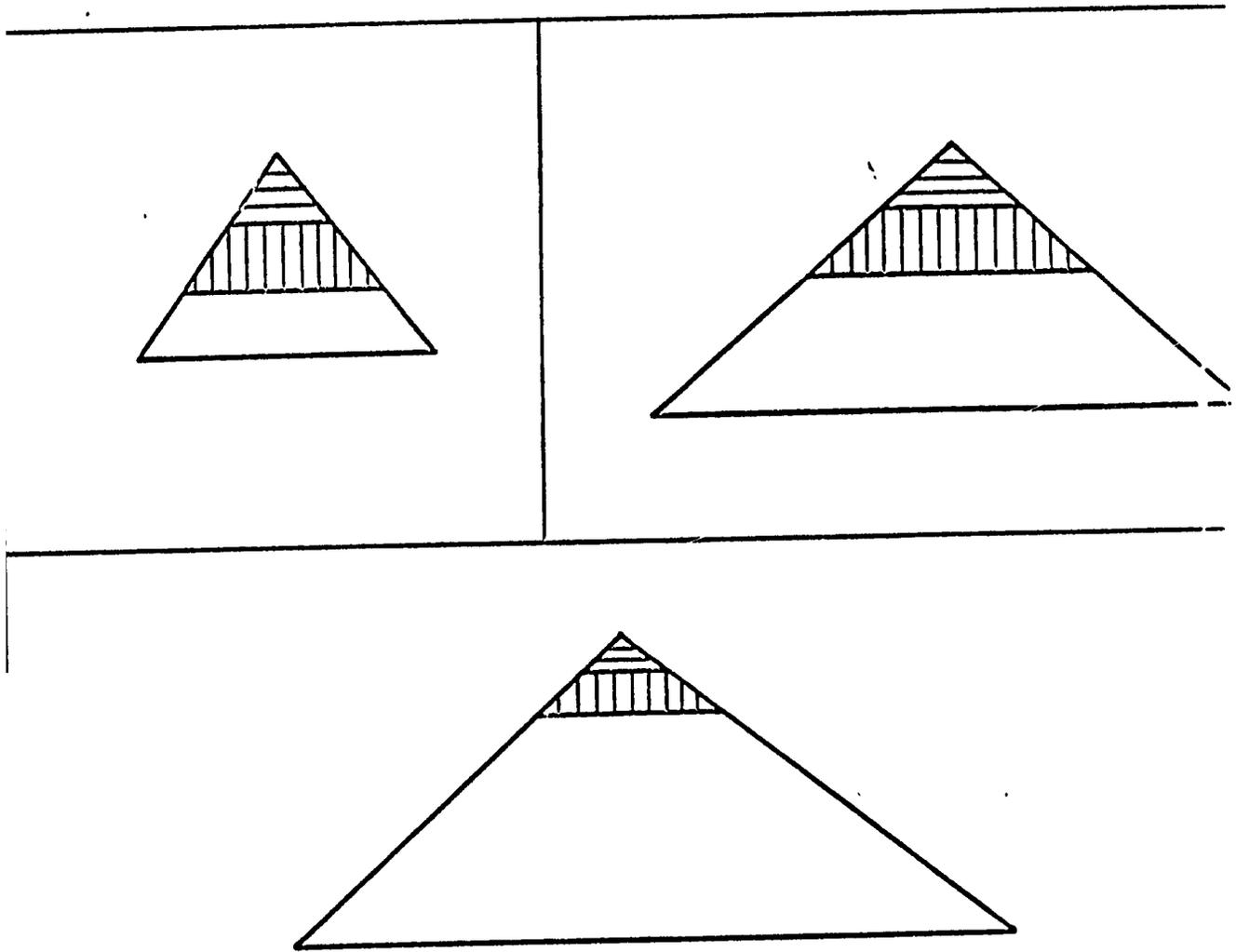
The Distribution of Health Manpower in Africa
if the total health staff is divided into three
major categories.

1. High level health professionals
(doctors, sanitary engineers,
pharmacists, health educators,
sociologists etc.).
2. Middle level health professionals
(nurses, midwives, sanitary
technicians, laboratory
technicians etc.).
3. Health auxiliaries

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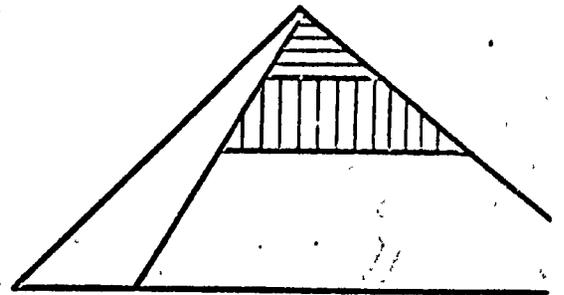
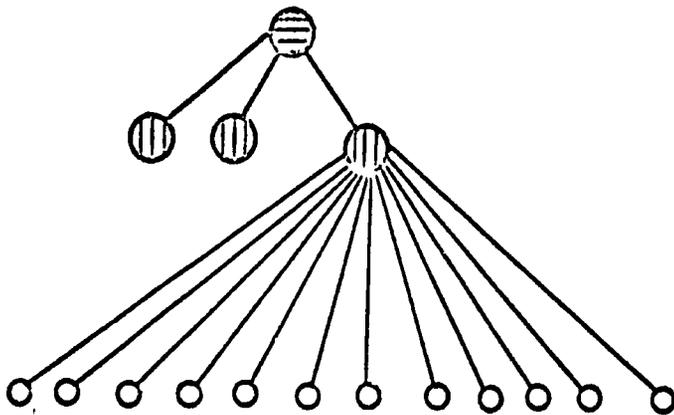
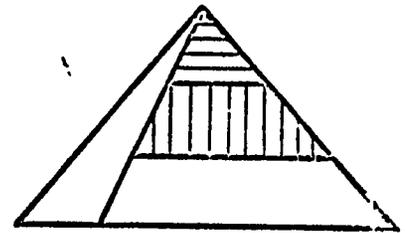
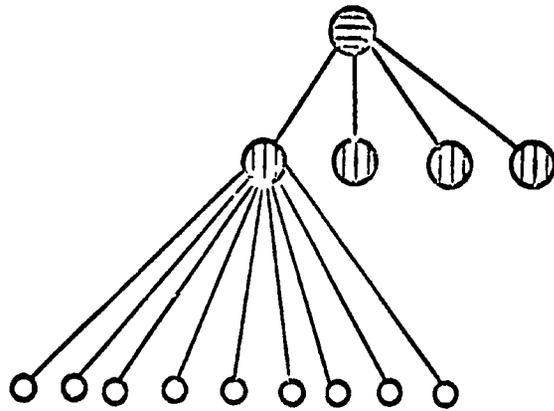
The three categories should form a pyramid which may take slightly different shapes.



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In addition to the recognized administrative hierarchy an ideal pyramid permits effective technical supervision.



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In other forms of pyramids effective technical supervision is difficult to achieve and even the few available high level professionals will be

underemployed in a

managerial sense and

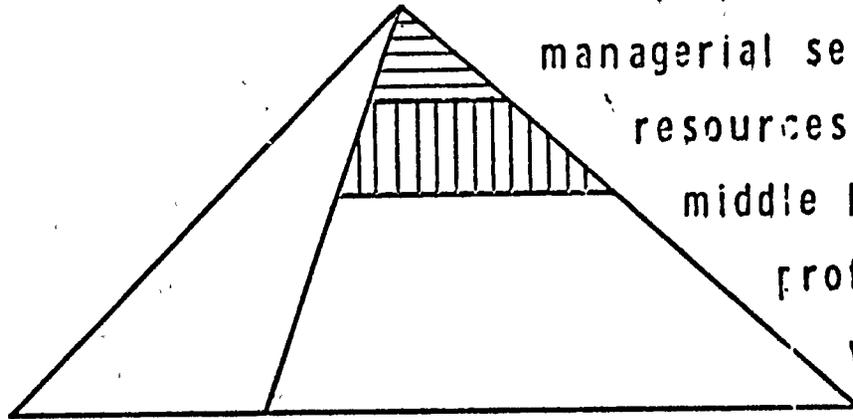
resources of the

middle level

profession

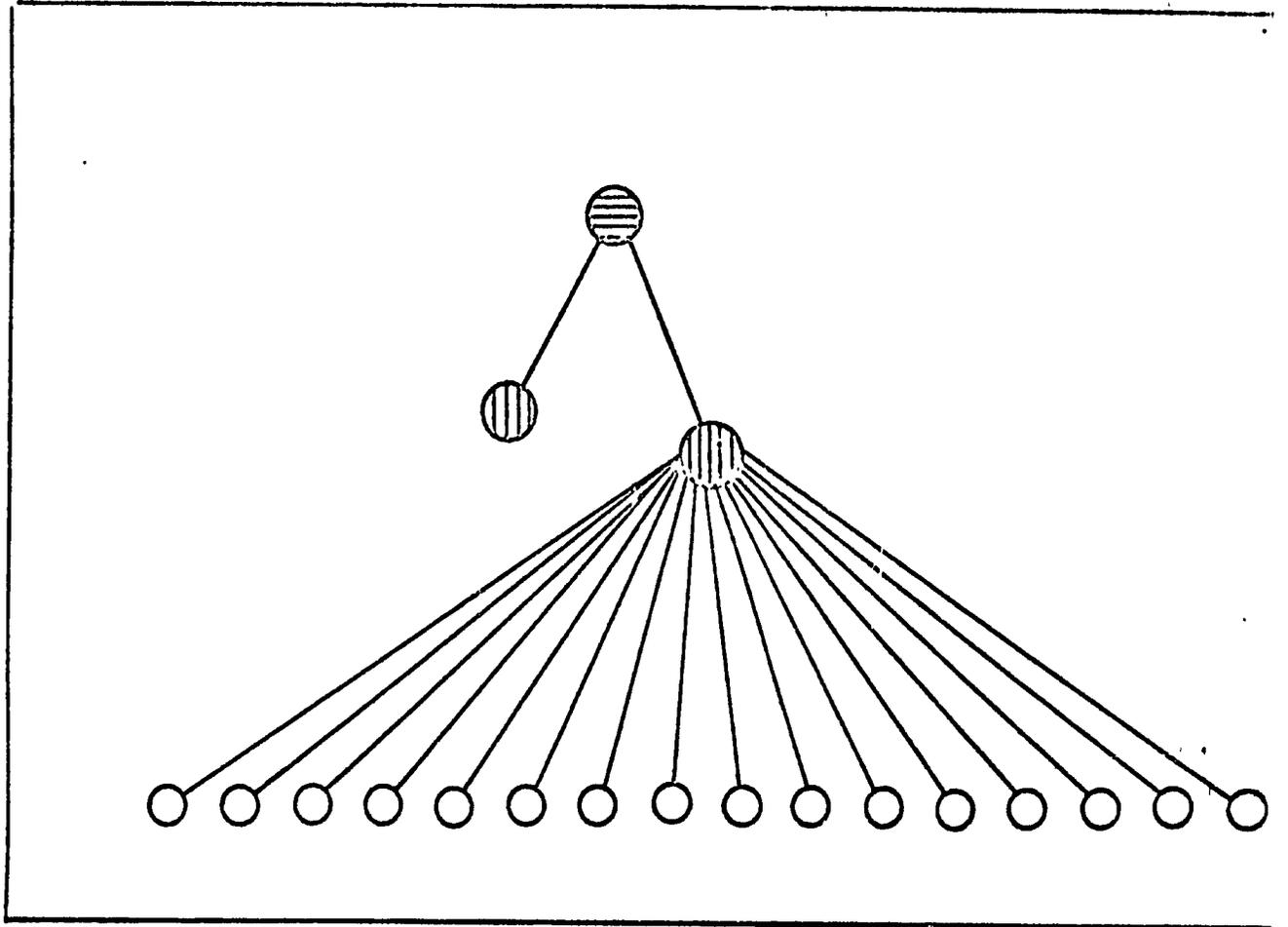
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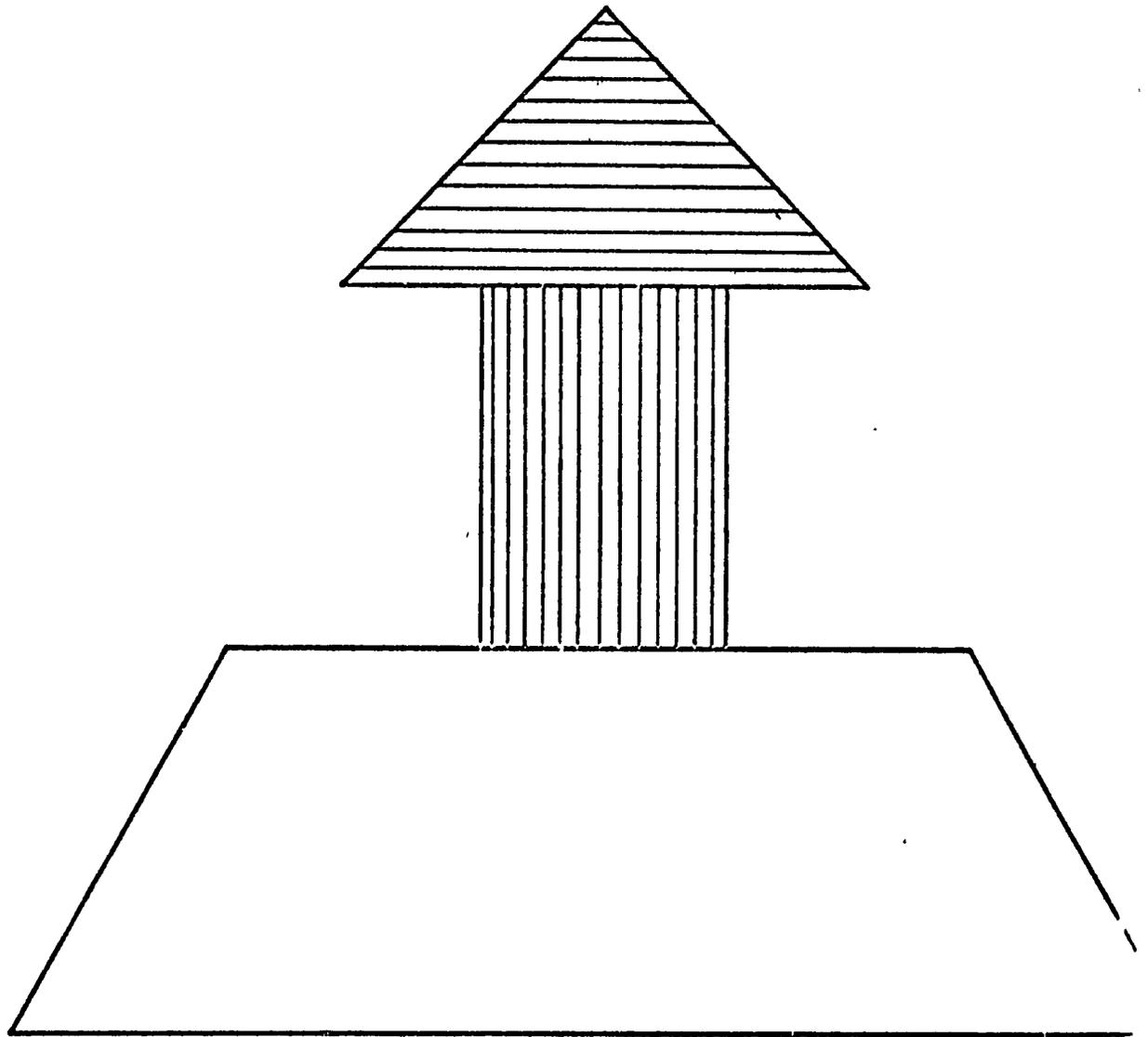
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BUT in many countries of the Region, pyramidal patterns do not exist and instead a bizarre conglomeration of shapes dominate the health delivery systems.

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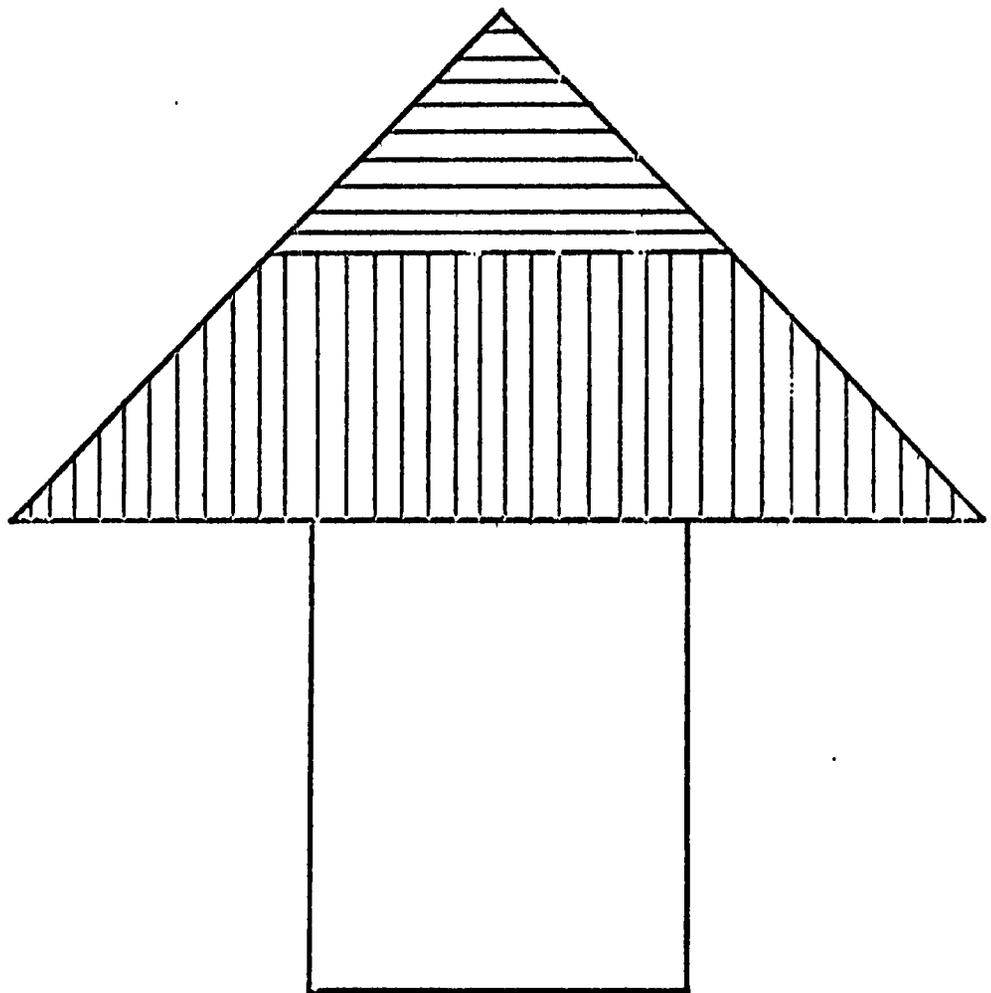
In some countries the category of middle level professionals is too thin to support a pyramidal pattern.



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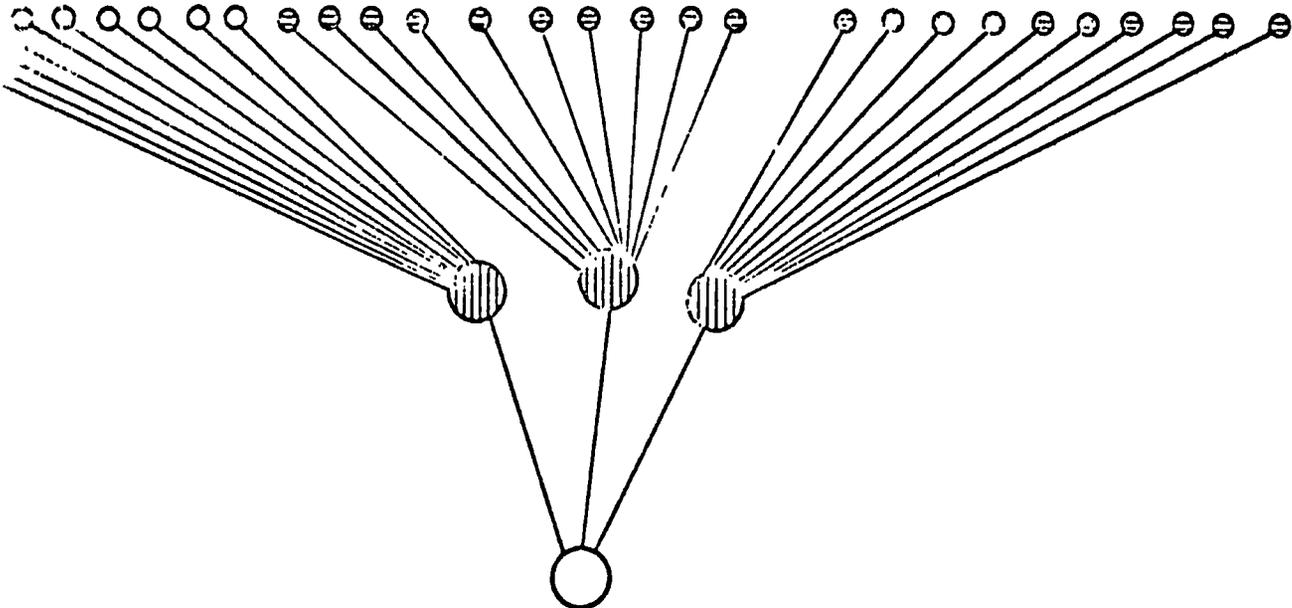
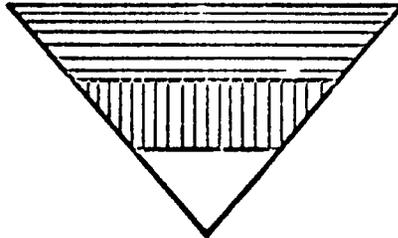
In others the category of health auxiliaries may be underdeveloped and therefore the pyramidal pattern is undermined.



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An inverted pyramid which precludes any form of meaningful technical supervision exists in many countries of the Region.



Dr. Margaret E. Grigsby

BACKGROUND PAPER

BACKGROUND

Health Manpower

King² has stated that a developing country is fortunate if it has as few as 15,000 patients for each of its doctors, or can spend more than \$1.00 a year per capita on medical care. Figure 1 reflects the wide disparity in patients per doctor and per capita health expenditures between developing countries and industrialized nations.

Doctors are scarce and they must spread their services thinly over many patients. A doctor in a developing country has to play a different role from his counterpart in an industrialized one. In a developing country a doctor's main task must be to act as a teacher, organizer, supervisor and consultant to a team of auxiliaries.² Only with such a team will the best use be made of his very scarce skills.² In addition to the doctor shortage in developing countries, members of junior professional or para-medical grade are usually just as scarce.² An auxiliary is very important as substitutes for members of both professional grades.

The lack of money being a major determinant of medical care points up the economic importance of paramedical workers. Since the main costs in the health industry are for services rather than goods, major economies can be realized as functions are transferred from high-salary to low-salary workers.³ This is based upon the assumption that productivity does not decrease at the same rate as salary.

More doctors do not necessarily raise health standards. Investment in training a higher ratio of paramedicals might show greater benefit.³ Cunningham and Morley in Nigeria showed the effectiveness of nurses or grade 2 midwives in lowering the under-five mortality rates.³ On the other hand, in countries where the physician/patient ratio may reach 1:100,000, the need for more physicians is obvious. This is particularly so because the health team approach includes a doctor.

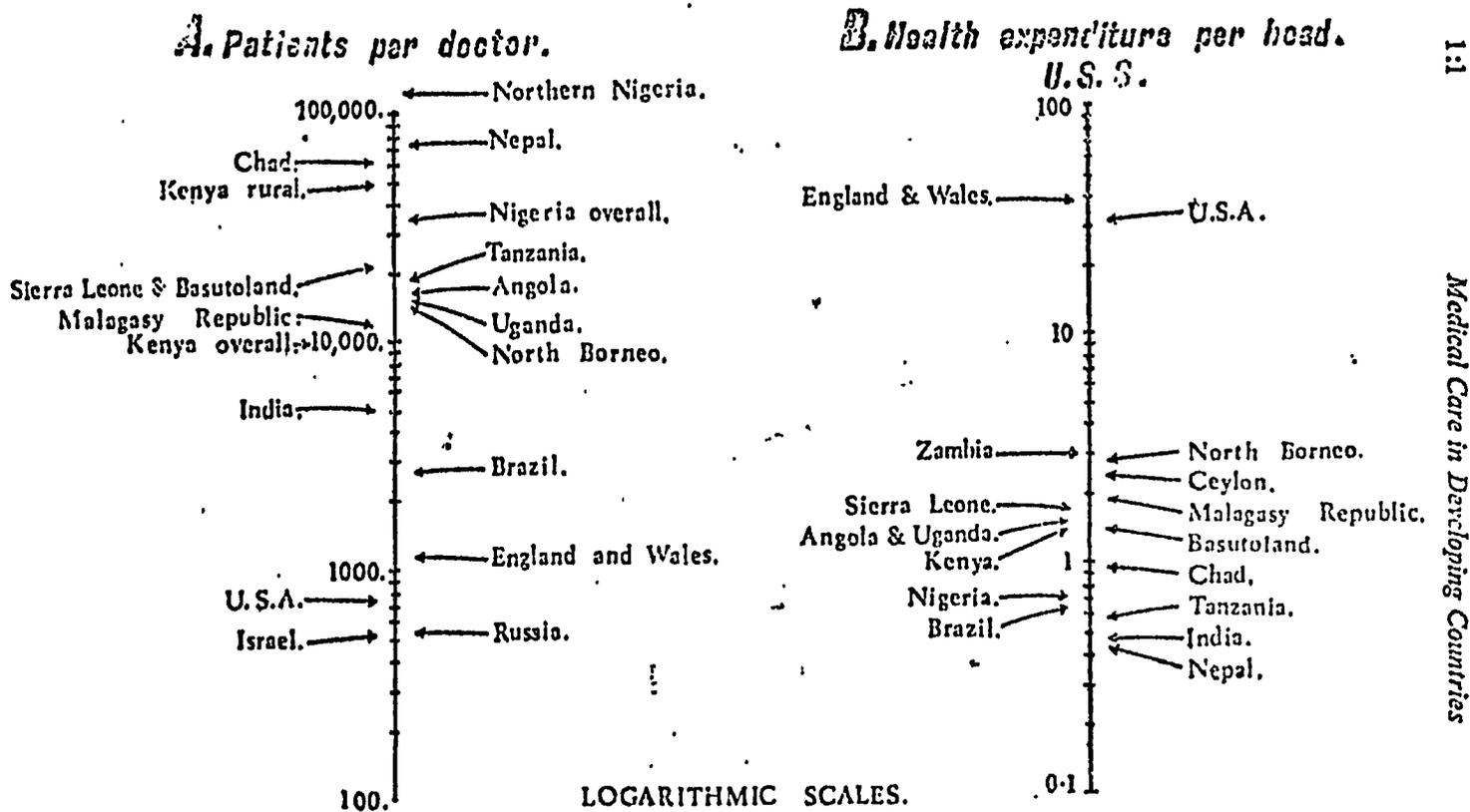
Thus, improvement of the training and utilization of all members of the health team offers the greatest opportunities and challenges in the health field today.³ In most countries, the greatest return will come from increased investment in lower-level health workers.³ Relevant training and effective use of paramedical health workers are fundamental to the improvement of health services and control of costs of medical care.³

The need for health teamwork has been summarized by Ordonez-Plaja³ as follows:

- (1) Need for teamwork
 - (a) Health and disease are complex concepts influenced by the cultural and physical environment.
 - (b) In earlier days, a capable person could by himself handle public health matters.

II.

Fig. 1. TWO MAJOR DETERMINANTS OF MEDICAL CARE — DOCTORS AND MONEY.



From figures published by the World Health Organisation (39b); they are calculated by various countries in different ways so these diagrams should be interpreted with caution. Also (8), (14).

TIMOTHY D. BAKER

TABLE I*

HEALTH WORKERS BY INCOME AND TYPE OF PRACTICE

Type of practice	High income, long education (12 years basic + 6-13 years professional)	Medium income, medium education (10-12 years basic + 2-5 years professional)	Low income, short education (6-12 years basic + 0-2 years professional)
Unsupervised independent general clinical practice	Physician (GP)	Assistant medical officer, licentiate, <i>behdar</i> , health officer (Gondar), <i>feldsher</i> , nurse	Dresser
Hospital or group practice	GP and specialist: e.g. surgeon, pathologist, radiologist, physiatrist, orthopaedist	Nurses—general duty and specialist, surgical technician, laboratory technician, X-ray technician, physical therapist, etc.	Nurses' aide, practical nurse, dresser, laboratory assistant
Antenatal, delivery, and postnatal care	Physician-obstetrician	Midwife	Auxiliary midwife, <i>dai</i>
Drug compounding and dispensing	Pharmacologist	Pharmacist	Dispenser, compounder
Mental health	Psychiatrist	Psychiatric nurse, psychiatric technician	Psychiatric aide
Dental practice	Dentist	Dental hygienist	Dental aide
Public health	Health officer (M.D.)	Health visitor, public health nurse, health educator	Home health aide, etc.
Environmental sanitation	Sanitary engineer	Sanitarian	Malaria assistant, sanitary inspector, etc.
Average cost of training: X		0.3-0.5X	0.1-0.2X
Average earnings per year: Y*		0.2-0.5Y	0.1-0.2Y

* Including consideration of private practice as well as government salary.

* Teamwork for World Health

- (c) Today no single person can have enough of the knowledge about technical, cultural and political variables necessary to make sound decisions.

(2) Functions of the team

The ultimate goal of the team is health improvement.

The health team concept involves looking at the job to be done, dividing it among the different kinds of health workers, and training them to teamwork so that their collective efforts cover the health need.⁴ The composition of a health team, in practice, varies due to shortages or duplication. Thus, each member of the team should be able to handle at least some of the measures directed against problems outside his usual province.⁴ The roles and education of individual members of the health team, professionals and auxiliaries, should be defined in terms of the team as a whole and the system for providing health care and not as something isolated and apart.

The role of the physician on the health team is that of consultant, teacher, planner and manager.⁴ The nurse's role can range between working with the physician in planning and policy, on one hand, and implementation with other paramedical and with auxiliary workers, on the other.⁴ Scarcity of doctors and nurses defines the role of auxiliaries as that of extending the effectiveness of professional and paramedical personnel.⁴ The auxiliary makes it possible for the physician to carry the role of leadership.⁴

Table I. lists health workers by income and type of practice.³ Based on the premise that a physician earns \$5,000 per year, the cost of providing one physician per 1,000 people would be three to ten times the total annual health budget for some developing countries. This figure in many developing countries would amount to 5 to 8 percent of the GNP, a level which cannot be supported by those countries.³ The proliferation of medical schools in developing countries leads to more graduates than the countries can support. This then leads to migration of doctors to wealthy nations.³ Developing nations cannot afford the luxury of training doctors for rich nations.³ One obvious solution to this problem lies in increased and more effective use of paramedical personnel.³

Many developing countries have more doctors than nurses. Similar imbalances occur in the ratios of other middle-level professions to doctors. This might be due to the relatively low status accorded to paramedical workers and the tendency to allocate training resources to producing doctors.³ Thus paramedical training continues to receive low priority in both quality and quantity.³

There is an overwhelming need for better and more trained paramedical workers. There are numerous problems in expanding training and improving utilization.³ The well-balanced health team requires adequate representation at all levels of personnel.

The Role of the University

"The rapid development of the health sciences and the increasing potential of medical attention, as well as the growing importance of social and preventive medicine, are forcing institutions responsible for the education of medical and allied health professions to change their objectives. In the developing countries these schools and institutions are often very strongly tied to ideas, programmes and structures taken over from countries with which they have had, or still have, political and/or cultural links. In a few instances such an association has worked satisfactorily. In most cases, however, these cultural or educational links have prevented the countries from creating their own teaching institutions for the adequate training of such personnel. As a result they need to develop new approaches and ideas relevant to their health problems and needs. In the developed countries the panorama is also changing, for even the most advanced ones are at present re-vising their programmes for the preparation of health personnel in a true fight against traditional patterns. Dissatisfaction is thus universal."³

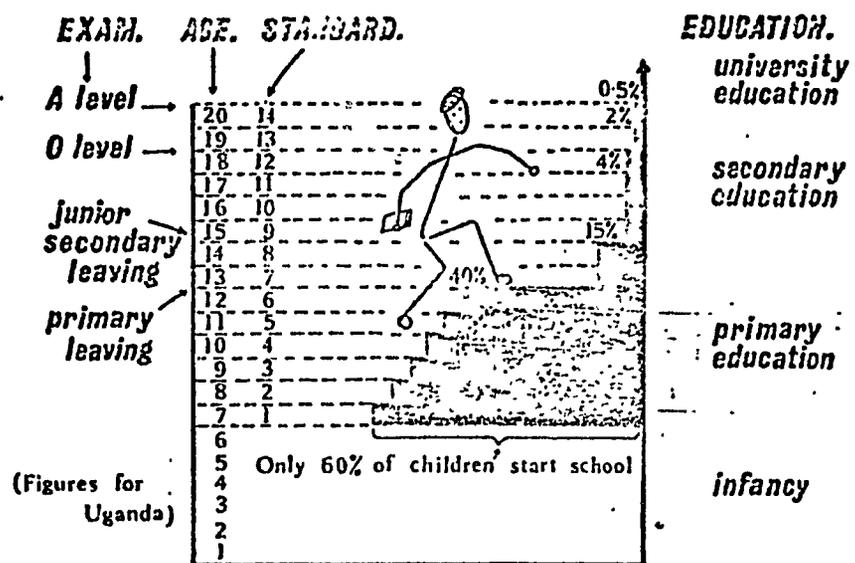
There is systematic isolation of educational programs in the health sciences.³ This is exemplified by the typical sub-division of teaching of these sciences by number of schools, faculties and institutes, as well as by the lack of relationship between such institutions and the various agencies and organizations which should absorb and utilize the manpower produced by them. In addition to a consistent lack of identification of needs, there is also an absence of analysis of educational objectives and possible approaches to meet them.

Efforts are being made to re-examine the educational systems for medical and allied health personnel and to formulate adequate plans in regard to this. On the occasion of the 23rd World Health Organization Assembly, the Technical Discussions involved the various aspects of the education and training of health workers; the need for quantitative and qualitative improvements in their education and training; the adaptation of curricula and teaching methods to national and local conditions; and to need to innovate and adapt.³

"Adaptation of education for the health professions, including medicine, to the local health needs and resources, and a judicious distribution of functions between physicians, other health professions and auxiliary level personnel, seem to constitute the most promising solution to the problem of expanding health services in the face of manpower and financial limitations."³

A few basic principles may serve as guidelines in respect to education of medical and allied health personnel. The first is that education of health personnel should be the means toward the development of health services, rather than the final goal itself. Secondly, the types of health personnel and the kinds of education programs to train them must be determined by local health problems and the corresponding health plans. The third is that education in the medical and allied health sciences must avoid fragmentation and subdivision. This involves the bringing together of analogous programs, faculties and facilities, through multiprofessional schemes for health workers of different kinds and levels. This includes multidisciplinary teaching. Finally, such schemes should be closely integrated with local health services covering the whole range of institutions providing health attention and not solely with a teaching hospital. This means

Fig. 2* **THE EDUCATIONAL LADDER.**



* Medical Care in Developing Countries

that teaching should be (community health) or (total health) oriented.³

The status of women with regard to the health sciences needs study. The structure of professions in all countries has been erected by men for the benefit of men. This is perhaps not irrelevant to the shortage of doctors and medical needs.³

Figure 2 illustrates the typical features of the educational system of a developing country.² It demonstrates the marked narrowness of the educational pyramid and how few are available, at the apex, for university level education. This again emphasizes the necessity for more concentration of educational efforts upon development of paramedical and auxiliary personnel.

The two areas in which health agencies have limited capabilities are the traditional areas of university function, i.e., education and research.⁴ Despite long time involvement in these areas, disturbing deficiencies in health care are traceable to university function.

The role of the physician in the university¹-style hospital and that of the physician in the rural setting are both essential to health care but miles apart. Good education for one may not be adequate education for the other. For the recent graduate, the transition from one to the other can be shattering.⁴ "It is in not recognizing the magnitude of this transition and in not appreciating its importance that the basis for the failure of universities to provide an adequate education for health personnel largely lies."⁴

The problem of providing health care to large numbers of people on limited resources is a legitimate object of academic concern and finding solutions to those problems will require sophisticated and rigorous research.⁴ The future course of universities lies in resolving the dilemma of scholarly pursuits versus community involvement. If the university turns away from community involvement in favor of pursuing scholarship, its scholarly successes will only remotely benefit the nation and its people. If, however, the university forsakes scholarship in favor of a frontal attack on the surface problems of the community, it risks losing the intellectual strength and creativity needed to untie the deeply complex knots of community need.⁴ The challenge to the universities lies in resolving this dilemma.⁴

"The great unmet health need, the serious deficiencies in systems for health care, and the most telling educational inadequacies- these cluster around the single but painfully complex question of how to provide care for large numbers of people on limited resources. A special burden rests on the universities, for there resides the potential for defining the necessary directions of change and for educating the leadership that can bring those changes to reality. The changes that are needed call for new phases of technological development, new forms of professional capability, new relationships among health personnel, new approaches to educational problems, and new attitudes of professional and academic people. The most fundamental purposes of universities are involved, and it must be asked how these purposes can be changed."⁴

The above background information is supplied in order to emphasize the need for more health manpower as well as the necessity for formulating methods to meet that need. University effort at the educational level appears essential to the development of feasible plans and methodology in this area.

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FIRST INTERNATIONAL CONFERENCE
"HEALTH PROBLEMS OF BLACK POPULATIONS"
HEALTH MANPOWER DEVELOPMENT AND THE ROLE
OF THE UNIVERSITY

The following recommendations are brief condensations of discussion group I chaired by Dr. Hamed El'Neil, Monday afternoon, February 3, 1975 . The publication of the complete proceedings will be contained in a report to be prepared by the Howard University College of Medicine African American Scholars Council.

Working Group I recommends:

1. the development of a cadre of health scientists without the general compartmentalization by professional categories.
2. the development of a methodology for the training of health personnel that could be utilized by countries whose political and economic philosophies are in transition from a free enterprise to a socialist system.
3. that health planning be done in conjunction with the government's political ideology. In countries where there will be universal free primary and secondary education, it can be anticipated that within fifteen years there will be large manpower resources that could be directed towards the health sciences.
4. that a firm operational system for rural health service delivery must be developed which could possibly be linked to post graduate training, recertification, salary incentives or military service.
5. the development of instruments that could be used to collect data on motivation of health scientists who are missionary oriented. The information would help educational administrators in the health sciences design curricula which would maximize on these attitudinal qualities.
6. the development of "mini" health training modules that could be used for short term intensive training of "non-degree" health educators who are indigenous to the intended service areas.
7. the development of a system of professional mobility that is based upon the degree of competency in training, the degree of initiative and the level of motivation of the health provider.

Recommendations (2)

8. that training for health service delivery be linked to training on the social, psychological and economic needs of the particular country involved.
9. that educational institutions should be centrifugal in their responsibilities so that students will be involved early in training with the types of problems they will encounter.
10. that the faculty of health institutions should periodically be assigned to the field for "on site" refresher training.
11. the establishment of federal health science institutes where the government will absorb the cost of education of students in return for manpower services in health care delivery.
12. the encouragement of researchers among the ranks of health science students as an essential aspect of professional training and institutional survival.

Submitted by:

Alyce C. Gullattee, M. D.
Rapporteur

ACG/cc

Tuesday February 4, 1975

PANLL I

PROFESSIONAL MEDICAL TRAINING IN GHANA*

Historical Background

The University College of the Gold Coast, in special relation with the University of London, was founded in 1948 and became the fully fledged University of Ghana in 1961. Discussions and consultations on the establishment of a faculty of medicine were begun in 1951 but it was not until 1962 that the first premedical class of 40 students were admitted into the University of Ghana at Legon, near Accra.

Negotiations for foreign financial aid were broken off in 1963 and as a result a purely Ghanaian Medical School in special relation with the Ministry of Health was established hurriedly to receive the first preclinical class for training, on the Korle Bu Hospital Campus, about 12 miles from the University. Thus the Korle Bu Hospital in Accra became the teaching hospital and was able to fulfil the role that the Colonial Governor, Sir Gordon Guggisberg, had destined for it 40 years before.

The new Medical School was integrated into the University, as the University of Ghana Medical School in 1969.

Physician manpower shortage

There is an absolute shortage of physicians in Ghana, but there is also an encouraging trend of improvement. In 1952 the doctor population ratio was 1:30,000; twenty years later it was 1:11,000 and in 1973 it was 1:10,000.

Today's ratio of 1 physician to 9,000 does not reveal relative

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shortages due to maldistribution: the Greater Accra area supports a physician/population ratio of 1:3,000; for the rest of the country the ratio is 1:13,000 and for the rural areas it is 1:20,000.

Meeting physician manpower needs

The first graduates (39) joined the health service in 1969. At that time the doctor/population ratio was 1:23,000. In consultation with the Ministry of Health it was agreed that it would be realistic to admit 50 students each year for the decade 1970-1980. This was not however intended to be an inflexible number and the student intake has been increased; first to 55, then to 60 and last year to 65.

Since 1969 about 250 doctors have graduated from the School. A number of Ghanaian doctors trained abroad have also returned home to practise and altogether there are now over 1,000 doctors in the country.

• Student selection

University entry requirements follow the British tradition and are based on the results of the examinations of the West African Examinations Council at the Advanced level.

There are 3 universities in Ghana but only the University at Legon in Accra has a Faculty of Medicine. Last October, over 4,000 students applied for admission to Legon University in Accra. Only about half of this number qualified to be admitted and places ^{were} finally offered to 1,056. About 200 candidates applied to enter the Medical

School; 111 had the prerequisite qualifications for admission and the 65 academically best qualified candidates were selected, after an unstructured interview. In theory, the entry requirements to medical school are the same as the University minimal requirements which are already high enough; but, in practice, only those with competitive grades in the relevant science subjects manage to gain admission.

Faculty

There are 80 full-time senior faculty and 73 of them are Ghanaians. In addition there are 10 part-time faculty on the staff of the teaching hospital. The Medical School does not yet have a hospital of its own and therefore utilises the Accra Regional hospital - the Korle Bu Teaching Hospital - for clinical teaching. There is no formal affiliation contract between the University and the Ministry of Health or the Hospital Management Board for the use of the hospital. Until recently this had led to a conflict of interests and other difficulties that are inherent in the assumptions on which all gentlemen's agreements are based.

Staff shortages in the basic science area, especially in anatomy is a perennial problem and members of the Department of Surgery have had to assist in the teaching of anatomy.

Programmes

(a) Undergraduate

(i) Medicine. The undergraduate programme is under review and a new curriculum, now in its 4th year, is phasing out the old one.

The course is a 5½ year programme of which the final year is a subinternship year in which there is a series of clinical rotations designed to strengthen the vocational aspects of the training.

Community health is given appropriate emphasis and the Department of Community Health fulfils its important role by maintaining strong links with the Ministry of Health. In addition to medical students, the department assists with the training of non-physician health personnel in both rural and urban health facilities under field conditions. The Danfa Rural Health and Family Planning Project, a joint undertaking with U.C.L.A., is already well known. In addition we are soon to have the use of an Urban Health Centre in Accra. Hopefully, the School might obtain permission and resources to accept responsibility for the health care of a defined area around the urban health centre as a pilot project in health care delivery.

(ii) Dentistry. It has been getting ^{increasingly} difficult to find places abroad for the 8-10 students who are awarded Government Scholarships for dentistry every year. The Medical School has therefore devised an intercalated course by arrangement with British schools of dentistry. The students do their preclinical dental courses in Ghana and at this level take University of Ghana examinations. They then continue their professional training in clinical schools in the United Kingdom. When they have successfully completed the U.K. courses they are to be recommended for the award of the Ghana degree.

The first group of 10 dental students were admitted with the 65 medical students in October, 1974.

(b) Postgraduate:

Residency programmes in Medicine, Surgery, Obstetrics and Gynaecology and Pathology were begun in 1972. At present British Postgraduate diplomas are taken, but plans are being made to prepare candidates for the qualifications of the West African Postgraduate Medical College, as soon as these qualifications have been established.

Costs

There is no single methodological approach to determining the cost of education, which meets every contingency.

In Ghana, University education is sponsored by the State and for medical students this imposes a 5 year mandatory service in the public sector after graduation.

The Medical School is financially autonomous from the rest of the University and obtains ^{all} its income entirely from Government sources. Although the Faculty carries over 80% of the consultant responsibility in the teaching hospital, no revenue accrues from patient care - either to School chest or to individual pockets. Conversely, the School incurs no expenditure for the use of the hospital facilities, though it pays part-time teachers a small honorarium.

Using a constructed cost approach, an annual budget of \$1.8 million is provided to meet running costs. It is probably not

legitimate to prorate to a cost of \$5,000 per student per year on the basis of a total student body of 300. Development estimates are prepared and financed separately.

Projections for the future.

What the University of Ghana Medical School considers in the best interests of the nation, in terms of health manpower development projections, is to continue the trend of phased expansion to the level of an intake of 120 by 1980. Preclinical courses will be done centrally but clinical students will be farmed out to other Regional hospitals for parts of their clinical training. This idea has several advantages:

- (1) It obviates the need to duplicate expensive basic science facilities and personnel who are difficult to recruit.
- (2) It gives notice to the Government that certain Regional health facilities will become affiliated teaching institutions if they can be brought up to certain minimal standards by 1982 or ~~83~~ 1983.
- (3) It provides a rate of expansion of health manpower development which we feel the economy and the Ministry of Health can support and absorb.

On this basis, Ghana will enter the 21st Century with a physician/population ratio of 1:5000. This is considered inadequate in some quarters in Ghana and I shall take up the subject again ^{during} ~~under~~ the *Session*

on "P Perspectives of Health Manpower Development".

No projection for the future can ignore the spectre of physician migration:- In 1970, 7 of our graduates took the E.C.F.M.G. examination at the Accra Centre. Last year 40 graduates took the examination. Altogether 170 have taken the E.C.F.M.G. and 120 have passed, a pass rate of 70% as compared with the usual overall pass rate of 38%. At first I thought the young graduates were only interested in testing their performance on the world market. If this is their intention they have clearly made the point; but on a competitive market and in an open society, it is important, in my opinion, that developing countries should not produce more doctors than they can effectively absorb or retain.

NURSING EDUCATION: SUPPLY, DEMANDS AND NEEDS

(Presented at The Conference on Health Problems of Black Populations)

February 3-7, 1975 Washington, D.C.

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Manpower planning in any field cannot logically proceed without a careful assessment of requirements, qualitative and quantitative, current and future. Manpower requirements in Nursing must be measured in all manpower planning projects to provide a framework for assessing the adequacy of the supply of nurses. Furthermore, supply requirements must be determined for broad geographic areas, nationally and internationally for the black populations, as well as for the particular fields of nursing and the various types of institutions and agencies. where nursing services are rendered or nursing programs are carried out. Such measurements are essential for setting goals, developing meaningful recommendations, and establishing guidelines to meet requirements. Projections for requirements must be supported by determinations that attainment is reasonably possible and should indicate measures required for that attainment. Future supply estimates provide a framework for assessing the likelihood of meeting requirements. Perspectives on educational resources necessary for meeting manpower needs and demands can be obtained by a careful examination of projected manpower requirements against projected manpower supply.

Measurement requirements fall into two broad categories, demand and need. Demand must consider economic factors. Need must consider the standards, expectations, and values as determined by the people of the cultures who are recipients of the services. Both Demand and Need derive from the quality of health care wanted and needed. Ratios are the frequent determinants, and can be expressed in manpower-population ratios or nurse-patient ratios.

Demand is difficult to measure because of the variety of health services and personnel from which demand is derived. Ratios of current demand may be computed by relating budgeted positions to some population base. Ratios for future demands may be computed by applying current demand ratios to future population projections.

All of the measurements that have been identified and utilized to estimate nurse manpower needs and requirements have limitations and the most critical lack is the serious lack of precision in projection techniques that can best be accommodated through preparation in research techniques and methodologies that are usually achieved by means of graduate education. In our black population, nurse researchers are scarce or non-existent, and there are no promising indices that this gap will be filled in the near future.

We currently have seven (7) predominantly black schools and/or colleges of nursing that prepare undergraduates at the baccalaureate level.

This figure represents 7 out of approximately 300 programs. The number of black graduates from all of the 300 programs on an annual basis is a token 5.5% or 550 out of 10,000 graduating.

At the end of 1974, there were 857,000 registered nurses practicing; only 732,000 of this number were full time. Many of this number were practicing in a variety of settings that did not serve the masses of the population. The percentage of the black nurses employed full time and part time can only be estimated since ethnic origin is not recorded by most employers; at least that is what they report.

Ratio by population is roughly 407 nurses per 100,000 population. Full time ratio would calculate this to approximately 347 nurses per 100,000 population. Research to arrive at the black ratio for this group is sorely needed, but will have to emanate from the 55 or 60 black nurses prepared at the doctoral level (which is the accepted research degree). As of 1974 this was the number out of close to 1100 nurses holding doctoral degrees.

Black colleges and/or schools of nursing are most perceptive of manpower needs in black nursing education, and we, at Howard University are in the process of forward movement to establish the first graduate nursing education program of the 7 black baccalaureate programs. We feel this is a significant initiative, since we are the youngest of the institutions that have

this capability (the program accepted its first students in 1969). Movement will be slow, but deliberate, and our attempts are paralleled by the recent struggles for survival occurring in all non-black nursing programs that are seriously threatened by the gradual but certain decrease in financial assistance for undergraduate as well as graduate students. As always, financial resources seem to be the name of the game.

Medical Alliance

MEDEX

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A TECHNOLOGY aimed at helping to solve the growing worldwide crisis in health manpower has been developed and successfully applied in the United States of America under varying geographical conditions. Medex† (these are new providers of primary health care services) is now deployed in thirty States, including remote areas of Alaska. In addition, medex are being trained to provide primary health services to some of the most remote populations in the world in the vast Pacific expanse known as Micronesia. The image of such health services being provided only by physicians is being changed in America.

MEDEX is a systematic way of increasing health services to a large number of people in a relatively short time. The concept is derived from analyses of health-manpower development in numerous countries, including the United States. Its basic elements can be applied with relatively little capital investment. It can then be continued until the desired level of medical-care accessibility is reached, with modest maintenance expenditure. MEDEX has characteristics which make it adaptable (as opposed to transplantable) into many areas. It uses only the human and fiscal resources available and trains health manpower according to the specific needs of a community or country. Medex are integrated into existing health systems by extending the reach of physicians, rather than by substituting for them. In the United States the recruits are former medical corpsmen and nurses; in Micronesia they are former nurses and health assistants. Individuals with or without previous health backgrounds can be trained to become physician extenders when the MEDEX concept is applied to enhance the delivery of health services in various countries.

MEDEX has developed over the four years since the demonstration programme was initiated at the University of Washington in Seattle. Since then, eight additional American medical schools (serving as regional training centres) have begun training and deploying medex into areas where health services were hard to secure. The reasons for emergence of this kind of system were partly stated last year at the First International Conference on Education in the Health Sciences. Dr Bror Rexed, head of the Swedish health system, described some of the pressures that are bound to produce change in the "scenario of medicine of the future"—among them, increasing cost, expansion of demand for ambulatory care, and introduction of new technology.¹ Prof. Isador Gordon has pointed up the problems of trying to train only traditional categories of health professionals. In his view, present efforts to meet the global crisis in health care solely by training more physicians are likely to fail.²

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† MEDEX is derived from the French words, *MEDecin* *EXtension*, meaning an extension of the physician. Two words with identical spelling but different meaning are distinguished in this paper by use of capital letters: MEDEX refers to the programme or to the concept of this new technology; medex (used both for the singular and for the plural) refers to this new paraprofessional, and is also used as a title.

It is against the background described by Rexed and Gordon that MEDEX has been developed. The programme is also a response to the call by Pendall and others to take much of the stored knowledge reaped by basic research and apply it to the staggering health needs of many nations.³ Using applied research methods, a flexible system to increase primary health services has been devised which has six basic elements, adaptable as dictated by local needs and resources.⁴ These six basic elements of MEDEX are described below.

1. Collaborative Model

To obtain as much information as possible regarding the reasons a programme will *not* work, as well as reasons why it *must* work, groups with a vested interest in seeing the health field become more efficient and responsive to social needs are brought together at the beginning. This includes professionals at the top of the medical hierarchy, whose control should not be threatened. Major professional organisations, as well as organisations only tangentially involved with the new paraprofessional, are also brought into the group. They are encouraged to work cooperatively rather than competitively towards common and urgent goals. An essential facet of the collaborative model must be a respected medical training institution (preferably a medical school or teaching hospital). This serves three major purposes. First, it ensures good teaching during the relatively short academic-training phase. Second, it gives the programme stability and permits certification of professional competence. Third, it provides the sort of credibility absolutely necessary to instil confidence in the medex's work, in the eyes of both employer/supervisor (the highly trained doctor) and consumer (the public). These collaborative elements are given the opportunity to establish programme policy, especially if medex are going to work in "supervised remote practices" at considerable distances from physicians to whom they are responsible.

2. Receptive Framework

Creation of a new health professional demands careful preparation of the milieu in which he will work, to encourage acceptance by the medical profession, by other health personnel, by patients, and by supporting systems such as hospitals, the legal profession, and insurance companies. All groups and systems affected are contacted and are prepared for the arrival of the medex. Community preparation is of paramount importance, and here the skills developed by community psychiatry are particularly useful. Overcoming cultural barriers will in many instances make the difference between success and failure. Building an acceptable image and acquiring a special identity are difficult obstacles MEDEX seems to have hurdled. The importance of these cannot be overestimated in contemporary health-manpower programmes. Legally, too, the status of the medex needs to be clearly defined. Where applicable, malpractice insurance must be made available.

3. Professional Involvement

Recognising the need for change in any endeavour is the first step towards that change. Important to a successful outcome, where paraprofessionals are concerned, is leadership by professionals. If doctors act as the agents of change, innovations such as MEDEX are skewed to succeed. Because physicians are involved from the beginning of the programme they are receptive to the newcomers. Their involvement includes participation in job/task analyses to ensure that training is directed toward paraprofessional skills that will be used on the job. The physician also participates in the selection and training of the trainee whom he will ultimately hire or supervise as a medex. This personal involvement tends to make the physician more careful about selection; and he is anxious, too, that his selection decision should demonstrate good judgment. Involvement helps to stimulate medical practitioners to delegate some of their tasks, as well as train them to share responsibilities and be comfortable with the delegation. If the "effective demand" for medex is to increase, this will depend upon increasing physician involvement.

4. Competency-based Training

If the emphasis at the mid-level of the medical hierarchy is placed on development of competence to perform specific tasks, rather than on accumulation of diplomas or degrees, medex can be produced and deployed rapidly. An assessment is completed before the start of training in order to document the community's health-service needs. Then task analysis is done to determine what the trainee will be doing upon graduation. The programme also takes into account the student's previous training and experience on entry, so as to avoid wasteful and discouraging retraining. If, for example, the individual is a nurse, a former military medical corpsman, or a health assistant, much basic material can be left out of the curriculum.

From analysis of data accumulated during the needs assessment and task analysis, and by taking into account the students' entry-level skills, a curriculum emphasising the primary needs of the community is laid down which makes the training relevant to the practice setting. The academic training programme can be shortened if the trainee learns only those skills which will be required of him in his job. Training people for nonexistent jobs or jobs which underutilise them is avoided.

These steps are linked to today's identifiable needs. Preparation for meeting future needs should be in the hands of an integrated programme of continuing professional education (see the sixth element below).

5. Deployment System

In order to direct training programmes towards realistic requirements, MEDEX has a built-in system to deploy graduates into areas of need. This is accomplished in part by involving physicians in the selection, training, and employment/supervision of these new paraprofessionals. Such physicians should be selected, whenever possible, from among primary-care physicians working in or near areas of need. They should agree to assist in the training and subsequently in supervision of the new manpower. After an intensive academic (didactic) training phase in a medical school or teaching hospital, medex trainees are integrated into the office, clinic, and hospital environment quickly, by having the bulk of their remaining training (preceptorship) take place on the job, in surroundings similar to their future work situations.

This model of training means that an individual knows where and for whom he will be working before he begins his training.

6. Continuing Professional Development

For a MEDEX programme to remain relevant to a rapidly changing society, a mechanism is included to promote professional growth of the medex. Thus, in addition to filling gaps in knowledge identified by the trainee himself and his professional employer/supervisor, a planned programme of continuing education is regarded as an essential responsibility of the training institution and/or other elements of the collaborative model. It is promotion of the medex's education as a dynamic continuum that allows competent (and perhaps non-degreed) personnel to extend the capacity of physicians to meet the needs of societies.⁵⁷

Each of these six elements reflects the designing-out of specific problems encountered in health-manpower programmes in various countries. Competency-based training is a considerable departure from the traditional training of health professionals.

Newer training technologies such as algorithms and video-tape packages substantially reduce the time needed to train these new professionals. A short (three-month) but intensive didactic training phase is followed by a nine-month preceptorship training phase. Building upon the previous competencies of medical corpsmen, nurses, or health assistants, competency-based training does not waste time by teaching inappropriate material. Rather, it assists individuals to acquire additional skills dictated by analysis of the jobs to be performed. For students with no previous health background, the training is longer.

The MEDEX approach is producing individuals who already are increasing physician efficiency (measured by patient visits and hours spent in practice) by 75-125%.⁸ In "supervised remote practices" medex alone may adequately handle 80% or more of the problems in an outpatient clinic.^{9,10} This is possible because these new paraprofessionals perform many of the routine, repetitive medical tasks that have hitherto been the sole domain of the physician but which do not require the sophisticated training and experience of a fully trained doctor. Medex are taught which patients require the physician's more intricate and profound diagnostic and therapeutic skills.¹¹

By far the most important elements in MEDEX as a tool for enhancing and expanding delivery of health services is the building of the receptive framework. Two usually neglected facets—community preparation and imagery of the medex—require the skills of the emerging sphere of community psychiatry. To augment the public's perception of the providers of primary health services requires the development of a new identity. Creation of an image of a competent primary-health-care professional, working within his/her limitations, requires skills in group dynamics and communications not usually considered important in health-manpower development. Further, the invention of a bisyllabic title and form of address (*Medex Jones*, *Medex Guernet*) has aided in the creation of a new and distinct nonpejorative identity which Fendall¹² and Kesic¹³ regard as essential if health-manpower development is to progress.

The MEDEX system is now being adapted to multiple socioeconomic, cultural, and geographical settings. MEDEX is being adopted by medical-care systems in highly industrialised as well as less developed settings. Taking advantage of advances in task analysis, competency-based training, and community psychiatry, this approach to the training and deployment of physician extenders into areas of need is one of the most encouraging developments in health manpower in recent decades.

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Tuesday Feb. 4, 1975

Working Group I

Chairman

Dean S. Dodu

Co-chairman or Rapporteur

Dr. T. I. Francis

The group agreed to use the following working definitions of the types of workers which are classified as:

1. Professional workers - are trained to a level that is generally accepted for their particular discipline. The training is usually but not always of the University type. Professional workers function in their field of competence without supervision.
2. Auxilliary workers - have less than professional qualification and their training is usually below University type training. Auxilliary workers assist and are supervised by professional workers.
3. Ancilliary workers - have no formal training e.g. ward orderlies, gardeners etc.

The numbers of any of these groups of workers is usually determined not only by need but by the administrators and health planers.

The various members of the Professional or Auxilliary Health team were discussed. A new cadre (Community Aide in the West Indies; Assistant Health Educator (Ghana); Community Village Worker) drawn from within the village who were given training relevant to the tasks. These acted as a link between the Public Health Nurse and community was considered to be essential.

All workers should be given multidisciplinary training although it was realised that in practice, workers could not practice all areas e.g. preventive or curative.

All workers should have undergone courses in management or administration.

It was also recommended that manuals of instruction be prepared by the Universities in collaboration with Ministries of Health for these Ancilliary workers.

The projected recruitment, distribution and utilization of these important workers should be determined not only by need but by the policy planers or administrators.

Dean Ira Robinson
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SUPPORTIVE PERSONNEL IN PHARMACY*

Historically, pharmacy and medicine have a common origin. The healing arts were practiced and preserved by an ancient priesthood in the temples of by-gone civilizations. The knowledge, skills and mystique of the healer's crafts were faithfully recorded and passed on to succeeding generations of priests, who practiced their skills and expanded their knowledge through early forms of research and passed these on to those who followed in their foot-steps.

Yet, the origin and the development of the Healing Arts is as old as history and the development of man himself and parallels this development. Ancient man learned the healing arts by trial and error and observation of birds and beasts, and eventually applied his newly acquired skills to relieve the suffering of his family and friends.

It is said that pharmacy first became legally separated from medicine in 1240 A.D. in Sicily and Southern Italy when royal edict prescribed regulations for the practice and licensure of practitioners of pharmacy and medicine.

In the United States, pharmacy training has developed from an apprenticeship program to formalized, academic programs increasing in length and breadth of discipline over the years to our present-day academic degree programs offered in our schools and colleges of pharmacy today. The following various academic degrees have been offered over the years:

1. Pharmaceutical Graduate (Ph.G.), two years of study
2. Pharmaceutical Chemist (Ph.D.), three years of study
3. Bachelor of Science in Pharmacy, initially four years of study; subsequently, 5 years of study or the equivalent
4. Doctor of Pharmacy, basically six years of study for the basic professional degree; however, seven years of study at some colleges of pharmacy

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Presently, academic programs leading to baccalaureates and doctorates in pharmacy are offered by accredited colleges in the United States.

In advancing from the Pharmaceutical Graduate to the present-day B. S. in Pharmacy and Doctor of Pharmacy degree programs, colleges and schools have sought to maintain pace with changing and increasing demands for a broader range and better quality of health-care services in the community. Formerly, the pharmacist was trained to be a "pill" maker and dispenser of medicines. He was expected to own and operate a traditional "Drug Store" or "Apothecary" or to man the former hospital "drug room". However, advanced pharmaceutical as well as medical technology has changed all of that. Today, the pharmacist compounds very little; he counts and pours (oops!); but most importantly, he now spends more time with the patient and fellow health professionals, counseling them on proper drug use, storage, administration and handling. He remains the custodian of drugs and drug products but has shed the more pecuniary orientation for a more patient-oriented practice in which he does something considerably more than "sell" a drug to a patient.

Consequently, today the pharmacist is performing a variety of unique functions heretofore reserved by the physician for himself or other paramedical personnel under the physician's direct supervision. This is especially so in the hospital environment where pharmacists are being included on the clinical team and making rounds with the physician. In this new role, the pharmacist is called upon to advise the physician in selecting the most appropriate drug(s) for the patient as well as to manage the drug therapy of patients with chronic diseases. This is unique in that this opportunity permits the new generation of emerging pharmacists to more fully utilize their extensive and sophisticated training in such subjects as anatomy, pharmacology, physiology, biochemistry, physical diagnosis, and pathology as well as basic pharmacy. They are able to

capitalize upon their unique expertise in the areas of drug-drug, drug-food and drug-chemical interactions; biopharmaceutics and pharmacokinetics; and adverse drug reactions, for the benefit of the patient.

Today's pharmacist is better able to perform such unique roles principally because he completes an interdisciplinary clinical training program in a variety of health-care facilities along with the medical, dental, nursing and allied health professional student. He develops and analyzes patient drug profiles, engages in drug reaction studies, develops and implements drug information programs. During training, the pharmacy student completes clinical clerkships which include clinical rotations; rounds and Grand Rounds of the medical, surgical, pediatric, cardiovascular, infectious diseases, pulmonary diseases units. Today's pharmacy graduate can appreciate the role and value of high speed automated, electronic computers as aids in diagnosis, treatment, and health-care systems management.

One may wonder how the pharmacist will be able to utilize such clinical training and at the same time fill the ever-increasing numbers of prescriptions for the increasingly health-conscious populace. More specifically, one perhaps wonders just how Black pharmacists will find the time to render such time-consuming services, particularly since only 2500 Black pharmacists are in active practice in the United States today. The wonderment can, of course, be extended to other black populations of the world since medical care, including pharmaceutical services, is much more limited in our sister countries.

The answer is simple: The pharmacist cannot and will not be able to perform the more highly professional clinical role as an equal member of the health-care team without the delegation of non-professional functions to a pharmacist-extender--a pharmacy assistant or pharmacy technician, if you will. As has been done in medicine, the pharmacist has delegated various manipulative, repetitive duties to a non-pharmacist while reserving the responsibility to supervising such personnel in order to protect the patient's welfare.

The Use of Supportive Pharmacy Personnel

Supportive pharmacy personnel can be an invaluable adjunct to the busy pharmacist in the community setting as well in the traditional hospital setting. One need only contemplate the numerous possibilities open to the pharmacist who utilizes pharmacy assistants or pharmacy technicians in order to appreciate how that pharmacist's time and energies might be more fully utilized for more meaningful and creative ways of providing a broader range and higher quality of patient care.

The pharmacy technician may be defined as a person trained to perform specific, manipulative, repetitive tasks which are involved in the preparation, storage, handling and distribution of drugs and drug products. The types of tasks being performed by supportive pharmacy personnel are widely varied. However, in the hospital pharmacy setting, they are the key elements which make possible such programs as the I.V. admixture program, unit dose drug distribution systems, parenteral preparations laboratory, pre-packaging and manufacturing programs, materials management or purchasing/inventory control programs. Supportive personnel are training in one or more of these areas and perform their duties under the supervision of a pharmacist. Their use permits the pharmacist to oversee a larger number of projects and yet monitor the quality of the supportive personnel services.

By title, pharmacy technicians may range from the clinical pharmacy technician to the packaging technician. The clinical technician assists the clinical pharmacist in providing medication, drug information and other pharmaceutical services to patients, physicians, nurses and other health professionals. Under the pharmacist's supervision, he may fill medication orders and deliver them to the medication cart; maintain adequate supplies in the unit working area; maintain and record patient profile medication histories; maintain accurate statistics on the work load, number of drugs used per patient stay, number of patients, length of stay, etc.; and determine the patient's medication needs

from the nurse's medication chart.

The materials management technician is responsible for assisting the pharmacist with extemporaneous compounding; tax-free alcohol withdrawal, dilution and dispensing; stock control and automatic floor stock replacement. In fulfilling these responsibilities, the technician may replenish nursing unit stock weekly or biweekly as needed in order to maintain adequate stock supplies on the unit; receive and check all incoming stock and properly place in the storeroom; maintain records of stock received and dispensed from the storeroom; maintain records for all stock delivered to the nursing units; and maintain records and receipts for all tax-free alcohol dispensed.

A parenteral laboratory senior technician will supervise parenteral laboratory junior technicians and generally assist the parenteral laboratory supervisor in manufacturing large-volume parenteral solutions. He may be involved in supervising environmental control or proper cleaning of the entire parenteral manufacturing area daily; consulting with the parenteral laboratory supervisor regarding the parenteral manufacturing schedule; weighing out manufacturing ingredients to have them checked by the supervisor; supervising the preparation of closures and containers in accordance with the procedure manual; checking to insure separation throughout the entire operation of all solution batches identified in process; maintaining accurate batch process records; taking appropriate samples for analysis and sending samples to the bacteriology and chemistry laboratories for analysis and sterility testing; maintaining an up-to-date inventory of all equipment, labels and chemicals used and needed; as well as a variety of related duties.

Prepackaging and labelling of required drugs and maintaining packaging records are basic responsibilities of the packaging technician. These duties include prepackaging drugs for dispensing purposes; labelling all prepackaged items; storing prepackaged items after a batch has been checked and released by the pharmacist; maintaining all required records, including

batch number, lot number, company and quantity for each prepackaged product; and maintaining an adequate supply of prepackaged items.

While I have discussed only a few of the various types of pharmacy technicians in use today, one need only use the imagination in order to begin to realize the virtually limitless number of possibilities for use of such supportive personnel in pharmacy, provided the pharmacist remains accountable by legal, professional and ethical standards.

Supportive Pharmacy Personnel Training Programs

Unfortunately -- or perhaps, fortunately -- uniformly designed and accredited training programs for supportive personnel in pharmacy are not available. The training programs in use today may be classified as one of the following three types: formal, informal and combination training.

While some programs are presently conducted by schools and colleges of pharmacy, community colleges represent the principal site of present-day formal training programs for pharmacy technicians or pharmacy assistants in the United States. These are normally two-year colleges which provide classroom instruction mainly but which may also have cooperative arrangements with local hospital pharmacies in order to provide a laboratory component in their courses of instruction.

Informal training programs are comprised of on-the-job training under the auspices of the pharmacist. The pharmacist trains an employee to perform specific functions required for meeting the immediate needs of the particular hospital or community pharmacy. Needless to say, this type of training is limited in scope and adequacy and is usually weak in theoretical and classroom instruction.

In a combination training program, the opportunity to utilize both classroom and laboratory instruction in the training of the technician is capitalized upon. Normally, a community or university college will develop a cooperative program of specified duration for training students to perform certain specific supportive functions for the pharmacist.

Although training concepts and course content vary considerably from locale to locale and on the basis of job title for which a technician is being trained, programs will normally include such basic courses as jurisprudence, pharmacy policy and procedures (usually in hospitals), history of pharmacy, actions and uses of drugs, pharmaceutical dosage forms, mathematical terminology used in pharmacy, dispensing systems, supply management, pharmaceutical and medical terminology and communications.

While the need for qualified pharmacy technicians is questioned only among certain community pharmacy practitioners -- who may, however, be utilizing pharmacy assistants under some other nomenclature -- the type and length of training are frequently debated. At this juncture, suffice it to say that the important point in my opinion is that the areas of need for such supportive help should be carefully defined in terms of the specific which non-professional tasks/can and will be delegated by the pharmacist. Once the specific tasks have been identified and studied, it becomes rather straightforward to determine the areas in which these personnel are to be trained. The depth of training in any particular subject matter area depends on the level of delegation of responsibility which can legally and ethically be made by the pharmacist with respect to each of these tasks. The number and complexity of the tasks to be performed by the technician as well as the depth of training in each particular subject matter area will largely determine the required length of the training program.

Summary

Health-care services are costly. Black communities universally share in an acute shortage of primary care health professionals. In order for the pharmacist to contribute maximally to cost-effectiveness and improved patient care, he must continue to join the growing community of health professionals utilizing supportive personnel in order to extend their services

to rapidly growing, health conscious and health-care deprived populations.

The American pharmacist is becoming more and more clinically or patient oriented in concept and practice by virtue of training programs which emphasize patient-care rather than pecuniary benefits for the professionals themselves. The American pharmacist is being accepted more widely by the physician, nurse and other health-care practitioner as a legitimate member of the clinical team. In hospital and community practices, the American pharmacist is contributing to improved health care by undertaking unique roles as the drug information specialist on the health-care team. As he becomes more and more involved in the performance of such vital functions, pharmacist extenders or technicians become increasingly necessary.

Supportive personnel in pharmacy can be trained inexpensively and within short time frames and can provide a wide range of highly specialized services in extender roles.

Health-care systems planners for predominantly Black communities should and must consider this alternative to training much larger numbers of pharmacists, nurses and physicians, especially when one considers that the numbers of such professionals required to provide quality health care to the numbers needing their services are beyond the realm of practicality for the foreseeable future.

And who must take the lead in this effort? The Black university can and must accept this responsibility.

Working Group I

Wednesday Feb. 5th, 1975

"Field Training for Auxiliaries"

- (a) Types
- (b) Facilities

Participants

Dr. Poindexter	Chairman
Dr. Kaiashain	Co-Chairman/Rapporteur
Miss Kennedy	Co-Rapporteur
Dr. Eason	
Dr. Harper	
Dr. Kagia	
Dr. Ragbeer	
Miss Simpson	

It was recognised that there are many types of sub-professional personnel used in many countries in health care delivery systems, often under different titles. The following are some of the major groups:

Physician/Medical and Dental Assistants
Nurses, Midwives and MCH Assistants or Aides
Laboratory Technicians and Assistants
Pharmacists and Anaesthesia Assistants
X-Ray Technicians and Assistants
Physiotherapists and Occupational Therapists
Biometrician and Statistical Assistants and Data Collectors
Sanitarians and Pest Control Personnel
Health Education Assistants
Nutrition Assistants
Administrative Personnel including Medical Recorders,
drivers, etc.

When a midwife works in a ward in a maternity unit, her duties are very similar to those of a registered nurse. Only those duties that are peculiar to a registered midwife will be mentioned here.

6. The jobs description given here is that of an enrolled nurse who works either in a district hospital or in a health centre.

7. This is a post-basic qualification. The nurse has already had training in general nursing and in midwifery.

This nurse is supposed to work mainly in the field.

8. Enrolled Public Health Nurse (Assistant Public Health Nurse; Enrolled Health Visitor) This is a post-basic qualification. The nurse would have been trained in general nursing, then she would have done one year midwifery and then she would do one year public health nursing after the midwifery.

The job description given here is that of a nurse working in a health centre or in a district hospital.

9. Enrolled Nutritionist course is post-basic. Girls who have been trained as enrolled nurses are normally encouraged to apply.

10. Medical Assistant (Clinical Officer) The job description given here is that of a Medical Assistant working in a health centre.

11. Clinical Officer courses in ENT, Paediatrics, Ophthalmic and anaesthetics are post-basic. The officers have already been trained as general Clinical Officers (Medical Assistants). In the four cases, the course lasts one year.

12. Radiodiagnostic technician this information is as given in the WHO/IAEA seminar on training of radiographers and other technical staff in the medical uses of ionising radiation and radioisotopes held in Teheran 4-15 December 1971.

Dr. Whitter, senior Consultant Radiologist, Kenyatta National Hospital (Personal Communication) assures me that Kenya radiographers are trained to perform these functions.

13. Radiotherapy technician this is as in 12 above for radiographers.

It was suggested that planning for the training of each type of auxiliary could be comprehensively covered under the following headings:

- (1) Category of worker
- (2) Total number required per 1000 or 10,000 of the population, taking into account any political or economic/budgetary limitations
- (3) The criteria for selecting trainees
- (4) The length of the training programme
- (5) The content of the course
- (6) The supervision and directing of training
- (7) Evaluation
- (8) Estimated cost per person

It was agreed that although many developing countries had similar health problems, each country had to work out its own training programme to suit its own peculiar circumstances. It was therefore necessary to carry out a survey of the health needs in the community of a particular locality in order to determine the type and number of health units (e.g. health centers) needed and the type of staff most capable to deal with the local health problems. In this way a detailed job description could be drawn up for each cadre of staff and the training programme designed to fulfil the specific requirements. It was pointed out that by restricting the course to only those

duties that the trainee will be called upon to perform in the field, many training courses could be substantially shortened. For example, a primary midwife could be trained in 1 to 2 years instead of the usual 3-4 years when midwifery is combined with general nursing. It should be recognised that a person does not have to be a general nurse to provide good midwifery services. It was also suggested that as midwifery constituted a major problem area in most rural communities, there was no reason why male nurses should not be trained in this field.

The health services required in any rural community were broadly classified into three fields: curative, promotive and preventive. It was recommended that every health worker should be trained to contribute to each of these fields, although his/her duties may fall mainly into one or other of them. As many of the health problems in developing countries are pre-ventable, the emphasis should be placed towards the preventive aspects of health care, particularly directed toward education of the people. A typical rural health centre was cited, which was staffed by three main workers: (1) a medical assistant, who performed the duties of a physician but had a wide community health background including sociology and preventive medicine; (2) a community nurse, with training in general nursing, midwifery and public health nursing; and (3) a health assistant or assistant sanitary inspector, whose training was

primarily in environmental sanitation problems e.g. food hygiene and sewage disposal systems. It was also felt that a driver was necessary to transport personnel within and outside the community. For such personnel to be able to operate as a health team in a rural area, it was imperative that they should be trained together, preferably in a rural setting similar to their future field of work to ensure adequate exposure. They should also be trained to take leadership or obey directions when called upon to do so. In other words, although regarded as "auxiliary", such workers in the field are practically independent and should therefore be capable of taking full responsibility, although recognising their limitations.

It was emphasised that field training was essential for the higher cadres of health personnel as well as e.g. physicians and nurses, if they are to function as members of the health team. This would also help to reduce the reluctance often prevalent among such workers to be posted to work in rural areas.

It was recommended that whatever training programmes were introduced, the views of the community must be kept in mind from the planning stage and throughout the programmes as a means of continual evaluation. Above all, all programmes must be feasible and realistic.

In summary, the main recommendations from Working Group I-Field Training for Auxiliaries were: (1) To survey the health

needs in the community of a particular locality in order to determine the type and number of health units and staff capable of dealing with the specific problems; (2) To train every health worker in health services described as curative, promotive, and preventive with major emphasis on the latter through health education of the people; (3) To train higher levels of the health profession in the field to encourage the health team concept; (4) To introduce only training programs that are adaptable and feasible in the views of the community; and (5) To evaluate all operating programs in the community on a continuing basis.

TO: DR. MARGARET GRIGSBY

FROM: DR. SHIRLEY EVANS
CALIFORNIA STATE UNIVERSITY, NORTHRIDGE
NORTHRIDGE, CALIFORNIA 91324

RE: WEDNESDAY AFTERNOON SESSION
FEBRUARY 5, 1975

WORKING GROUP II

Wednesday afternoon, 2:00 - 4:30 p.m., February 5, 1975

Chairman: Dr. Frederick Wurapa
Co-Chairman & Rapporteur: Dr. Patricia Niles
Assistant Rapporteur: Dr. Shirley G. Evans

THEME: The Team Approval to Health Care Delivery

- a. Techniques
Leadership
Coordination
Communication
Administration-Management
Human and Public Relations
- b. Health Service Strategies - Professional
Supplementary to Medicine and Auxiliaries.
Providing services through coordinates
Tasks and Procedures.
Health Problem Analysis
Program Planning Techniques

Dr. Wurapa suggested that the group conclude this work session with realistic, concrete recommendations for:

- 1) the composition of a health team;
- 2) the working order of the team;
- 3) and the aspects related to administration techniques, coordination, etc.

Dr. Wurapa also suggested that the group accept the following definition for discussion purposes this afternoon; a health team here is designed to deliver comprehensive health care in a center setting.

Dr. Davidson: University of West Indies described the health team model used in Jamaica. The four man team includes:

- 1) the public health nurse (team leader)
- 2) the community health aide
- 3) the records officer
- 4) the pharmacist (which may be a nurse)

This model was used in a pilot project in a Well Child Clinic setting in 1972. It has now been set up as a module using the University personnel for teaching purposes.

The concept of the public health nurse taking the leadership role on the health team was formulated in order that the m.d. be released for other duties. In order for the health team to function effectively in this center setting, the center had to be reorganized so that patient flow would be quicker and easier. The reorganization resulted in this scheme:

- 1) the first station in the health center is the records officer.
- 2) the second station is that of the community health aide (a person with 3 months training for this position)
- 3) the third station on the patients' trip through the clinic is that of the public health nurse for diagnosis and treatment
- 4) the social worker and/or the community health works with the patient if necessary at this station.
- 5) the pharmacist is the last station in the health center

If necessary in this setting, the patient would be referred to the doctor.

Before this health center concept with the public health nurse in the leadership role was introduced into the community, there was excellent community preparation: the idea of patients coming into the center and not seeing a doctor was a new one and ground work had to be done on the grass roots level. Health education councils in the villages helped with this task.

Dr. W. Rutasitara, Tanzania

The delivery of basic health care depends upon local priorities. In Tanzania, health care is directed toward:

- 1) Care of ill persons
- 2) Environmental problems
- 3) Communicable Diseases
- 4) Maternal and child care

- 5) Health Education
- 6) Record keeping
- 7) Home visits

Secondary care recently introduced in one center setting include:

- 1) Dental care
- 2) Care of the aged
- 3) More-communication disease control i.e. heart disease, etc.

Dr. Thompson: Nigeria

The prime concept for health centers in Nigeria involved around the idea that the health center depends upon the needs in the area.

Leadership of the health team automatically is that of the doctor.

If the physician is not present the public health nurse assumes that role.

Dr. Wurapa: Ghana

Leadership of the health team falls into two categories: formal and informal. Therefore, the leadership of the team is flexible.

Dr. Niles: U.S.A. Howard University

Health planning, political awareness, health administration, health content should all be components as far as the background of the team leader is concerned. The medical doctor may or may not assume this team leadership role.

Dr. Grisby: U.S.A.

Suggestion to the group - Define what the health team would be doing so that the role of the team leader would be clearer. Opinions from

current literature and personal feelings are that the physician should be the health team leader. Legal responsibilities prohibit others from heading the health team in most countries.

Dr. Joycelyn Elders - U.S.A., University of Arkansas

In a team approach to combat diabetes (at the University of Arkansas) all team members knew the role they were to play. Tasks were clearly defined and each member worked within that sphere, but worked across lines when necessary for the best interest of the patient. There was a team leader designated but no one knew who it was and all went smoothly. The five man team consisted of:

- 1) A social worker
- 2) A public health nurse
- 3) A family physician
- 4) A nurse/practitioner
- 5) and a nutritionist

Dr. Sinnette: U.S.A., Harlem Hospital

Suggestion: The group needs to examine the team approach. Look for its merits in regard to cost, cost benefits, resources and levels of health care.

Dr. Wurapa: Ghana

Appealed to the audience to: 1) define what the health teams are to do; 2) who composes the team; and 3) and for what function.

Dr. Thompson: Nigeria

Extension of the health center services if found in sub-health centers and in homes.

Dr. Davidson: West Indies

Question: Why does a health team need a leader?

Dr. Wurapa: Ghana

Answer to Dr. Davidson's question -

A health team leader is needed for coordination, smooth functioning etc. Health teams may or may not be permanent but may vary from problem to problem and/or country to country.

Dean Mann - U.S.A., Howard University

Question: How is the education or the skill acquired by the health workers upgraded once formal training has been completed?

Dr. Thompson: Nigeria

Answering Dean Mann's question -

Upgrading and updating of health workers is done through a variety of methods which include:

- 1) WHO Regional Centers
- 2) Quarterly meetings at the University or at the hospital or in the health centers.
- 3) Rural health center seminars are held on a yearly basis for an 8-week period for all health workers.
- 4) Regional medical officers organize seminars around particular health problems.
- 5) Training is done by the staff of the Department of Community Health.

Dr. Sheppard - U.S.A., Howard University

In neighborhood health centers, continuing education and communication teams have been directed to meet together and come to a group decision regarding problems arising in the centers in terms of patient care. Therefore, the role of the university must be to work in the direction of analyzing the role of each team member so that each member can be trained for cooperative action.

Dr. Grigsby: U.S.A., Howard University

Communication must be a two-way avenue to the community and workers then back to the "powers that be" so that problems may be anticipated and prepared for.

Suggestion to group. Try to diagram how the health team should be composed on a variety of levels.

Dr. Sinnette: U.S.A., Harlem Hospital

Suggestion: Strategies should be formulated for involving others in the community (political, governmental, private etc.) to support the members of the health team.

Dr. Davidson: West Indies University

Coordination with other public institutions help to insure the success of one's program.

Dr. Thompson: Nigeria

In Nigeria, 10% of the state budget is earmarked for health care. 3% of this goes to preventive care. It is therefore important to find other resources and invalue more than just medical people on a health team.

Dr. Wurapa: Ghana

Good coordination at the local level may help health care delivery dollars. Public relations becomes a prime factor when budget matters are concerned.

Dr. Niles - U.S.A., Howard University

Expressed concern for the role of the consumer in the delivery of health care.

Dr. Sheppard: U.S.A., Howard University

The most important person in a health center is the consumer of course. However, physicians are not trained to consider this. Dealing with groups of people, their desires, needs and concerns must be built into training and education of the physicians and other health workers. The ability to translate the needs of the people into a workable plan.

Dr. Thompson: Nigeria

Regarding consumer participation: In Nigeria, there are monthly meetings of ward health committees from the community to air concerns, problems, etc.

Dr. Rutasitara: Tanzania

Involvement takes place at both the grass roots level and also at higher planning levels. The levels are as follows:

- 1) Village level
- 2) District Development Committee
- 3) Regional Planning Committee
- 4) National Planning Committee

Dr. Bwibo: Kenya

The Ministry of Planning and Finance assist in evaluating progress in the country. At the district level, the district planning offices utilize local people in their planning.

Dr. Davidson: West Indies

In his country, consumers are involved when and where appropriate.

Dr. Wurapa: Ghana

Asks for specific recommendation from the group regarding the original agenda.

Dr. Grigsby: U.S.A.

Recommendations:

- 1) The need for a health team must first be established.
- 2) Health teams must not work at cross purposes.
- 3) There must also be good coordination of team efforts.
- 4) The health team must meet the needs of the community.
- 5) Within the team, the definition and role of each team member must be clear.

CONFERENCE OF HEALTH MANPOWER DEVELOPMENT

AND

THE ROLE OF THE UNIVERSITY

SPONSORED BY HOWARD UNIVERSITY

COLLEGE OF MEDICINE IN ASSOCIATION WITH THE
AFRICAN-AMERICAN SCHOLARS COUNCIL

FEBRUARY 3-7, 1975

WASHINGTON D.C.

THE TEAM APPROACH TO HEALTH CARE DELIVERY

BY

F.K. WURAPA
UNIVERSITY OF GHANA MEDICAL SCHOOL

JANUARY, 1975

INTRODUCTION

The need to develop appropriate health care delivery systems that are acceptable to the isolated and rural communities in the less developed world is now recognised as a matter of great priority by health administrators. However, there has not been a successful demonstration of a combination of systems that can accomplish this objective. Within the African region, the basic health services through which the majority of the population receive health care are still in the early stages of their development. Most of these countries have theoretical plans for an integrated basic health services. In practice, however, the peripheral end of this health care system has been neglected while the national hospitals and a few regional hospitals receive most of the allocated resources. Because of the large populations of these countries that live in the rural areas and because of the poor environmental circumstances in these parts, even the modest investment of resources in the development of curative health services have failed to make the expected impact on the health of the population. It therefore appears that a study of more effective approaches to health care delivery that emphasises the disease preventive and health promotive aspects is called for in these countries.

Recently, several countries in the African region have embarked on a rather ambitious programme aimed at strengthening their basic health services. As a result of the type of health problems found in these countries and the level of health manpower available, it has become necessary to plan definite strategies for resolving the problems. Such strategies have set as objectives, the delivery of comprehensive health care to rural and isolated populations.

Because of the multi-disciplinary aspects of these comprehensive health care programmes, it has become necessary to adopt a team approach to the solution of the health problems. One might ask at this point why a team approach is needed for health care delivery.

The first reason is that the multiple factors responsible for the occurrence and distribution of disease requires the joint effort of interdisciplinary health team for effective accomplishment of the task. Secondly the variety of skills needed to plan programmes, train health workers and provide both curative and preventive services require the services of individual with various types and levels of training and background. It must be added that for this kind of an interdisciplinary group to effectively carry out their various programmes, the community must also be involved. For the purpose of this paper the health team is defined as all members of "Staff" that are needed within the community as well as the various cadres of trained health workers to deliver comprehensive health care including M.C.H., personal first level medical care,* Health Education, Immunization, Communicable diseases control, Nutrition education and Family Planning to a Community.

This paper will discuss the following aspects:-

- a. The concept and functions of a health care team.
- b. Strategies to develop health services.
- c. The potential role of the University in carrying out training, research and practical demonstration of more acceptable health care programmes in collaboration with the Government. The unique role of the University to carry out:-
 - a. Research to clarify problems and needs.
 - b. Demonstration projects to study approaches to rural health care.
 - c. Training health professionals in technical and managerial skills and instill concern for improving health care in the isolated communities into the graduates of the University.

TECHNIQUES:

The basis for developing a functioning health team is a careful plan that takes into consideration the health problems to be solved in relation to the manpower resources and facilities.

* By personal first level medical care is meant the management of those illnesses predominantly found in the rural areas plus the ability to screen out those patients who require attention of the medical officer or the hospital.

First there must be a definition of the health problems within the population to be served. This usually implies that a community diagnosis be carried out. Next the priority health problems need to be ranked according to some mutually agreed upon criteria. Programmes embodying solutions to identified problems are then developed. In the development of the programmes, it is, important to relate the activities to the type of manpower and facilities that are available.

At this stage, a clear description of tasks that individual team members will perform must be jointly developed, by the individual workers and the other team members. It is the interaction between these various components of the planning matrix that defines the characteristics of programme administration, execution and evaluation of the health team. In general the pattern of health problems around which programmes should be built do vary from country to country. However, it is true to say in the African region that the high morbidity and mortality rates in mothers and children constitute a common major health problem. Accordingly programmes of most health teams engaged in the delivery of comprehensive health care in the African region will continue to be mainly concentrated on maternal and child health.

LEADERSHIP:

The successful planning of an appropriate programme and its implementation depends on the availability of competent leadership. The successful implementation of the various steps described under techniques above will depend on the kind of leadership the health care team has. The traditional concept of leadership based on the role that each health worker sees himself or herself playing as a member of a team, certainly impedes effective team work. The physician, for an instance, because of his traditional role as "the leader" of a patient care team has been considered by some as an automatic leader of a health care team for a community. The leader of the health team does not have to be the individual with the highest level of training. Because of the multidisciplinary nature of the areas of work of the health team, whoever the leader of the team happens to be, must be prepared to exert a different type of leadership from that required for a patient care team.

Leadership of a health care team must aim at taking advantage of the synergism that can be created among the various members of the team. This means that the leader must be prepared to deploy each member at his highest level of competence. This kind of flexibility is essential because of the multidisciplinary areas that the modern health care team has to operate in. For example, the field superintendent of a medical field unit in West Africa can well be recognised as the leader of the immunization team as far as certain aspects of the field organisation are concerned. The physician member of the team by encouraging the field superintendent to direct the team in certain operations confers status and authority on the superintendent and consequently a greater sense of accomplishment in the superintendent. What effective leadership of a health team implies therefore is a flexibility and willingness to cooperate and collaborate on the part of the leader so that capable individual members of the team are given a chance to direct the teams effort in certain activities. There is therefore room for informal as well as formal leadership in the management of the modern health team.

COORDINATION:

An essential attribute of a good team leader is his ability to coordinate the efforts of other members of the team. It is much easier for the leader of a surgical team engaged in an operation involving the resection of a diseased colon, for an example, to coordinate the efforts of the team than it is for a leader of a community based health care team to do the same. This is essentially because while the leader of a surgical team has a relatively homogeneous team dealing with a clear cut problem and an unmistakable objective, the leader of a community based health team is faced with a heterogenous team whose tasks and objectives are not usually so clearly defined. Furthermore, while the surgical team leader can use a one-way command hierarchy to accomplish the task of the team, the community based team leader can only successfully employ the group problem-solving approach. Such a two way channel of communication puts a considerably greater demand on the ability of the community based team leader to coordinate than that required for leading a patient care team.

In the absence of effective coordination one finds in a community health delivery system several organisational units each trying to solve an aspect of the community's problem but having no coordination of their activities. The obvious result is that the potentiating effect that each one of these units can have on the other is lost. The lack of coordination in health care delivery where health has been defined as comprehensively as possible today, has become a serious set back in the effort to extend health services to the rural and isolated populations.

COMMUNICATION:

Another factor that tends to impede the effectiveness of community based health care teams is inadequate communication. In the process of utilising the group problem-solving approach, care must be taken to be sure that the objectives to be attained are clearly communicated to the team. As a basis of a clear communication, it may be necessary to give the team verifiable results to achieve as well as the necessary resources required to achieve the results. The participation of individual members in the identification of the agreed upon objectives is very essential. An aspect of effective communication also has to do with joint evolution of specific tasks that individual team member should perform. Although task descriptions are not easy to develop for community based health teams, it has been found that where the individual worker is involved in describing what he does, the product - "a living description" comes closer to the actual working situation of the individual members of the team than traditional job descriptions. Such mutually worked out task descriptions can help establish adequate communication between team members. Finally in evaluation of the team's achievements, the criteria for evaluation should be clearly communicated to the team members, from the beginning. At the end of the evaluation exercise, the findings should equally be made known to the workers. Effective communication among members of a health team can be achieved through a group problem-solving approach.

ADMINISTRATION:

The comments so far made on the obstacles to effective team work can be applied to the management of team work. For, a systems approach to the functioning of the team would call for the various obstacles inumerated above to be removed if an efficient team is desired. Some of the problems faced in the management and administration of community based health care teams are:

1. The different backgrounds and experiences represented on such teams.
2. The cultural difference between the members of the team.
3. The difficulty of achieving effective first line supervision.
4. The problem of an inadequate record system leading to poor communication between team members as well as inadequate information about consumers of the team's services.
5. Another major problem is the tendency on the part of the unit heads or chiefs of most community based teams to operate in their individual compartments without any desire to cooperate or collaborate with other sections of the team's effort.

By and large these have been problems that traditional organizational structure of medical care facilities have created in the course of their evolution. What then can the modern manager of a health team do to improve the situation? Clearly, the answer appears to lie in the strengthening of the various components of activity units of the health team as a whole. But at the same time endeavour to articulate each unit of activity with another from the operational level up to the supervisory level. The implication of such a proposal are that: Organisational structure becomes much more demanding. The lines of authority are less clearly defined and decision making becomes complicated and ambiguities arise. There is the likelihood that tension and anxiety would be generated among the staff. Under such circumstances the tendency would be to revert to the traditional system of a more comfortable routine of clear authoritarian set up. However, the major virtue of the more difficult alternative is that it is dictated by the needs of the patient and the community that the health team is purported to be serving.

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Modern health planners have recognised that involvement of the consumers of a health care services, in the entire process is essential to the very success of specific programmes. What has been said about maintaining good human and public relations within the health team therefore applied even more to the community for which the health care is organised. Within the health team, good human and public relations can assist greatly in achieving maximum coordination of the team members' effort. At the community level, effective human and public relation can be the only sure way to obtain the community's participation. For most of the programmes that health teams in the African region are engaged in, community participation is crucial to their success. Some of the most important health care decisions for example must be taken by individuals and families to feed their children differently, to be concerned about the source of their water and to limit the number of their children or space them differently. There has recently been a renewed effort in some Ministries of Health in the region to develop new programmes that place greater emphasis on the community's active participation in health programmes. The modern techniques in health planning and administration would appear to me to be justified only to the extent that they succeed in achieving acceptable health programmes for the people that the health teams are supposed to be serving.

STRATEGIES TO DEVELOP HEALTH SERVICES:

There is a need to strengthen the basic health services as a means to providing a frame work within which the health team would work. The improvements necessary can be stated as follows:-

1. A better information gathering and dissemination system is need.
2. Clear objectives about geographic and population target groups. must be set.
3. Expanded use of auxiliary and voluntary community workers is necessary to supply adequate manpower.

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As Bryant (1973) has pointed out, all of these requirements have been known for some time now. However, the failure to concentrate enough attention on the details of these principles has been responsible for the failure. What model programmes of basic health services can one recommend? In view of the economic as well as the sociocultural circumstances of the countries in this region, a health care delivery for any country must be low cost. Emphasis must be laid on the development of peripheral health facilities i.e. health posts and satellite clinics. The development of suitable cadre of auxiliary health workers must be given high priority. In the development of the various auxiliary staff, care must be taken to define clearly the tasks of each cadre and specific instructions regarding various procedures must be carefully drawn out. Provision must be made for continuous training as well as careful supervision by experienced professional health workers. The rationale for adopting these strategies has been that in most of the countries of the region, resources both manpower and facilities are scarce and a traditional orientation toward individual patient care as well as a low level of community involvement in health programmes have contributed to rather inefficient health services systems.

THE POTENTIAL ROLE OF THE UNIVERSITY:

Many African Universities have accepted the role of collaboration with their Ministries of Health in several ways to develop basic health information. First, the Universities have the resources. Secondly, in several countries the University Medical Schools have been operating demonstration rural health districts where experimental, low cost delivery methods are being tested e.g. in Nairobi, Kampala, Dar es Salaam, Ibadan and Accra. Thirdly, Universities are more free to experiment in health care delivery or innovative roles (e.g. the use of volunteers, traditional birth attendants) than the Ministry of Health. Finally, the University can educate health planners in technical and managerial skills and perhaps even more important, instil a concern in their graduates to become involved in resolving the serious inequalities in health care.

The Medical School of the University of Ghana has been involved in medical research including:

- a. Sickle cell haemoglobinopathies.
- b. Liver disorders.
- c. Hypertension and cardiovascular diseases.

More recently, the school has undertaken a large scale demonstration rural health project involving some 60,000 villagers with the support of USAID. The 8 year long Danfa Project is concerned with the testing of several approaches to delivery of comprehensive health care, using a team of auxiliary health workers and staying within a feasible cost frame work.

The basic research investigations have included:

- a. Birth and Death rates.
- b. Vital registration.
- c. Maternal and child health practices.
- d. Epidemiology of common health problems.
- e. Functional analysis of the Danfa Health Centre Staff and its satellite clinics.
- f. Factors affecting attendance at health surveys and other community health programmes.
- g. Impact of health education and Maternal and Child Health/Family Planning (MCH/FP) programmes in improving morbidity and mortality levels.
- h. The use of traditional practitioners and volunteers in expansion of health services.

The Danfa Project has a training objective as well as its research and health delivery demonstration concern. A number of medical investigators are collaborating in field epidemiology studies, while University departments (demography, economics, sociology) are studying behavioral and socioeconomic factors related to health care. A number of faculty are also engaged in training paramedical health workers. Another area of cooperation between the medical school and the Ministry of Health is the planned administration of an urban health centre with a service population of 80,000 in the western part of Accra.

The Department of Community Health of the Medical School is also involved in training experienced medical officers from the Ministry of Health in techniques of Community diagnosis and the organisation and management of Maternal and Child Health Programmes.

These are only a few areas in which Universities can contribute by way of collaborating with Ministries of Health in carrying out research aimed at generating useful information which is badly need for planning health services. There are other areas of collaboration in which Universities and Ministries of Health need to collaborate such as training and manpower development, planning the health services - topics which have been covered in this conference by other contributors. It only remains to restate therefore that the team approach to health care delivery will only succeed if a true team spirit is fostered between the various members including Ministries of Health and the Universities.

S U M M A R Y

The current need in the less developed countries to develop a suitable health care delivery system that is also acceptable to the isolated and rural populations has been outlined. The special circumstances of these countries with regard to resources and facilities were related to their need in defining a comprehensive health care system delivered through an integrated basic health service. The delivery of a comprehensive health care, to such communities, it was contended, can best be carried out through the team approach.

Some aspects of effective team organisation for delivering health care were considered. These included techniques, leadership, coordination, communication and administration. When a health team has been successfully put together their effectiveness will depend on the care with which the health service strategies upon which their programmes are dependent are conceived and executed. Some suggested ideas that have been found useful in developing strategies were discussed. Finally, some special features of the basic health services of countries in the African region were enumerated and commented upon.

For the success of the health care strategy of any one of these countries, it was pointed out that the team approach to the planning, organisation, execution and evaluation of the health programme must involve teams made up of staff from the Ministries of Health as well as the Universities. Some current collaborative programmes between Universities and Ministries of Health were mentioned with some further elaboration on the situation in Ghana.

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The Health Team Concept and
the role of the University in
Nigeria

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The primary role of the University in any community is to spread learning through the prosecution of teaching and research. From being merely an art acquired through apprenticeship, medicine developed firmer scientific basis through its links with the University. Certification and validation of products of medical schools also being possible making for harmonization of medicine which is an international subject.

The health team concept demands that for each doctor, there must be many more health auxiliaries and paramedical staff who are geared towards providing primary medical care. The training of doctors/dentists have previously been discussed in our earlier paper. It is however still relevant to add that the intimate doctor-patient relationship must still remain sacred despite all the scientific and technological advances that have accrued over the last couple of years. Such advances

regarding the diagnosis and treatment of many conditions have tended to have major effects on the pattern of medical practice in some parts of the world. It is even feared that the personal touch may soon be replaced by a team of technical experts. In the health team concept, the doctor must continue to preserve the personal relationship as the leader of his team.

The University could play an important role in the training over short periods of newly recruited trainees (medical or health auxiliaries). This would involve a redefinition of tasks and the provision of training relevant to the tasks these new auxiliaries will perform. This cadre of personnel who are lower in status than doctors should be given avenues for further educational and financial advancement through refresher courses. With their tasks well defined, the question of professional rivalry between such trainees and the doctors will not arise nor

will the frustrations of the Yaba trained doctor who received less pay for the same job arise.

The training of other para-medical personnel which has been primarily the responsibility of Professional Organisations should continue to remain in these bodies. Government should make financial and other arrangements to ensure an expansion in the numbers of personnel trained while the retention of high standards should remain with the Professional examining bodies.

Involvement by the University of Ibadan in the training of para-medical staff like Community Nurses, Dispensary Attendants, Health Inspectors etc. is presently being proposed to take part in the Ibarapa Project. Since its inception, the Ibarapa Project has been used primarily by the medical students in their Community Health posting.

These students learn to work with other members of the health team and by working in a rural area, recognise at an early stage the problems of these communities.

Involvement of other medical schools in this kind of programme by an ever increasing number of medical students could change the orientation and motivation of doctors so trained to offer service in rural areas. Necessarily, the admission requirements of members of the para-medical health team will be lower than customarily accepted by the University. Proper Job Evaluation and performance would enable this cadre of workers contribute in the preventive and curative facets of medicine.

However, it is in the area of post basic education for the para-medical staff that the University of Ibadan shown interest. The existing requirements for admission to the Faculty of Medicine are so high that only students with

poorer grades than comparable medical students in any one year get admitted into the para-medical areas. Should integrated lectures with medical students be adopted as has been advocated in some schools, the need for repetition of lectures in view of students with weaker background will defeat any advantages integration may have. However, University commitment in the training of para-medical personnel will provide the teachers - administrators and research workers required by the para-medical bodies. Such graduates will carry out with them the priviledges inculcated by their education by cultivating disciplined attitudes of mind towards the profession and the community at large. Their role in the promotion of research in all aspects of health will make a positive contribution of the Health team's delivery of care to the community.