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REPORT FOR 1968-69 TO AID  
FOR  
211-d INSTITUTIONAL SUPPORT GRANT  
OF THE  
DEPARTMENT OF INTERNATIONAL HEALTH  
JOHNS HOPKINS SCHOOL OF HYGIENE AND PUBLIC HEALTH

NOVEMBER, 1969

## I. SUMMARY STATEMENT

### A. General Institutional Development

A university is primarily people - faculty and students. It grows stronger as the faculty develops greater competence and as it attracts better students. This report shows that as a result of the 211-d Institutional Support-grant faculty competence has increased in teaching, research and consultation, and that students are learning more effectively.

More important than quantitative measures of expansion are the qualitative changes that have occurred in our work. "Competence" is essentially a qualitative term. It is difficult to measure, but in Section III-A-1 an attempt is made to describe some of the significant qualitative changes that have occurred in 1968-69.

The report also describes the increased quantitative input that has been possible because of the 211-d institutional support. In the sections which follow descriptive data are presented under the heading of teaching competence, research competence and consultative competence.

Under the terms of our grant, we are progressively shifting to a major emphasis on population activities. The balance of effort in the Department of International Health has to be understood within the perspective of total university activities in population which are financed from other sources. In 1963 a series of decisions were made allocating specific departmental responsibility for various approaches to the population problem. The Department of International Health, with support from AID, has concentrated particularly on developing understanding of means of integrating health and population services and the interactions of such activities with economic development. In addition, there are many groups in the school concentrating more specifically on population dynamics. Most of these are based primarily in the Population Dynamics Division of the Department of Population and Family Health. Under intra-university agreements, their basic funding comes mainly from the Ford Foundation and NIH. Part of the 211-d AID grant is also used to strengthen the teaching in the Departments of Population and Family Health, Biostatistics and Behavioral Sciences. Among the specific population activities in the Division of Population Dynamics are: a unit in reproductive biology with joint appointments in the Department of Environmental Medicine, a unit in demography with joint appointments in Biostatistics, a unit in sociological demography with joint appointments in Behavioral Sciences, and a unit in family planning administration with joint appointments in Maternal and Child Health. In addition, there are numerous other departments both in the School of Hygiene and throughout the University working on various aspects of the population problem.

In general, this institutional grant supports three categories of activities. As we project expenditures, about 25% are to be clearly international health, another 25% pure population, with the remaining 50% concerned with the integration of health and population. In the past year, about 37% of our estimated expenditures have been for health. This is because we

are making a gradual transition to increasing the proportion on population.

In keeping with our major interests we have strengthened our faculty as follows:

Addition of 1 Professor in general international health with particular interest in nutrition and pediatrics

Addition of 1 Assistant Professor with health and population economics with particular interest in economic variables related to population growth

There has also been progressive improvement in our facilities. We moved into the new Stebbins Building where we have about 3000 sq.ft. of space. This move has involved major changes in our basic equipment and facilities. The library has been progressively improved so that it is becoming a major resource for reference work in international health and family planning.

#### B. Specific Accomplishments

No major changes in long range plans have occurred. Our objectives remain the same. Since we could not do everything at once, we have during this past year concentrated on the following specific activities directly supported and backstopped by this grant. The general heading under which this activity can be classified is indicated in parentheses.

1. Stabilizing teaching program for MPH students with emphasis on improving courses qualitatively - this involves particularly the development of mimeographed readings to take the place of lectures so that most of the class time can be devoted to group discussions. (Both Health and Integration of Health and Population)

2. Particular efforts to improve teaching program in Health Planning in 4th quarter. Out of the progressive refinement of the teaching material, we have prepared a mimeographed version of what will eventually be a text book on Health Planning. Case study material has been refined and expanded with data banks on each country for which class working groups prepare health plans. (Integration of Health and Population)

3. Development of overseas opportunities for doctoral students and international health residents. (Both Population and Health)

4. The portion of this grant which is used directly by the Department of Population and Family Health and the Department of Biostatistics will be continued to support their direct teaching of population dynamics courses. (Population)

5. Field methods for integrating family planning and health services. Our largest research project is trying to determine whether

improved child health and maternal health services will produce increments in family planning acceptance. To measure for the first time anywhere the magnitude of such increments, we are having to find out first how family planning can best be integrated into child health and maternal health services at the village level. The experimental design provides for comparison of different combinations of service inputs into four groups of Punjab villages. (Integration of Population and Health)

6. Use of auxiliaries for rural field programs in health and family planning. As described under the specific projects in India and Nigeria, a major effort is being made to define effective ways of using auxiliaries in a health center team. (Integration of Population and Health)

7. Functional analysis of rural health centers. Most of the field work on this research in North India, South India, Turkey and Taiwan has been completed during this year. Out of the systems analysis, new patterns of health center services are being proposed and new operations research methodology developed. (Since family planning activities occupy up to 50% of the time of health center personnel, this can be classified as integration of Health and Population)

8. The study of male attitudes to family planning in Santiago, Chile. The field work of a special attitude survey of men was completed during the year exploring a largely neglected subject. (Population)

9. Demographic impact of family planning in Lagos. A continuing study of variables influencing family planning and demographic trends in a random sample of an African metropolitan area. (Population)

10. Simplification of health planning techniques in Chile. In multiple parallel studies principles and techniques developed at Hopkins are being tested in a National Health Planning Program. (Health)

11. The interactions of nutrition and infections in weaning age Punjabi children. (Health)

12. Health survey of Bedouin children in Saudi Arabia - Doctoral research project. (Health)

13. Attitudes of Iranian doctors towards rural services - Doctoral research project. (Health)

14. The present role and future potentials of cooperation with indigenous practitioners in India. (Integration of Population and Health)

### C. Summary of Next Year's Plans

#### 1. Teaching

Further consolidation and improvement of basic courses is

planned. Perhaps the most significant new development will be a whole new teaching sequence being developed by Dr. Reinke for the 3rd quarter in Quantitative Methods in Health Planning. This sequence will be available both for regular students and for a special group of senior candidates from developing countries. Together with the already well established program for Health Planners in the 4th quarter, this will provide a truly unique educational program.

## 2. Research

Greater emphasis will be placed on our projects integrating health and family planning services. As our functional analysis of health centers projects moves on through the analytic and writing stages, we expect to apply the methodology more specifically to family planning services. Out of our previous studies of health manpower we will do more intensive work on personnel for services integrating health and family planning. At this stage our work will continue to concentrate on role definition and job analysis. In the future this may lead us to designing training programs for the new personnel categories that will have been defined.

## II. OBJECTIVES

We still maintain the objectives listed in our original request for institutional development support. For emphasis we list these objectives again.

### A. Objectives

The University plans to strengthen its educational competence by expanding its teaching capacity, curriculum and opportunities for students' practical experience in international health, population dynamics and family planning as related to the needs of the less developed countries.

Further development of research capability in these fields will be an integral part of the institutional grant program, and will be closely related to the educational activities.

### B. Scope of Specific Objectives

Under the above general objectives the following examples are illustrative of the kinds of activities contemplated. The relative attention given to particular areas will depend on priority considerations relevant at particular times. We are convinced that selectivity in choosing high priority areas is essential. It also is increasingly evident that we can achieve much mutual strengthening between disciplines by working simultaneously in the various related field.

## 1. Development of Research Competence

The scope of research activities will cover subjects such as:

a. Learning more about, and applying the developing methodology of health planning both in comprehensive national health planning and population and family planning.

b. Exploring in depth ways of developing better rural health services at reasonable cost and conducting field trials of varied administrative patterns in running family planning programs.

c. Increasing understanding of ways in which socio-cultural factors influence the acceptance of family planning and health programs, and more specifically, studying the attitudes of males toward family planning in Latin America.

d. Beginning studies on the interactions between health, population growth, and economic development.

e. Developing international comparative studies on epidemiologic analysis of health and nutritional status.

f. Improving the methodology of evaluating family planning programs.

g. Developing methodology and conducting studies applying operations research to population and health problems.

## 2. Development of Educational Competence

A major obstacle to effective U.S. assistance to the developing countries in the field of population and health is the lack of understanding of the special problems of economic development and overseas work among American health professionals. The usual medical education and experience of the American physician and other health workers does not include opportunities to gain comprehension of the drastically different living conditions and massive health problems of most of the world's people, especially in tropical areas.

In the further development of our department as a major academic center for teaching international health and population we will work toward strengthening activities such as:

a. Organization of rigorous academic programs for doctoral candidates and residents.

b. Opportunities for career specialization in population and international health for students who are taking a general masters program in public health.

c. Elective courses in population dynamics and international health for master's students specializing in other areas of public health.

d. Short courses for specialized groups.

e. The preparation of teachers of community medicine for overseas medical schools and working with selected medical schools in developing new educational approaches to the introduction of family planning in medical education.

f. New approaches to the preparation of paramedical and auxiliary health personnel and their utilization in health and family planning programs.

### III. OVERALL EVALUATION OF ACCOMPLISHMENT

#### A. Development of Teaching Competence

##### 1. Qualitative Aspects

To demonstrate that the AID 211-d Institutional Grant to Johns Hopkins has materially strengthened university competence in the fields of population and international health, we will present in this report considerable quantitative data. The tangible accomplishments of the past year constitute sufficient justification for the grant.

There is, however, a dimension which is hard to put into words, and especially into numbers, because it is largely qualitative rather than quantitative. It is the ability to do things better and in depth rather than just expanding into new activities. This is to us the most important component of the 211-d goal of "increasing competence."

From the outset, therefore, we would like to put the priorities into perspective by stressing the point that the quality of our work has improved. There has been a palpable but almost indescribable lifting of the tone and spirit of our teaching, research and service activities. This comes largely from an inner recognition that we now have solid support to do an in depth job and can therefore concentrate on doing the best possible creative work rather than rushing through important work in order to look for the next year's funding. We can undertake a program or activity with assurance that we will be able to finish it, or if we don't it will be because of our own limitations or the inherent complexity of the task.

Perhaps nothing contributes to this feeling of competence so much as the "critical mass" phenomenon of the range of professional competence and organizational stability of our teaching and research team. Because of

administrative stability over the past year we feel that we can concentrate on generating the intellectual forces to do things we would not have felt capable of attempting previously.

To continue this theme with another analogy, in clinical medicine the greatest argument for specialization and the increased competence that it represents is not greater work output but better work quality. A physician who really knows and has the proper tools and team support can make a diagnosis in an hour that would take an ordinary physician weeks of trial and error, with resulting pain and progression of illness for the patient. The ordinary physician would be making a vastly greater work input by all measurable criteria, but the patient knows he is not getting better. What he really needs is a better quality of input - in fact, a major complaint of most patients is of over-input in terms of diagnostic procedures and the iatrogenic complications of overtreatment.

The patient in international health and population is a community, a nation, and the world. As we try to train physicians for the world, we are increasingly conscious of the need for quality. In a complicated international negotiation one ill-advised casual comment can do untold damage. Poorly planned field research can delay effective program implementation. A fumbling, speculative recommendation to a national program may lead to tremendous unjustified expenditure and the people-cost of massive failure.

Particularly with the population problem it is increasingly evident that the search for simple answers continues to block serious advance. The myth that birth rates will be brought down as easily as we have lowered death rates in the past twenty years misses the point that we have had centuries of research input in learning how to bring down death rates. As we now attempt to develop equivalent competence in learning how to bring the birth rate into demographic balance with the death rate we must start by recognizing the magnitude of the task and the special sophistication and high quality competence that must be developed.

Even more than in research and service we are increasingly conscious of the importance of quality teaching. The best students are attracted to the places where they sense the ferment of quality work. One afternoon seminar with a teacher who really knows both the practical and theoretical implications of a complex issue can contribute more to learning than a whole course muddling around a topic. The development of real understanding involves the balancing of perspectives, the inductive approach to generalizations, a conceptual framework to tie together a diverse range of facts, the clarification of principles and most important the sharing through emulation of values, attitudes and the other affective elements of the learning process. On a sound theoretical base the teacher must himself be able to bring out the pragmatic perspectives of in-depth field experience.

A particularly strong benefit of continuing institutional support is that a reputation for good teaching reaches out through the education pool to attract the best students. One of the most encouraging

aspects of present student unrest is the high level of idealistic impatience with older educational pathways. An unprecedented world concern permeates the present student generation - especially the best of them. We feel this in the high quality of the students we are attracting. Our candidates are increasingly from the top of their medical school classes - a unique phenomenon for a school of public health. Far more important than training large numbers of persons for lower level jobs is the accomplishment of having some of the brightest young members of our classes go directly to positions such as: director of health and family planning for AID in Indonesia, or country representative for the Population Council in Tunisia. We are gratified that a 40-year old doctor heading the open-heart surgical team of one of the better New York hospitals with an international reputation in cardiac valve and coronary surgery showed up in our offices recently wanting to change to international health. He is ready to give up leadership in the most glamorous of medical specialties because he is increasingly aware of the limitations of being able to help only a few patients. He wants to do more with his life and international health has an appeal that challenges him.

If we were interested only in international health we would be embarrassed by what is happening to graduates of our most important teaching activity, our international health residents program. Careers in international health seldom permit service exclusively limited to overseas work. Instead, there is a highly desirable flow back and forth from work in the individual's home professional environment. The present priorities in the U.S. require particular concentration on the health needs of the poverty areas. Many of the most relevant techniques come directly from international experience, with examples being regionalization, the health center network, use of paramedicals and auxiliaries in a health center team and the integration of health and family planning. Many of the students and staff who have developed special competence in community medicine through our program are being sucked into the present vacuum in American deprived areas. Coming back from 2-5 years experience in countries such as India, Ethiopia, Nigeria and Chile, these men are now running health and family planning programs in Harlem, Watts, the ghettos of Washington and Baltimore, Hazard and Leslie Counties in Kentucky, and three projects on the Navaho Reservation. They all say that the problem is one whether overseas or in poverty areas of the U.S. More than two-thirds of the MPH students crowd our elective courses because of the relevance of international health experience to meeting the highest priority U.S. problems.

## 2. Quantitative Aspects

Appendix 1 lists courses offered, numbers of students attending, and students majoring in international health. In summary, our department has taught over three-quarters of the MPH class in one or more courses, we graduated two Doctor of Public Health students (six more are still in training in our department with three additional being supervised jointly with other departments), completed residency training for three third-year residents, and assisted in the teaching of courses in Population Dynamics, Biostatistics, and Public Health Administration, as well as occasional lectures in other parts of the University.

### Courses

#### International Health 1. Introduction to International Health

International Health 1 had so many students this year that it was necessary to break into small groups for discussion. Although it may be more economical to have one lecturer with a class of 70 students, the quality of instruction is greatly enhanced by breaking into small discussion groups. With the 211-d support we now have faculty depth that permits seminar leaders for each discussion group in the basic course. Moreover, the augmented faculty resources made it possible to clarify and improve the background documents for class discussion to the point where they will form a valuable permanent resource for the students taking the course. In addition to the in-classroom work it is possible for students to consult with faculty about particular problems in their special areas of interest in population and health. The technique of background reading with small group discussion was carried over to the Population Dynamics introductory course where the international health staff gave sessions on population dynamics in Latin America and population dynamics in Africa.

#### International Health 2. Seminar for Program Planning and Project Development in International Health.

This course is probably our key course for specialists in the field of international health and population. The course provides opportunity for individual students to develop projects that they will initiate upon graduation. Such a course obviously requires tremendous investments of faculty time for individual consultation. Since most of the subjects selected for individual work were highly specialized, students had to consult faculty both within the Department of International Health and generally through the University to secure guidance.

#### International Health 3. Quantitative Decision Procedures.

Each year this course has had an increase in enrollment, going from 7 to 35 students in four years. At the present level of enrollment it is obvious that the vast majority of the students are novices in mathematics, statistics, and economics--disciplines which form the foundation of decision theory. Thus the original goal of the course becomes increasingly important: to translate abstruse theory into systematic, practical administrative decision making. This is done by means of a 90-page monograph prepared especially for the types of students enrolled and through liberal use of practical examples in class discussions.

Again this year the monograph was updated, and its current usefulness is measured by the substantial demand for it on the part of non-students. Since the course deals largely with value and probability concepts, applications to family planning problems and programs serve as useful teaching devices, apart from their importance in practice. This year these applications were incorporated into a paper presented at the Population Association meetings in April.

#### International Health 4. Planned Change

Attention is given to problems of introducing change in organizations and in communities, and to the social and cultural factors which influence the success of public health programs. Case studies are presented.

#### International Health 5. Comprehensive Health Planning

The digest of health planning concepts and methods, originally prepared for the 1958 course, was revised and expanded in 1969 to give greater emphasis to socio-political factors in planning, special features of concern to population planning, and questions of implementation. The result was a 300-page volume, supported by a list of over 300 references. This will soon be published as a basic text in Health and Population Planning. With the multidisciplinary facets of health planning incorporated into one concise volume, the classroom learning emphasis shifted further toward experience with the planning process itself, including the practical problems of data collection, priority setting, and plan formulation. In order to get the most out of the class experience in planning, we have directed our attention toward systematizing the data bank into an efficient information retrieval system and of the development of planning models for processing and analyzing data. In this connection we have underway a program to translate the data and experience gained from Chilean planning activities into principles and procedures to be incorporated into the planning course.

#### International Health 6. Logistics, Techniques and Interpretation of Epidemiologic Field Studies in Infectious Diseases.

This course is designed for students who are interested in epidemiologic field studies of infectious diseases. Instruction is by lectures, seminar discussions, and laboratory work. The planning, conduct and laboratory techniques of population surveys in remote areas are discussed in detail by presenting examples of investigations.

#### International Health 7. Population Growth: Interrelations, Problems and Policies.

This course considers the numbers, the characteristics, and the growth of populations on a comparative international basis. The developed and developing countries are contrasted, with emphasis on the levels, the differentials, and the trends in fertility and mortality. The economic, political, social, and cultural factors associated with population growth are noted, both as between nations and for regions and groups within nations. Special attention is given to the problems of rapid population growth in Asia, Latin America, and Africa, the development of government policies and other activities to reduce fertility, and experimental field studies. Consideration is given to the historical role and the changing responsibilities of health agencies in the broad field of population growth and, particularly, the developing field of education for, and instruction in, family planning as a public health function.

#### International Health 8. Area and Language Study.

An introduction to the physical and cultural geography and social anthropology of the student's proposed area of study is given. Language study is arranged through the use of available resources, including teaching records.

#### International Health 9. Teaching of Community Medicine in Medical Schools.

One of the most vital and also most controversial courses in the entire school of public health is the course in "Teaching of Community Medicine." This course represents a real breakthrough in the conservative tradition of downgrading or ignoring the importance of teaching techniques. Medical schools and schools of public health are notoriously defective in the quality of teaching. Most faculty members have viewed with considerable skepticism the major advances in teaching techniques of the past decade. The course provides, to a selected group of students, in depth exposure in modern educational methods and the concepts of teaching community medicine.

#### International Health 20. Special Studies.

In addition to the course in program planning, suitable students are encouraged to undertake other special studies, in some cases leading to doctoral research.

#### International Health Seminar

Topics of current interest in international health are presented to students majoring in international health by faculty, visiting experts, and other students.

#### Comprehensive Health Planning Seminar.

These weekly seminars are recommended as a preparation for International Health 5. They deal with the philosophy of comprehensive health planning, and the bases of planning including demographic, epidemiological, administrative, social, economic, and political considerations. Planning methodology is introduced, covering planning, programming and budgeting systems, program evaluation and review techniques, and the new technologies in planning.

### 3. New Appointments.

With basic funding from 211-d assured until 1973, it was possible for us to provide the well deserved promotion of Dr. M. Alfred Haynes to full professorship. It is of note that Dr. Haynes is the first black full professor in the University.

Dr. Thomas L. Hall, who is becoming one of the nation's outstanding experts in health planning in developing countries, was promoted to Associate Professor. Dr. Hall continues on a Johns Hopkins contract to be the family planning and health representative in the AID program in Chile.

He is based in the Health Planning Office of the Health Ministry. His work on visits to Baltimore and in supervising residents is a great source of strength to the Department of International Health. The promotion recognizes the increasing value of Dr. Hall to the growing professional competence of the department.

Another promotion that was made possible by the 211-d grant was that of Miss Alice Forman, one of the few American nurse-midwives with prolonged overseas experience who has special training in the field of public health. Miss Forman had been held on from year to year at a Research Associate level because of lack of adequate long-term support and her promotion to Assistant Professorship was well deserved.

In addition to the promotions, the 211-d grant has made it possible to make several key new appointments in the Department. The areas of nutrition and of economics have been inadequately covered. Fortunately, we were able to secure Dr. George Graham, a leading expert in the field of human nutrition, and his colleague Dr. Cordano, for full time appointments in the Department of International Health. Their field work in Peru has opened up a whole new range of possibilities in infant and child nutrition. In the field of economics, Dr. Alan Sorkin, from the Brookings Institute was recruited to serve as health economist in the Department of International Health. He has undertaken to work with our field teams in introducing a depth analysis of economic factors as they influence population growth and family planning acceptance.

During the year we have been able to bring in a series of exceptionally competent visiting lecturers in various courses and for special sessions. Dr. Lee Howard and Dr. Reimert Ravenholt from AID were two of the keynote lecturers in our basic course. Although their coming was, of course, not financed by the grant their volunteered services were in direct support of the 211-d concept. Dr. Abraham Horwitz, Director of the Pan American Health Organization continues as a member of our faculty and serves each year as another distinguished visiting lecturer. A fall series of lectures in clinical tropical disease has been necessary to strengthen teaching competence of the University in an area of importance to international service that had been largely neglected. Dr. David Clyde, Dr. Cecily Williams (from Jamaica), Dr. Harry Myer from NIH, Dr. George Entwistle, Dr. Theodore Woodward, Professor of Medicine at the University of Maryland, were supplemented by members of the Hopkins faculty who had personal experience in clinical tropical medicine. In the teaching of community medicine such authorities as Dr. Edward Grzegorzewski, former Director of Education in WHO, Dr. Jerome Lysaught, Professor of Education and Research, University of Rochester and Dr. Edward Rosinski, Professor of Medical Education, University of Connecticut served as visiting lecturers. Dr. Peter Ruderman, Professor of Economics at Toronto, Dr. Spicer, Director of the Maryland Regional Medical Program and Dr. Eugene Guthrie, Director of the Maryland Comprehensive Health Planning Program served as visiting lecturers in the special course in Comprehensive Health Planning.

With the sharp decline in support from the U.S. Public

Health Service for residents in international health, the 211-d support from AID saved a number of excellent people for the field of international health and population. Without suitable students in our residency program, one of the purposes of institutional competence in international health and population would be defeated. The support is naturally limited in amount but it was possible to provide fellowship assistance for Dr. Diaz, Dr. Weillman, and Dr. Brooks Taylor. In addition to these residents, 211-d support made it possible to continue the doctoral work of Dr. Y.T.Yen on functional analysis of health centers in Taiwan, and of Mr. Prakash Sangal, Mr. S. Andrews and Mr. P. Grover who are also doctoral candidates working in field research on population in India.

The increasing complexity of our overseas programs and financial structure has made it essential to have an administrator in the department, and Mr. Jay Meredith is capably filling this difficult position. To assist with our increasing flow of publications we have appointed a new editorial assistant, Mrs. Martha List, and three new secretaries.

#### 4. Supervision of Research and Training

In order to maintain close ties between the field research projects and the University, we plan to have key members of the staff spend a full year in the field with various projects. These full year assignments are in addition to the usual 1-3 month periods that Hopkins staff members spend in supervising overseas projects. Dr. Taylor initiated the policy this year by spending the first part of the year with the projects in Nigeria and the second half with the projects in India. This participation of the Hopkins staff and their families is a rewarding and valuable contribution to the village project concept, involving the rural people with the work of research planning and developing good interrelationships among the villagers and the staff personnel.

#### B. Development of Research Competence

Several points made in our grant application need to be briefly reiterated to give understanding of research developments. First, the Department of International Health has in the past had perhaps three-fourths of its research emphasis on health and only about one-fourth on population. Our overall plan is to reverse this balance, but we are not able to make the transition abruptly because overseas projects usually involve commitments over several years. The shift already accomplished moves us a long way in the direction of the desired balance.

Second, the multidisciplinary character of most of our research requires the mobilizing of varying combinations of professional competence. With 211-d support we can now keep such multidisciplinary teams working together long enough to become familiar with the skills and methods of other professionals. One simple item is that it takes a while for people from different disciplines to learn to talk with each other. Even more important

is an actual synthesis of new methodology by combining skills from diverse fields such as operations research, social science and health, that has developed out of such projects as the Functional Analysis of Health Centers. We expect this to happen similarly with the new emphasis such as that on health and population economics.

Third, we are moving to stabilize overseas research bases. In the past our projects were ad hoc and short term. We have found that we had to spend a great deal of time in tooling up for each project. There were long hours of negotiating agreements with local governments, finding appropriate sites, assembling local personnel, getting vehicles and working out the logistics of supplies, local housing and affiliations. Then when the project stopped there was the long, difficult process of disengagement with the continuing concern of providing maximum institution building. It is not only embarrassing to have to let good people go after a short project but it is especially inefficient because they are often just reaching a stage of increasing research effectiveness. We are now moving toward developing more solidly established overseas bases. These have the additional advantage that we can bring residents and doctoral candidates into an on-going activity while it takes an experienced administrator to start or stop a project. We find that each successful project leads naturally into even more significant projects which build on the previous efforts. Because of the importance of such bases Dr. Carl Taylor spent last year overseas with his family attempting to stabilize our main overseas bases in Lagos, Nigeria and Narangwal, India.

Finally, in the descriptions of specific projects which follow it must be realized that each of the projects has its own financing for local expenses. The role of 211-d support has been to backstop the research. Some projects have been supported by as many as three different sources in the past year as indicated under each project. None of these projects would be possible without the support of the research base in Baltimore. There is a constant flow of personnel back and forth. The tremendous investment in planning the project is shared between local teams and Baltimore with its library, computer and other facilities for contact with other professionals. The even greater investment in analysis and write up requires access to the more sophisticated resources available at our Baltimore base. Underlying everything else is the complex problem of efficient management of overseas research. Particularly time-consuming are the varied legal and financial constraints imposed by multiple sources of funding and the difficulties of guiding operations in several different cultures simultaneously, and need especially detailed attention as our institutional bases go through periods of rapid growth. We believe these organizational efforts will pay off in increased efficiency, and therefore a better quality of research, in the long run.

In the past year we have had 20 research projects in 8 countries.

1. India (continued next page)

## 1. India

### a. Rural Family Planning

At Narangwal Village, 15 miles south of Ludhiana in the Punjab, we have a major research base. The Rural Health Research Projects are based at the teaching health center of the Ludhiana Christian Medical College. This is the heartland of the "Green Revolution." Our villages are undergoing fantastic economic development and social change with wheat production having gone up as much as 3 times in the past few years. It is an exciting place to be working because we feel that we are in the midst of a prototype of the process of planned change. A period such as this provides an opportunity to learn many things that cannot be studied during periods of stagnation since we have some chance of learning how to use social forces that have already been mobilized. We deliberately chose to work in a place that seemed to have maximum potential for success because India badly needs the encouragement of some evidence of positive achievement in family planning. This rapidly developing area of the Punjab itself has a larger population than most countries. If we can learn how to do rural family planning here then we can consider how the methods can be adapted to less rapidly developing parts of India.

At Narangwal we are making our most concentrated effort to demonstrate that integration of health and family planning not only makes sense but is feasible. The project was started mainly because we found that there was no scientific evidence to support the common sense claim that parents will not stop having children until they have assurance that those they already have are going to survive. With the increasing pressure from demographers of the Davis-Blake School that the family planning approach to population control is a "deception" it has seemed essential to gather some evidence on this point. For those who are already convinced of the validity of this common sense point of view then there is the even stronger argument that we need to find out how the integration of family planning with health services for mothers and children can be carried out under village conditions. In order to prove the first hypothesis we have to work out the field methodology to satisfy the second objective.

The sort of field experiment we have undertaken at Narangwal requires a massive tooling up effort. We now have approximately 60 Indian staff on this project working in a population of about 20,000 in 16 villages.

Most of our work input is for research data. Baseline surveys include five separate household interviews in every home with a large team of specially trained master's level Punjabi interviewers. These data are about to be analyzed.

Even more time consuming has been the process of working out the routines for four different service package programs. In one group of villages we give family planning alone, in another group family planning and child care, in a third family planning and maternal care and in the fourth

all three. Comparison of family planning acceptance and use will give evidence on how much each approach contributes to family planning at the village level. There is suggestive evidence that we are beginning to record a fall in birth rates which may, in fact, have started before our service program got underway.

All of our village service is built around the Auxiliary Nurse Midwife and Lady Health Visitor. One auxiliary serves a village of about 1300 people. They handle both curative and preventive health services as well as family planning referring major problems to supporting professionals. The whole activity is geared to developing patterns of service that can be directly applied in government subcenters. It is already clear that the national training programs will have to be drastically revised.

General interest in our results in India is rapidly increasing. During the past year we have had an increasing flow of visitors. This includes groups such as a WHO Inter-regional seminar for Professors of Obstetrics, Pediatrics and Social and Preventive Medicine who came for several days of depth involvement in field work. Government officials at all levels in the Central and State Government come to see for themselves that what we are doing works and is safe. There has been much verbal acceptance of the sorts of things we are demonstrating but very little field demonstration. The fact that all of this is done in a research setting seems to make the innovations more acceptable.

Narangwal is being designated a WHO Regional Research and Training Center in rural family planning. This will necessitate adding a staff to cope with future conferences and seminars. The Government of India has asked that the Narangwal Annual Conferences be revised. These were an important component of the research project on rural orientation of physicians in past years which led to rapid implementation of our findings. The new series on Rural Family Planning will be conducted for three days each year. Arrangements will be made for 50-60 leaders from all over India to live in tents in the village setting, while going over research findings and discussing their relevance to policy decisions.

Due to the impending termination of grants supporting the Narangwal Rural Health Research Projects, major time and effort were expended during the year on negotiations for new funds. Reports and grant applications were submitted. Now, after a long, slow negotiation period, the research projects have solid financing for two years and approval for a five year grant. (Funded by US PHS, AID-WOH, AID-India)

b. Functional Analysis of Primary Health Centers in Narangwal in the Punjab and Bangalore in Mysore State.

The field work is nearly completed in a two-year project on functional analysis of primary health center activities. Methods have been devised for making qualitative as well as quantitative appraisals of the functions performed by health center personnel. Augmenting the health center work are studies of community health and family planning needs.

The project has the following objectives: 1. To define more clearly the functions to be carried out in the health centers. 2. To discover the resources now assigned to each of these functions and the present distribution of activities conducted by the health centers. 3. To study the relative qualitative level required by each of these health activities and the personnel who can most appropriately carry them out. 4. To try to develop innovative and practical approaches to matching available personnel and resources to the competing health needs. 5. To set priorities for health programs on the basis of community health needs which will be measured by a prospective one year survey. 6. To describe other potential applications of operations research methods and to streamline the general procedure so that it can have wide administrative use.

In short, the present research study is mainly concerned with the evolution of a method to utilize the systems analysis approach in studying the functions of health centers and the working pattern of health functionaries. Simultaneously, the functional framework developed will be tested to see its utility in analysing the manner in which community demands can be translated into health center activities. If the functional analysis methodology is developed well enough to study the health systems, it is believed that it will provide an efficient evaluation tool of wide administrative application in the health services system of a state or a country.

Drs. Robert Parker (Marangwal) and C. Alexander (Bangalore) who have directed the field work, will be returning to Baltimore in the fall to work with Dr. Reinke in putting the two sets of data together in an effort to develop recommendations for more effective allocations of health worker effort. (Funded by AID-KOH)

c. Prospective Study of Nutrition and Infection in Weaning-age Children

During the past year field work at Marangwal has been building up to a level of full scale activity. Personnel has stabilized and much effort has gone into training and development of a manual and standing orders. Routine supervisory procedures have been worked out to ensure effective delivery of services by Lady Health Visitors.

Baseline data fall into three categories: Morbidity surveys, anthropometric measurements for growth data and dietary survey information. The most encouraging finding is a dramatic continuing fall from September 1968 to April 1969 in morbidity rates in villages receiving both medical care and nutritional supplements. In other villages the morbidity curves have had a seasonal rise in the spring. It is not clear yet whether this improvement can be sustained.

The experimental findings focus on particular questions. In the feeding program we have demonstrated that the frequent occurrence of marasmus can be essentially eliminated. Individual growth curves show clear association between weight loss and acute infections.

The major finding from the laboratory survey is the frequent occurrence of anemia in very young children. This does respond to treatment with iron and folic acid. An incidental finding was that DPT immunization can cause a significant fall in weight especially in children 6-11 months of age. This occurred only in children who were not already well nourished and were not receiving nutritional supplements. (Funded by NIH and WHO)

d. Epidemiological Studies of Leprosy in Calcutta and Purulia.

The general course of the research program under this grant has continued as over the previous nine years. The major effort in the field work in Bengal villages is to define by more precise epidemiological studies the phenomenon of finding acid-fast bacilli in skin biopsies of individuals exposed to leprosy but showing no clinical signs of leprosy. Complete surveys of four villages have now been done and 4,136 people have been examined clinically. Of these, 3,226 have also had earlobe skin biopsies. Those not examined by biopsy are mainly infants under one year and active leprosy cases who are excluded as a matter of policy from the biopsy survey. An over-all positivity rate of skin biopsies in people without clinical signs of leprosy is 6.5%. The active clinical case rate is 4.4% in this same population. In the series of village people examined during the past year, there is no clear epidemiological association of positive cases with family contacts of leprosy patients as we had observed in the first two villages. More detailed efforts at epidemiological analysis are being carried out.

We are continuing to try to set up a better laboratory base for trying to identify the acid-fast bacilli found in skin biopsies. There are two main methods that we expect to use. So far we have not been able to get a laboratory facility in Calcutta where the method of inoculating mouse foot-pads can be used. Such experiments must be done very carefully because the bacilli found in biopsies will probably be below the minimal threshold level of bacilli required for positive growth. The second method we are trying to develop is histopathological examination of skin biopsies. Again, because of the rarity of the bacilli which are found by our concentration method, we will have to set up this investigation with the anticipation that a long and tedious search will be necessary to find bacilli in nerve endings. In the meantime, Dr. Chatterjee is continuing his efforts to cultivate leprosy bacilli.

The general epidemiological observations on the occurrence of leprosy in these intensively observed villages will permit longitudinal accumulation of data on the family occurrence and transmission pattern of leprosy.

To backstop the field work in India, laboratory investigations on the effect of the digesting solution for skin snip biopsies on viability of acid-fast bacilli have been done. It appears that the digesting solution adversely affects the viability of bacilli similar to the leprosy bacillus. (Funded by NIH)

e. Indigenous Practitioners and Family Planning.

The official health systems of most developing countries disregard the ubiquitous presence of indigenous practitioners, particularly in the rural areas. The conflict between modern medical systems and the indigenous systems of medicine hinder efficient utilization of available health manpower. Since 1966, this department has been actively studying the role of indigenous medical practitioners in the traditional health cultures of India and Turkey. An increasing purpose of these studies has been to assess the practitioners' attitudes towards family planning and their response to a possible role in the national family planning campaigns. The preliminary results from Punjab and Mysore states in India are encouraging. The Turkey study of indigenous midwives indicates the desirability of educating them about the family planning program. All three studies were completed during this year and they will be published shortly. (Funded by AID-WOH)

2. Nigeria

a. The Gbaja Family Health Nurse Project, Lagos, Nigeria.

This is a demonstration project, the goals of which are 1) to deliver continued curative-preventive ambulatory care to a defined group of preschool children at reasonable cost using nurse clinicians as primary decision makers; 2) to provide daily health education and family planning counseling to the mothers of these children; 3) to measure the results; and 4) to develop a training protocol for nurses working in this system.

Drs. Wright, Taylor and Cunningham and Miss Ruth White, R.N. visited the project during the year and report excellent progress. Dr. Ademola, Secretary of Health, Nigeria wrote: "I am directed to thank you for the report of the first year of the above project, and will like to congratulate you on the promising result so far achieved....It is important to see how these projects can be applied on the national scale and how the staff can be trained. Perhaps you might even be prepared to send the team to present your findings to a seminar on Basic Health Services at the end of October, if the arrangement comes through." The annual report, referred to by Dr. Ademola, summarizes the results to date and plans for the coming year. (Funded by AID-WOH and Lagos City Govt.)

b. University of Lagos Activities.

The work of the Department of Community Health at the Medical College of the University of Lagos continues with solid accomplishments. Dr. Adeniyi-Jones is now acting as Chairman of the department since Dr. Robert Wright's return to the Hopkins complex in Baltimore. A large and well-qualified Nigerian staff performs the regular teaching assignments. There continues to be a growing number of Lagos Medical College graduates who are continuing their medical education with specialization in the field of Family Planning and Community Medicine. (Funded by Ford Foundation and Lagos University Medical School)

c. Demography and Family Planning

A large scale demographic study by Dr. Robert Morgan is providing fundamental information on population dynamics in an African urban concentration. Practical field studies are being done of variables influencing acceptance of family planning in urban clinics. Dr. William Reinke together with Dr. Nicholas Cunningham have collected and analysed information from Nigeria concerning family planning attitudes, to ascertain the relation of these attitudes to morbidity and mortality experience of children and the presence of health services. Ford Foundation support for the demographic studies has been renewed. (Funded by Ford Foundation)

d. The Ilesha Study (An Evaluation of an Auxiliary Based Child Health Service in Rural Nigeria)

The field work of this study was completed in 1967. In 1968-69 the data was transferred to punch cards and tapes and analyzed. A final report in the form of a doctoral thesis is being prepared and should be published in 1970 (Dr. Cunningham). Preliminary results suggest that the system is both economical (approximately \$5.00 per child per year) and effective (1-5 mortality reduced by 1/2 with improved growth and development of survivors).

The program also resulted in a reduction in statements of desired family size but no reduction in fertility has appeared so far. (Funded by US PHS and AID-MOH)

e. Smallpox and Measles Vaccination Program

Dr. Robert Morgan, Mr. George Immerwahr and Dr. William Reinke have studied the factors that contribute to the acceptance of smallpox vaccination in Lagos and are preparing a report on this evaluation. (Funded by Ford Foundation)

3. Turkey

a. Functional Analysis Project

Overall direction of the field study in Turkey has been the joint responsibility of Dr. Warren H. Hinkler, Research Associate in our department, and Dr. Madir Tekerli, of the School of Public Health in Ankara.

This project has been examining the functioning of rural health centers under the Nationalization of Health Services Program in three Eastern Provinces of Turkey (Diyarbakir, Kars, Mus).

Data has been collected systematically on nine health centers (three in each province) and the communities served by them during six week periods at four different times, thus providing for seasonal variations. Three Turkish teams of trained investigators lead by a public health

physician made the observations and interviewed in the field. A fourth team headed by Mr. Richard Scott, an American sociologist with extensive field experience in Turkey and a member of our departmental staff, has conducted a study, in depth, of multiple factors affecting health and disease patterns in rural Turkey. The anthropological approach has provided large amounts of information on knowledge, beliefs, attitudes and behavior which is valuable in providing flesh for the bones of our other data collected by operations research procedures. Socio-anthropologic information is being obtained from community leaders concerning the local power structure, important economic indicators, extent of urban contact, major health problems, attitudes toward health center and various categories of health workers, utilization of other practitioners, and community health factors such as source of water supply, prevalence of pests, immunization status, and latrine construction.

Additional understanding of community characteristics and peculiarities is being gained through a brief household survey regarding nuclear and extended family composition, possession of assets, urban contacts, recent births, infant mortality, illness and accident recall, and attitudes toward the use of the health center and other health services.

Processing of the data is underway in Ankara. Staff and facilities have been made available in Ankara by the Turkish Government's School of Public Health, State Statistical Institute and Middle East Technical University.

One of the unique features of the Ankara project is the intensive study of indigenous birth attendants (untrained midwives) in villages of Eastern Turkey. Interviews have provided detailed information on the background and practices as well as the roles of 54 indigenous practitioners. This is a significant achievement in an area where this type of practice has been outlawed but has been at the same time a necessary part of rural life for decades. Preliminary review of the information collected in this study suggests valuable clues to ways of including these workers in expanding and improving maternal and child health and family planning services. (Funded by AID-KOH and Ankara School of Public Health)

#### 4. Chile

##### a. Men's Attitude Towards Family Planning, Santiago, Chile

The principal aim of this study (Dr. M.F. Hall) is to help broaden the focus of the present Chilean Family Planning program from one involving only the medical profession and its women patients, (mainly post-partum and post-abortion patients), to one seen as pertinent to society as a whole - men as well as women, educators and economists as well as physicians, and adolescents as well as their married older siblings. Between June 17 and July 29, 1968, 801 men were interviewed in Santiago and a nearby rural area. Results were coded on a magnetic tape. The first stages of the analysis have been completed and an article on "Men and Family Planning Education" has been accepted by Cuadernos Medico-Sociales. During the coming

year, an in-depth analysis of this and other aspects of the study will be made. (Funded by AID-WOH)

b. Evaluation of the Chilean Family Planning Program.

This study was started in December, 1968 by Dr. M. F. Hall and Jose Ugarte. Its aim is to measure the present resources of the program, both in human and material terms to estimate the number of women being served, and to set up a mechanism for such periodic evaluations.

In addition, an attempt will be made to correlate family planning activities in any one area of the country with changes in maternal mortality (with deaths due to abortion analysed separately) and infant mortality. The questionnaire, to be administered to approximately 300 public facilities providing contraceptive services, has been pre-tested and the field work has recently begun. Statistics are simultaneously being gathered on maternal and infant deaths. Results should be available in the coming year. (Funded by AID-Chile)

c. Administrative Studies in Health Planning.

The manpower study of demand for health services is beginning to take real form on the Chilean side. After almost a year while virtually alone, Dr. Thomas Hall now has a Chilean team (full-time) of two physicians, a dentist, pharmacist, midwife and nurse working on a supply survey. Reports have been made to the Technical Advisory Council and official contact has been established with the Planning Office of the University of Chile.

The study of demand for health services is going reasonably well. Many forms are already in hand. Apparently they are fairly well filled out. Unfortunately, the reported demand for care is well below estimates. Much time has been spent with supervisors and going out with interviewers.

The medical care study is beginning to take shape under Dr. Alberto Diaz's direction. The focus of the study has been changed completely after a false start and we are now getting the kind of information that will be useful in improving efficiency. Several recommendations have already been put into practice and high officials are beginning to express interest in our activities and press for results. (Funding by AID-Latin American Bureau and Govt. of Chile)

5. Iran

a. Family Planning and Medical Education

A study of the teaching of fertility regulation in medical schools in Moslem countries of the Middle East has been initiated and is continuing. This study involves a survey of 50 medical schools and is being

carried out by Dr. Donald C. Ferguson in collaboration with Dr. Ch.M.Mofidi, Dean of the University of Teheran School of Public Health.

Dr. Ferguson has also carried out preliminary and preparatory phases for a study of faculty and medical student knowledge and attitudes towards family planning, abortion, sterilization, and population policy in Iran. Questions have been framed, pretested, mock-up completed and a coding manual partly prepared. Translation into Farsi has been completed and pretesting of the total survey instrument is the next phase in the study plan. (Funded by Govt. of Iran and AID-WOH)

#### b. Rural Orientation of Physicians

We have had the unique honor of having a University Vice-Chancellor as a doctoral candidate. Dr. Torab Mehra, one of Iran's most illustrious health leaders, has completed his doctoral thesis on rural orientation of physicians. His survey covered representative samples of doctors working in three different rural health systems, first and final year medical students and clinical residents in Teheran hospitals. Out of this study have come practical recommendations on how Iran can improve rural health manpower supply. (Funded by Govt. of Iran, AID-WOH and Iran Foundation)

#### 6. Saudi Arabia

In Saudi Arabia, the project comparing knowledge of, and attitudes toward practices of health and family planning of nomads and settled bedouins was completed. Dr. Zohair Sebai finished the analysis and write-up of this research work. His main conclusions were that, in general, the health of the settled bedouins was better than that of the nomadic bedouins. There were no major differences in health attitudes and practices of the nomads in comparison to the settled bedouins that would give rise to a major health problem when the nomads were settled. Dr. Sebai presented this information in the form of a successful doctoral thesis. (Funded by Govt. of Saudi Arabia)

#### 7. Taiwan

Dr. Ernest Yen has carried out extensive analysis of various health and family planning activities of thirteen health centers observed in detail in Taiwan. In the course of his research work, Dr. Yen has developed some interesting methods of analysis of the health activities and arrived at important conclusions concerning the apportionment of time to various activities in the health center. This report, which is to be presented as a doctoral thesis, will be made available to the Government of China for use in improving the administration of health centers in Taiwan. (Funded by AID-WOH)

#### 8. Ethiopia

Dr. Edward Dodge while working as an international health resident at the Public Health College at Gondar has done a project on child feeding patterns and nutritional status. He has been in charge of a rural

training center and did his survey in villages in which his students were working. (Funded by US PHS and AID-WOH)

C. Development of Competence for Consultations and Service.

It would not be difficult for us to spend all of our time responding to requests for consultation and service. We have chosen to concentrate our commitments on work with AID and WHO.

In working with AID country missions in general most of our time has gone into population matters since there are so few health personnel with whom we can consult. With increasing acceptance of the policy of integrating family planning and health there is, however, considerable interest once again in basic health services.

Our greatest service input has been in Chile where Dr. Tom Hall serves as Family Planning and Health Advisor in the AID Mission and works directly in the Health Planning Office of the Health Ministry. He directs one of the largest programs in Latin America. We worked out this contract as a trial to see if this is a reasonable role for university faculty.

In other countries we have more informal consultative relationships with AID missions. We work most closely with the India mission with constant consultation on all sorts of mutual interests. Our direct village involvement provides the mission with a useful field perspective especially since we are only 200 miles from Delhi.

In Ethiopia we have had two of our international health residents providing part of the AID contribution to the teaching program at the Public Health College at Gondar. In Taiwan, Dr. Baker has continued to work with the medical schools in development of the Council for Medical Education.

In Iran, Dr. Ferguson with topping-off salary from our basic grant, has been serving as medical education advisor to the Dean of Teheran Medical School. During the year he was able to develop a total curriculum revision. He particularly helped plan the teaching in community medicine. He assisted Dr. Mehra in his doctoral study of the rural orientation of Iranian physicians and the Ministry of Health planning unit in a manpower study. His two research projects on family planning in medical education introduced this subject into the thinking of Iranian medical educators.

In Nigeria we have continued to backstop the Department of Community Health of the Lagos Medical College. This includes a continuing research effort that has made family planning and child health the main research activities of the department. The fact that the department runs the most active family planning program in the country gives family planning an academic respectability in a situation in which it is particularly needed.

In Turkey, Dr. Winkler and Miss Forman have contributed much to planning of family planning, health and nursing services both in AID and in

the Ministry of Health. The fact that our project is an integral part of the Ankara School of Public Health has permitted a wide influence on research capabilities generally.

During his time in Africa, Dr. Taylor spent long periods teaching and talking with Nigerian leaders both in Lagos and Ibadan. Then in a series of visits across Africa he consulted with local leaders of family planning and rural health in Uganda, Kenya and Ethiopia.

The numerous contributions to the work of WHO include both Geneva and regional offices. We are in frequent contact with PAHC, again especially on family planning. For the SEARO Regional Office in Delhi we have undertaken numerous tasks. Drs. Taylor and Alexander ran two special two-week seminars for Professors of Obstetrics, Pediatrics and Social and Preventive Medicine at Vallore and Delhi with field work at Narangwal. This involved great investment of time in developing both the methodology and content of the seminars with concentration on providing field experience. It provided a unique chance to influence some 50 medical educators from three countries. Dr. Reinke spent two months as consultant at the Western Pacific Regional Office in Manila teaching in a special seminar on manpower studies of nursing.

In Geneva, Dr. Taylor continues to be a member of the 4-man committee advising WHO in its growing involvement in family planning (other members are Dr. B. Berelson, Dr. Diczfalusi of Sweden and Dr. Velasquez of Colombia). In regular meetings we have been working out policy for the rapid change that is occurring in WHO's posture and program. Drs. Taylor and Reinke were members of the expert committee on Health Services Research that met in December, 1968. Dr. Reinke is now working with Dr. Grundy to prepare a WHO monograph on the application of Operations Research to Health Services. Dr. Taylor was chairman of a scientific group on the Health Aspects of Family Planning which met in June 1969. A Technical Report Series publication was prepared. Dr. Taylor was also co-author of a WHO monograph on Interactions of Nutrition and Infection.

Great changes are occurring in the role and responsibilities of medical missions. A Christian Medical Commission has been set up to provide a planning base for these changes. At present this is under the World Council of Churches but the Catholic mission groups are about to join and the orthodox churches have already joined. Dr. Taylor is both a member of this Commission and on its Executive Committee. Among the interesting results of this association was the opportunity to advise the Catholic missionary hierarchy in Rome on health planning which opened up fascinating discussions of family planning.

Numerous other responsibilities include multiple positions in professional groups such as the American Public Health Association and the governing boards of the Pathfinder Fund and the Leonar Wood Memorial Fund.

D. Relationships of Other University Resources Involved in These Programs

All of the activities described under A, B and C above have been carried out in the Department of International Health with 211-d financing for directly supported work or for backstopping separately financed projects. A small portion of the 211-d grant is also turned over to the Department of Population and Family Health, the Department of Biostatistics, and the Department of Behavioral Sciences for salary support. Other population activities in the University are supported from other sources, mostly Ford Foundation and NIH. In the School of Hygiene these are located principally in the Department of Population and Family Health which has the main responsibility for teaching students majoring in population, with the collaboration of our department and other departments in the school.

A review of the past five years of work in the Department of Population and Family Health has just been completed (Appendix II). The faculty has grown from 4 (1964-65) to 14 (1968-69) and the number of courses offered by the staff of the Population Dynamics Division of the Department of Population and Family Health has increased from 3 to 9. Annual student enrollment has increased from 12 to 39. There has been a substantial output of one-year MPH and special students. Equally significant is the increasing number of two and three year students who are being trained in greater depth to supply the specialists who will be needed for the long pull ahead in the field of population.

The Population Dynamics teaching program provides training at the graduate and post-graduate level in the following three areas: administration of family planning, biology of reproduction, and demography and social sciences. It is also the responsibility of the staff to organize research programs aimed at improving present knowledge of population dynamics and training for students in research methods. They, too, provide expert consultation to administrators, clinicians, and others who are responsible for action programs in family planning.

Since 1961 the Division of Population Dynamics has continually had two to three faculty members in residence in Lahore, Pakistan and advisors and directors to the West Pakistan Research and Evaluation Center (WEPREC). This organization is comprised of Hopkins staff and about 15 Pakistani professionals and is responsible to the Secretary of Family Planning of the Pakistan government. In the first five years WEPREC was occupied mainly with a pilot family planning project in a large rural area. Since 1965 it has helped to evaluate the national family planning program and assisted with Pakistan's in-service training. They have also assisted in the planning of a National Population and Family Planning Training Center at the graduate school level in Pakistan.

The rapid development of family planning clinics in Baltimore and elsewhere in Maryland by hospitals, health departments, and voluntary agencies provides excellent opportunities for both research and clinical experience and training.

Opportunities for related studies in population dynamics are offered in other departments of the University: the Department of Biology and the Carnegie Institute of Embryology offer basic training in various aspects of developmental biology; human genetics has special seminars throughout the year; reproductive pharmacology has undertaken intensive investigations of the bio-chemistry of hormone action. Another major focus of activity is the Department of Obstetrics in the Johns Hopkins Medical School. Dr. Barnes has developed a Center for Gynecologic and Obstetric Social Studies headed by Dr. Kushner. Particularly important are their service activities concentrating in the ghetto areas immediately around the hospital. Their wide range of research and service projects include active programs for teenage pregnancy, abortion services and studies, evaluation of motivations for the selection of contraceptive procedures, development of new IUD's and a laparoscope for tubal cauterization and general studies of attitudes to sex and family life. In the Department of Economics, Dr. Peter Newman continues his studies of the effects of population change on economic development and economic demography. Dr. McElroy of the Department of Biology has been a major force in stimulating interest in the population problem both locally and nationally.

University coordination of these diverse interests continues to be through a Committee on Population. This committee sponsored a University-wide seminar for the second year so that internal communication on the wide range of activities and involvement could be maintained.

It is increasingly evident that support for other university activities in population is becoming restricted. During this year, therefore, we will submit an application for an ammendment to carry a supplementary grant for the Department of Population and Family Health.

Similarly, there are numerous other departments of the school involved in international health work. The most extensive program is the Johns Hopkins Center for Medical Research and Training in Calcutta. This major research center in Tropical Diseases is operated jointly by the Department of Pathobiology in the School of Hygiene and the Department of Medicine in the Medical School. Important advances are being made in research in cholera virus diseases, hookworm, filariasis, liver disease, diarrheas and the ecology of animals living in close association with humans with particular attention to the destruction of human food by rats.

The Global Epidemiology Unit is sponsored jointly by the Department of International Health and Epidemiology. This year it has completed a comprehensive health survey of Afghanistan and is continuing studies in Chad, Africa.

Other research projects include a study of schizophrenia in Yugoslavia, international comparative studies of cancer and an international comparative study of the utilization of medical care.

#### IV. STATEMENT OF INTERRELATIONSHIPS BETWEEN POPULATION AND HEALTH ACTIVITIES

At several points through this report reference has been made to the distribution of activities supported by the 211-d grant. These comments will now be brought together.

The funding of our 211-d grant comes mostly from population funds. In practice, it is difficult to distinguish sharply between population and health, especially since we have taken as our main challenge, responsibility for working at the interface between family planning and health. We increasingly hold the conviction that the greatest immediate need in developing countries is to demonstrate how family planning and health services can be integrated. The national family planning programs have usually started by pushing family planning alone. The immediate returns that can be obtained from such focussed inputs have now been largely gathered. Considerable awareness of family planning has permeated village societies. The 10-15% of women who are already desperately aware of the personal problems associated with too many children have tried the measures offered. Because of health, economics, or inability to care for the children they already have, they are willing to do almost anything to keep from having another child. Simply providing these women with modern contraceptives seems to have minimal impact on birth rates since they would have resorted to abortions anyway.

Demographically, the more important and larger group consists of ambivalent women who are just beginning to be concerned about the rate at which they are bearing children. These parents have serious reservations about family planning. Getting their acceptance requires good administrative services and integration with health services for mothers and children. This approach does not preclude the development of economic or social measures to promote family planning - it is a prerequisite for such measures. Since many of the most densely populated countries are only now starting to provide prerequisite family planning services, they deserve priority attention.

Integration with health softens the political impact of what otherwise might appear to be too much pressure in pushing family planning. The muttering about "genocide" one occasionally hears in developing countries can less easily be sustained where family planning is an integral part of maternal and child health services. Preliminary experience with such integration suggests that AID can make a profound international impact through its efforts in investigation and action programs in this area.

The above discussion on the integration of health and family planning is presented as justification for the major attention given to this subject in our departmental activities. Our group has been among the first and most outspoken of the proponents of this approach. We have provided leadership in developing methodology for integrating health and family planning in field programs. We are also directly influencing the World Health Organization to move actively and effectively into this field where their international prestige can make a significant impact.

In summary, we have decided to focus at least half of our overall effort on the integration of family planning and health. This leaves about 25% of our effort to be devoted to pure family planning and, of course, about 25% for health.

The wisdom of the institutional grant provision that permits the University to distribute its own activities is particularly evident in this instance. Our work had previously been more than 50% in health. A transition cannot be made abruptly, especially in overseas research projects where tooling up and termination impose the built-in lag period of the project's own duration. We have begun the transition so that this year a little more than 25% of total effort was devoted to health. In subsequent years of the grant this proportion will be reduced so as to achieve the above balance by the end of the 5 year period.

Calculations of percentages of effort are presented in the next section. The estimates are, of course, subjective but as precise as our judgement will permit. Since most of the teaching effort under the grant has been devoted to health, it is apparent that the shift to population work has been most marked in research and service.

## V. EXPENDITURES

### A. General Statement

The total funds utilized in the first year were substantially less than one-fifth of the total grant. A part of the saving was made because the current rate of inflation makes it desirable to provide for the possibility that the dollar cost of the present inputs may increase substantially over the five year period. Another factor has been the gradual phasing out of other funding over the year. The most important consideration has been the obvious fact that recruiting highly qualified staff is a slow process. For example, an economist, Dr. Alan Sorkin, with whom we have been negotiating for some time, was only able to join us on July 1st.

No pilot or student projects were undertaken, due again to the necessity of tooling up this activity. We are exploring several possibilities, and may start up to three projects in the coming year. On the other hand, fellowship costs ran somewhat more than the original estimate, and were almost equally divided between the health and population areas.

Travel and other direct costs were some 20% less than estimated, which is to be expected since they are most directly related to salaries, which also showed an under-expenditure of approximately the same percentage.

Actual expenditures, classified broadly between health and population activities, and by grant line item, were:

(see next page)

<u>Line Item</u>	<u>Health</u>	<u>Population</u>	<u>Total</u>	<u>Original Projection</u>
Salaries	57,290	110,854	168,144	218,000
Pilot & Student Projects	-	-	-	9,000
Fellowships	22,168	23,539	45,707	39,000
Travel	1,414	15,701	17,115	20,000
Other Direct Costs	8,408	6,386	14,794	18,000
	<u>89,280</u>	<u>156,480</u>	<u>245,760</u>	<u>304,000</u>

In the following sections, we have endeavored to analyze expenditures in terms of how they contributed to the accomplishment of objectives divided according to population and health activities as described in Section III of this report. The alternative of reporting according to the detailed line items as is normally done in accounting would give no basis for separating population and health except in the broad categories of the above table. This necessarily involves a compromise between a natural interest in identifying the cost of very specific activities such as giving a particular course, and the fact that there is a point beyond which meaningful accuracy is lost when attempts are made to split the effort input of personnel in too fragmented a way. In trying to find a suitable compromise we have allocated approximate percentages of the total effort input of personnel to specific activities according to whether the content of the activity was health or population.

The dollar cost of each activity is then shown according to an estimate of the proportion of that input as related to the total salaries paid during the year (\$168,149). These were distributed according to teaching, research and consultation, followed by cost estimates for other activities.

(see next page)

B. Specific Costs Allocable to Development of Competence in Teaching

	<u>Health*</u>	<u>Population*</u>
1. Salary support by subject		
a) International Health courses and seminars given by department staff	13%	5%
b) Population - partial support for courses in the Dept. of Population and Family Health and clinical teaching in IUD techniques (see Appendix II)		9%
c) Residents and Senior Health Planners 211-d contribution to residents working on both health and population and the special program in Health Planning	4%	5%
d) Biostatistics - partial support for demography courses given by Dept. of Biostatistics		6%
e) Behavioral Sciences - partial support of courses related to family planning in Dept. of Behavioral Sciences		4%
	-----	-----
	17%	29%
	(\$28,706)	(\$48,640)
2. Fellowships Partial or full stipends and tuition for six students	\$22,168	\$23,539
Total	\$50,874	\$72,179

C. Specific Costs Allocable to Development of Competence and Backstopping of Research - (itemized by country and major project).

1. India		
a) Population Rural family planning studies in the Punjab		9%
b) Functional Analysis Studies of health center operations in the Punjab and Mysore	1%	1%

(continued)

\* Percentages shown are of total salary expenditures with 100% being \$168,144.

	<u>Health</u> *	<u>Population</u> *
c) Nutrition Research on nutrition of weaning-age children in the Punjab	2%	
d) Leprosy Laboratory and field research based in Calcutta	1%	
2. Turkey Functional analysis - Studies of health center operations in Eastern Anatolia	3%	4%
3. Nigeria Five projects - principal concentration of 211-d backstopping was in Gbaja Family Health Nurse Project and demographic studies of Lagos City	1%	4%
4. Chile Five small population studies with major backstopping effort for the studies of male attitudes on family planning and Dr. Thomas Hall's combined health-family planning technical assistance for the Chilean government	1%	4%
5. Small projects in Iran (2), Saudi Arabia, Ethiopia and Taiwan	1%	1%
	<hr/> 10%	<hr/> 23%
	(\$16,815)	(\$38,673)
6. International travel Primarily to assist in the development of our population research bases in Nigeria and India	\$ 479	\$14,979
Total	\$17,294	\$53,651
D. <u>Specific Costs Allocable to Consultation</u>		
Restricted to estimated costs of direct consultation and service to AID	4% (\$ 6,726)	5% (\$ 8,407)

(continued)

	<u>Health</u> *	<u>Population</u> *
<b>E. <u>Costs Not Directly Allocable to Other Categories</u></b>		
1. Share of salaries of International Health Faculty for work in population and international health activities of other parts of the University	3%	9%
	(\$ 5,044)	\$15,134)
2. Domestic travel - primarily to scientific meetings	934	723
3. Equipment, services and supplies	8,408	6,386
	<hr/>	<hr/>
Sub-total	\$14,386	\$22,243
Grand Total	\$89,280	\$156,480

**F. Discussion of Specific Costs**

It is hoped that an examination of this cost breakdown in conjunction with the relevant portions of Section III will indicate the vitally important but not always obvious contribution of 211-d to the health and population work of both the Department and the University. Sometimes the support is direct: stipend and tuition for a doctoral candidate, or travel to population conferences. More often it takes an indirect form such as promoting high level staff competence to provide broad direction and intercommunication to separately funded research projects in scattered and remote areas. In such cases the dollar cost compared to the separate funding may be small but the strength and flexibility provided by our core staff under the terms of 211-d makes a great difference in overall quality of work. In teaching, very few courses can be totally attributed to 211-d support, but without it the quality of all our graduate teaching program would have suffered greatly. Some teaching activities would not have been undertaken at all without partial support from 211-d. In the long process of recruiting and in-service continuing development of competence in our core staff, stable 211-d support is particularly necessary to supplement the multiple and short term sources of funds available for research projects. As we present plans for next year's work in the next section it will be evident that the addition of new activities will be mainly in projects integrating family planning and health.

## VI. WORK PLAN FOR 1969-70.

Plans for further development of teaching and research competence are based on the pattern of work described in this report. No drastic changes are anticipated but several evolutionary developments will occur.

In teaching, the emphasis will continue to be on improving quality. We are particularly fortunate in having several people (such as Drs. Alexander and Parker) returning to Johns Hopkins from prolonged periods of field work. We always find that such individuals make a particularly effective teaching contribution since they bring fresh insights from the field into our work with pertinent case examples to strengthen documentation. We continue to be particularly concerned about the difficulty of finding financial support for international health residents and doctoral candidates.

The main new effort in teaching will be Dr. Reinke's program for Quantitative Methods in Health Planning. As national health planning becomes more sophisticated and widely accepted there is greater need for individuals who can apply quantitative skills to the planning process and especially adapt the methods of operations research and systems analysis. Our program for Senior Health Planners has already been well established as the leading international program offering intensive training in this area. To supplement the planners program which is given in the 4th quarter we will have the new quantitative methods program in the 3rd quarter. This will draw a group of about seven highly qualified professionals this year. Most will then stay on for the 4th quarter planning sequence.

Plans are also being developed by Dr. George Graham for a basic course in human nutrition - which we are trying to start this year. We have nine doctoral students continuing their research and writing, six of our own and three jointly sponsored with other departments. Of these four are overseas.

A new effort is our plan to develop an International Journal of Health Services (which will include articles on family planning services). This journal is being sponsored jointly by the Department of Medical Care and Hospitals and the Department of International Health. The editor will be Dr. Vincent Navarro who has joint appointments in the two departments.

Research activities are continuing to concentrate in our major overseas bases. At Narangwal we have achieved considerable stabilization with solid financial support. New senior staff there will be: Dr. Donald Ferguson - resident administrator; Dr. R.D. Singh - coordinator; Dr. Tom Barns - Population Project Officer; Dr. Cecile DeSweemer - Nutrition Project Officer. This is quite a change from the past year during which Dr. DeSweemer and Dr. Robert Parker were present full time and Dr. Taylor part time.

Both WHO and the Indian government have asked us to formally establish a training and conference center at Narangwal. If this happens we will develop institutional affiliations with leading academic centers such as the Post-Graduate Medical Center at Chandigarh and the National Institute

of Health Administration and Education and the Central Family Planning Institute in Delhi. We would then have to increase our staff to provide more teaching competence.

A new doctoral project has been started in Kerala. Mr. S. Andrews is from Kerala where he worked with our rural orientation of physicians project for six years. He has now had two years of academic work in Baltimore, having completed his MPH and academic requirements for the Dr.P.H. His doctoral project is concerned with surveying village people's attitudes to indigenous practitioners. He will also study the practitioners directly and especially their reactions to possible participation in the national family planning program. Although such proposals have been much discussed as a rational alternative to the present policy of ignoring these practitioners, little information is available on the practicality of their inclusion in the national program.

The projects in Nigeria will continue. At this stage our plans for expansion are in abeyance because of complicated negotiations with the government. Our AID grant proposal for a national program for training health workers in child health and family planning was turned down last year at a late stage in the negotiations because the Nigerian officials said that the family planning component was too overt. Revised proposals are being negotiated. Parenthetically, it should be mentioned that such flexibility is possible only with the continuity made possible by assured funding.

All of our projects seem to be moving more directly into efforts to integrate family planning and health services and the definition of appropriate manpower for field services. This is reflected in the budget forecast for next year, a large portion of which is allocated to the heading "Integration of Health and Population." It is expected that fellowship costs will decrease slightly but retain an approximate balance between the health and population areas. As was mentioned previously, we expect to utilize funds budgeted in the "Pilot and Student Projects" category for up to three projects next year. The overall projection is as follows:

Line Item	Health	Integration of Health and Population	Population	Total
Salaries	54,200	77,700	84,400	216,300
Pilot and Student Projects	-	9,000	-	9,000
Fellowships	20,000	20,000	-	40,000
Travel	4,900	13,600	2,500	21,000
Other Direct Costs	10,000	11,000	2,000	23,000
	89,100	131,300	88,900	309,300

The related group of salaries, travel and other direct costs is expected to increase substantially as new staff are added and personnel return from long-term overseas assignments. Within this area major concentration will be placed on the teaching goals discussed above, expansion of the research base at Narangwal, and continued development of ongoing and future projects in Nigeria and Chile.

The total forecast represents an increase of 26% over last year, which is high, but well within the overall five-year projection. In line with the emphasis being placed on gradual evolution, we plan to increase activities again next year, but will stay within the total budgetary limit for the five years.

CET:ms1  
11/10/69

## APPENDIX I

### DEPARTMENT OF INTERNATIONAL HEALTH

#### Faculty

##### Professors:

Carl E. Taylor, M.D., Dr. P.H.  
Timothy D. Baker, M.D., M.P.H.  
\*\*Alfred A. Buck, M.D., Dr. P.H.  
\*\*Sol Levine, Ph.D.  
\*\*Ernest L. Stebbins, M.D., M.P.H.  
Robert D. Wright, M.D., M.P.H.  
George G. Graham, M.D.  
Abel Wolman, D. Eng.  
\*\*Alan C. Barnes, M.D.  
M. Alfred Haynes, M.D., M.P.H.

##### Associate Professors:

William A. Reinke, Ph.D.  
\*\*Tom T. Sasaki, Ph.D.  
\*\*Norman A. Scotch, Ph.D.  
Thomas L. Hall, M.D., Dr. P.H.  
\*\*John W. Williamson, M.D.

##### Assistant Professors:

C. A. Alexander, M.B., B.S., Dr.P.H.  
\*\*Hugh J. Davis, M.D.  
\*\*Donald C. Ferguson, Ph.D., M.P.H.  
Alan L. Sorkin, Ph.D.  
Alice M. Forman, B.N., M.A., M.P.H.  
Angel Cordano, M.D.  
\*\*Vincente Navarro, M.D., D.M.S.A.

##### Research Associates:

Biswa R. Chatterjee, M.B., B.S.  
Nicholas Cunningham, M.D., D.T.P.H.  
Cecile DeSweemer, M.D., D.T.M. Dipl.Hyg.  
M-Francoise Hall, M.D., M.P.H.

##### Research Associates:

\*\*Anna A. MacPae, Sc.M.  
Robert W. Morgan, Jr., Ph.D., M.P.H.  
Robert L. Parker, M.D., M.P.H.  
S. Prakash Sangal, M.Sc.  
Warren H. Winkler, M.D.

##### Assistants:

Elizabeth P. Elliston, M.A.  
Richard B. Scott, M.A.

##### Associate:

A. Peter Ruderman, Ph.D.

##### Lecturers:

Kurt W. Deuschle, M.D.  
Edward Grzegorzewski, M.D.  
Abraham Horowitz-Barak, M.D., M.P.H.  
George E. Immerwahr  
\*\*Matthew Tayback, Sc.D.

##### Senior Associate (International)

A. Torab Mehra, M.D., M.P.H., Dr.P.H.  
S.C. Hsu, M.D., M.P.H.

##### Associate (International)

Harbans S. Takulia, M.A.

\*\* Indicates joint appointments

TEACHING ACTIVITIESA. Courses Offered and Number Enrolled

International Health 1. Introduction to International Health  
[3 units] First Quarter: T. Th.  
70 students

International Health 2. Seminar for Program Planning and  
Project Development in International Health.  
[3 units] Third Quarter: M.W.F. Admission by permission only.  
13 students

International Health 3. Quantitative Decision Procedures  
(Given jointly with Dept. of Biostatistics) [3 units] Third Qt:M.W.F.  
35 students

International Health 4.\* Planned Change.  
[2 units] Fourth Quarter: M.W.  
33 students

International Health 5. Comprehensive Health Planning.  
(Given jointly with Public Health Administration)  
[10 units] Fourth Quarter: 5 days a week  
33 students

International Health 6.\* Epidemiology 10. Logistics, Techniques and  
Interpretations of Epidemiologic Field Studies of Infectious Diseases.  
[4 units] Fourth Quarter: T. TH.  
25 students

International Health 7.\* Population Growth: Interrelations, Problems  
and Policies. [4 units] Fourth Quarter: M.F.  
18 students

International Health 8. Area and Language Study (not given this year).

International Health 9. Teaching of Community Medicine in Medical Schools.  
[2 units] Third Quarter: T. Th.  
18 students

International Health 20. Special Studies (See Special Student Reports)

\* Joint courses with other departments primarily responsible

International Health Seminars:

Second Quarter: 20 students (See Seminar Schedules)

Third Quarter: 25 students (See Seminar Schedules)

Comprehensive Health Seminars: (Given jointly with Public Health Adm.)

First Quarter }  
Second Quarter } 50-70 students (See Seminar Schedules)  
Third Quarter }

APPENDIX I

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B. Departmental Students

1. Residents

Adams, Elvin, M.D.  
Bonnländer, Benjamin H., M.D. (Merck, Sharpe & Dohme fellow)  
Clinton, J. Jarrett, M.D. (Merck, Sharpe & Dohme fellow)  
Davis, Joseph H., M.D.  
Diaz, Alberto, M.D.  
Dodge, Edward R., M.D.  
Krijger, Paul, M.D.  
Parker, Robert L., M.D.  
Taylor, B. Brooks, M.D.  
Wallace, Donald, M.D.  
Wellman, John, M.D.

2. Doctoral Students

Andrews, Sunny, M.S.W., A.B.  
Asfaw Desta, M.P.H.  
Grover, Prakash, B.A.  
Sangal, Prakash, B.Sc., M.Sc.  
Scott, Richard, M.A.  
Sebai, Zohair, M.D., M.P.H.  
Yen, Ernest, M.D., M.P.H.  
Mehra, Torab, M.D., M.P.H.

3. Masters Students with interest in International Health

Casazza, Lawrence, M.D.	*Akesode, M., M.D.
Chambers, Pauline, M.D.	*Bhushan, Kul, M.D.
Gorosh, Martin	*Burkhardt, Patricia, SR
Johnson, Kit G., M.D.	*Lum, Gertrude S., M.D.
**Conyngnam, R. Bruce, M.D.	*Muttu, Lawrence B., M.D.
Wallace, William, M.D.	*Ogunbamise, B., M.D.
Elliston, P. Elizabeth, B.A.	*Oyediran, Muriel, M.D.
*Manalo, Ciraca, M.D.	*Russell, James J., M.D.
*Vansintejan, Gilberte, R.N.	*Salami, T. Isola, M.D.

\*\* Merck, Sharpe & Dohme fellow \* Joint interest with other dept.

4. Senior Health Planners - Certificate

Arnan, Amos, M.D., D.P.H.	Israel
Azami, Kamaludin, M.D., M.P.H.	Iran
Klopper, Jacobus, M.B.B.S., D.P.H.	Swaziland
Leligdowicz, Adolf, M.D.	Poland
Lisberg, Eilif, M.D., D.P.H.	Norway
Lynch, James, M.D.	USA
Phu, Dang Quoc, M.D., M.P.H.	Vietnam
Dradjat, Prawiranegara, M.D., M.P.H.	Indonesia
Mukhtar, Abbas Ali Saleem, M.B.B.S., D.P.H.	Sudan
Osman, Mohamed Sifaf, B.A., M.P.H.	Ethiopia
Soebekti, M.D., M.P.H.	Indonesia
Thieu, Nguyen V., M.D.	Vietnam

APPENDIX I

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C. Visiting Lecturers

1. Dr. Edward Grzegorzewski  
Former Director, Education & Training, WHO  
Oct. 8 - (Int. Hea. 1) - "W.H.O."
2. Dr. Abraham Horwitz  
Director, Pan American Health Organization  
Oct. 10 - (Int. Hea. 1) - "P.A.H.O."
3. Dr. Lee Howard  
Director, Health Services, AID  
Oct. 15 - (Int. Hea. 1) - "A.I.D."
4. Dr. Reimert Ravenholt  
Director, Population Service, WOH/AID  
Oct. 24 - (Int. Hea. 1) - "Population"
5. Dr. Jerome P. Lysaught  
Assoc. Prof., Education & Research, University of Rochester  
Mar. 11 - (Int. Hea. 9) - "Medical Education"
6. Dr. Edw. Rosinski  
University of Connecticut Medical School  
Mar. 18 - (Int. Hea. 9) - "Teaching Community Health  
in Medical Schools"
7. Dr. Peter Ruderman  
University of Montreal, Canada  
May and June - (Int. Hea. 5) - "Health Economics"
8. Dr. Robert Farber  
Baltimore City Health Department  
Oct. 17 - (Int. Hea. Seminar) - "Administrative Considerations"
9. Dr. David Clyde  
University of Maryland Medical School  
Feb. 18 - (Trop. Dis. Seminars) - "Malaria"
10. Dr. Cecily Williams  
London, England  
Mar. 18 - (Trop. Dis. Seminars) - "Malnutrition"  
(Int. Health 9) - "Teaching Nutrition in Developing  
Countries"
11. Dr. Harry Meyer  
Biological Standards, NIH  
Apr. 29 - (Trop. Dis. Seminars) - "Use of Vaccines in Tropics"
12. Dr. George Entwistle  
University of Maryland Department of Medicine  
May 6 - (Trop. Dis. Seminars) - "Hemorrhagic Fevers"

APPENDIX I

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C. Visiting Lecturers (continued)

13. Dr. Theodore Woodward  
University of Maryland Department of Medicine  
May 20 - (Trop. Dis. Seminars) - "Typhus"
14. Dr. Thomas Hall (as US/AID Advisory to Ministry of Health, Chile)  
May 27 - (Trop. Dis. Seminars) - "Health Planning in Chile"
15. Dr. William Spicer  
Director, Regional Medical Program  
Mar. 6 - (Comp. Hea. Seminars) - "Regional Planning (Heart,  
Cancer and Stroke Programs)"
16. Dr. Eugene Guthrie  
Director, Maryland Comprehensive Health Planning  
Mar. 27 - (Comp. Hea. Seminars) - "Comprehensive Health Planning"

Visiting Lecturers - Interdepartmental Faculty

Dr. John Hanks, Leonard Wood Memorial  
Dr. Craig Wallace, Pathobiology  
Dr. Nathaniel F. Pierce, Pathobiology  
Dr. Charles Flagle, Operations Research  
Dr. Cornelius Krusé, Environmental Health  
Dr. Margaret Bright, Chronic Diseases  
Dr. Herbert Klarman, Public Health Administration  
Dr. Philip Bonnet, Medical Care & Hospitals  
Dr. Stanley Mayers, Public Health Administration  
Dr. Paul Lemkau, Mental Hygiene  
Dr. Sol Levine, Behavioral Sciences  
Dr. George Vlasek, Behavioral Sciences

## APPENDIX I

### OTHER ACTIVITIES OF FACULTY

#### A. Dr. Carl E. Taylor - Department Chairman

**Teaching Activities:** Dr. Taylor spent most of the year in the field with departmental research projects in Nigeria and India. However, he was in Baltimore at the beginning of the school year for one month to teach Introduction of International Health as well as during the fourth quarter for Senior Health Planners Course.

#### **University Committees:**

Dr. Gordon's Committee on Honorary Degree Awards  
Committee on Human Resources  
CMRT Coordinating Committee  
Advisory Board, School of Hygiene  
Visiting Committee  
Editorial Advisory Committee, Life Sciences, J.H. Press

#### **Outside Activities:**

##### Committees:

National Advisory Commission on Health Manpower  
Expert Committee on Professional Education - WHO  
Leonard Wood Memorial Fund - Chairman, Medical Advisory Board  
CARE-MEDICO - Advisory Board  
Ludhiana Christian Medical College - Advisory Board  
Iran Foundation - Medical Advisory Board & Board of Directors  
Planned Parenthood, Ind. - Medical Advisory Council  
APHA - Governing Council  
- Technical Development Board  
- PAC on International Health - Chairman  
- PAC on Population  
- Epidemiology Section, Comm. on Pop. & Epid. - Chairman  
World Federation of Public Health Associations  
Christian Medical Commission, World Council of Churches  
Regional Health Advisory Committee, Region I, Dept. HEW

##### Consultant:

February-March, 1969 - WHO-SEARO - Organized two seminars on Teaching of Social Obstetrics, Social Pediatrics, Social and Preventive Medicine in Vellore and New Delhi, India



Dr. Timothy D. Baker (continued)

## University Committees:

University-wide Population Committee  
 University-wide Long Range Planning Committee  
 Advisory Board, School of Hygiene  
 Master of Public Health Academic Policy Committee, Secretary  
 Pro-tem, Doctoral and Master of Science Academic Policy  
 Committee, Secretary  
 Residency Training Program Committee  
 Welch Library Committee  
 Welch Librarian Search Committee  
 School of Public Health Society of Scholars Committee  
 Various Doctoral Examination Committees (member and/or chairman)

## Outside Activities:

Committees:

Baltimore City Medical Society Medical Care Committee, Chairman  
 State Medical Society Traffic Safety Committee, Chairman  
 Stebbins' Ad-hoc Committee on Population, AID  
 APHA PAC on International Health  
 APHA Governing Council  
 Special Committee for Revision of General Preventive Medicine  
 Examination, American Board of Preventive Medicine

Consultant:

National Academy of Sciences Board of Medicine, Panel on Inter-  
 national Health  
 Peace Corps on Health Program Evaluation  
 Peace Corps on Development of Residency Training Program  
 National Center for Health Statistics on Health Manpower  
 AEC Oakridge Desalinization-Power Project (Planning for Health  
 Infra-structure)  
 Special Group of Health Planners and Epidemiologists from West Africa  
 Turkish Minister of Health, Dr. Ozkan  
 Malaysian Minister of Health, Dr. Poh (on Health Planning)  
 MOH Armenian Republic on Health Manpower, Mr. Alexanyets  
 Population Council Project on Family Planning and Population Control  
 Manpower Needs  
 China Medical Board - Dean Wei, Dr. McCoy  
 American Commissioner for JCRR in Taiwan on Development of Taiwanese  
 Commission on Medical Education, Dr. Bruce Billings  
 WHO and PAHO Representatives on Health Planning, Dr. Djukanovic and  
 Dr. Barrenechea  
 HEW on PL-480 Funding for India Projects, Dr. Cope  
 Director, Assoc. of Philippine Medical Colleges on Development of  
 a Health Manpower Study for Philippines, Dr. Cuyegking  
 Group from German Federal Republic on Development of School of P.H.

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Lectures and Papers Presented:

Maryland Public Health Association, Legislative Action Seminar, Chrm.  
State Medical Society and State Public Health Assoc., testified at  
State Senate Hearing and State House of Delegates Hearings  
on Traffic Safety Legislation

Meetings and Conferences:

Maryland Medical Society, House of Delegates  
APHA, Governing Council Meetings  
Association of Schools of Public Health Meeting  
Maryland Public Health Association Meeting  
Meeting on Population for Association of American Medical Colleges,  
Rapporteur

Award Received:

Traffic Safety Award, Baltimore Traffic Safety Organization

C. Dr. Ernest L. Stebbins, Professor and Dean Emeritus

Teaching Activities: Dr. Stebbins' major activities reported  
in Public Health Administration Annual  
Report

Student Advisor: Dr. Ciriaca Manalo, Philippines  
(development of doctoral thesis)

Outside Activities:

Committees:

Agency for International Development, Medical Advisory Board, Chairmn.  
World Federation of Public Health Associations, Exec. Secretary  
AID Ad Hoc Committee on Population and Family Planning, Chairman  
Report submitted to AID, March, 1969

Consultant:

Agency for International Development, various committees and staff

D. Dr. Robert D. Wright - Professor

Teaching Activities: International Health 1  
International Health 2  
International Health 5  
International Health 9  
PHA #1

APPENDIX I

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Dr. Robert D. Wright (continued)

University Committees:

Departmental Library Committee, Chairman  
Welch Librarian Search Committee

Outside Activities:

Committee:

Ad Hoc Committee on Population and Family Planning, AID

Lecture:

Workshop on Black Africa sponsored by League of Women Voters and  
Baltimore Sunpapers, Morgan State College, May, 1969

Meeting:

APHA Annual Conference in Detroit, 1969

Consultant:

Ford Foundation on Nigerian Training Project  
AID Staff on grants and proposals in Nigeria  
Welch Library Director Search, Stuttgart, Germany  
University of North Carolina Training Program for Nigerian Students

E. Dr. George G. Graham - Professor

Teaching Activities: International Health Seminar  
Pediatric Residents, JH Hospital & Balto. City  
Outside Activities: Visiting Professor of Pediatrics, Medico, Nov. 1

Affiliations: Baltimore City Hospitals, Assoc. Ch. Pedia.  
British American Hospital, Lima, Peru, Dir. Re.

Professional Societies:

American Institute of Nutrition  
American Society for Clinical Nutrition  
Society for Pediatric Research  
American Academy of Pediatrics

Committees:

Committee on Amino Acids, Food and Nutrition Board, National Academy  
of Sciences, National Research Council



Dr. William A. Reinke (continued)Committees(continued)

American Statistical Association  
 Operations Research Society of America  
 OPERATIONS RESEARCH, Associate Editor  
 Institute of Management Sciences  
 American Public Health Association, fellow

Consultant:

Scientific Group on Research in Health Services Administration,  
 WHO, Geneva, December, 1968.

Lectures and Papers Delivered:

"Decisions About Screening Programs: Can We Develop a Rational Basis?"  
 Association of Teachers of Preventive Medicine, Detroit, Nov.10,1968.

"The Role of Operations Research Based on Observations in Varied  
 Overseas Settings," Population Association, Atlantic City, Apr.,1969.

G. Dr. C. Alex Alexander - Assistant Professor

University Activities: Dr. Alexander spent the past year as  
 Field Director for the Functional  
 Analysis Project in Bangalore, Mysore, Ind.  
 He will be returning to write up the  
 findings of this study.

## Outside Activities:

Consultant:

Dental College, Bangalore, India  
 Workshop on Organization of MCH Field Training Areas in Medical  
 Colleges, WHO, New Delhi, Jan.-Mar. 1969.  
 National Institute of Social Sciences, Bangalore, External Examiner  
 for Diploma in Social Service Administration, Apr. 1969  
 Christian Medical Association of India, Family Planning Project,  
 Bangalore, Apr.-May, 1969.

Lectures:

Directorate of Statistics, Mysore Government Lecture, "Health  
 Services Research," July 26, 1968.  
 National Tuberculosis Institute, Bangalore, "Public Health and  
 Teamwork," October 24, 1968.  
 National Institute of Social Sciences, Bangalore, "Dynamics of  
 Teamwork," Nov. 5, 1968.

APPENDIX I

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Dr. C. Alex Alexander (continued)

Lectures continued

Indian Medical Association, Bangalore, "Medical Care and Its Organizational Aspects," Nov. 8, 1968.  
National Tuberculosis Institute, Bangalore, "Operations Research in Health Services," Mar. 7, 1969.  
Rotary Club, Mercara, "India's Population," Apr. 18, 1969.  
St. John's Medical College, Bangalore, "Potentials of Using Community Laboratories in Medical Research," June 3, 1969.

H. Donald C. Ferguson, Ph.D., M.P.H. - Assistant Professor

University Activities: Dr. Ferguson was in the field (Iran) from August, 1968 and will be returning September 1, 1969.

Outside Activities: (Iran)

Visiting Professor, Jundi Shapur University, Ahwaz, Iran, Aug.-Oct. 1968.  
Visiting Professor, University of Teheran, School of Public Health, Oct. - Aug. 1969.  
Medical Education Advisor, University of Teheran, Faculty of Medicine, Dec. 1968 - Aug. 1969.  
Faculty Member, Inter-Regional Course, Organization of Field Training Programs for Maternal and Child Health in Medical Colleges., WHO, New Delhi and Marangwal, India, Mar. 11-22, 1969 (SEA/MCH/Wksp. 2)  
Faculty Member, Inter-Regional Course, Measurement and Evaluation in Health Education, WHO, Teheran, Iran, Nov. 4-30, 1968 (EMRO/HEP/35).

Meetings and Conferences Attended:

Eight International Congress on Tropical Medicine and Malaria, Teheran, Iran, Sept. 7-15, 1968.  
WHO Inter-Regional Seminar on Human Reproduction, Teheran, Iran, Apr. 14-18, 1969.

Institutions Visited:

Ataturk University, ERzurum, Turkey, Aug. 28-29, 1968.  
Faculty of Medicine and Teaching Hospital.

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Dr. Donald C. Ferguson - (continued)

Consultant:

University of Teheran, Iran, Medical Education Advisor to Dean and Vice Dean for Medical Education with administrative, organizational and curriculum problems, made recommendations for revision of medical school curriculum reorganization of departmental structure and associated matters.

School of Public Health, University of Teheran, Consultant to Family Planning Unit, Dr. Jalali, Oct. 1968 to present. Division on Human Ecology Group at University of Teheran.

President, Iran Foundation (Dr. Torab Mehra) on future research activities of Foundation over next biennium., May, 1969.

I. Dr. Thomas L. Hall - Associate Professor

Dr. Hall did not participate in University activities in Baltimore as he was assigned to an A.I.D. project in Chile. He did, however, give a school-wide lecture on "Health Planning in Chile" when he was back in the United States on consultation (see Seminar section). His extra University activities have been multifarious. In fact, he has been so busy he could not find time to send in an annual report. He attended an A.I.D. meeting in Panama City to discuss the development of population programs in Latin America.

J. Dr. Robert W. Morgan - Assistant Professor

Dr. Morgan has not participated in University activities here in Baltimore as he is on assignment to the University of Lagos, Nigeria projects.

Dr. Morgan was sent to South Asia by the Ford Foundation for a series of conferences with the Family Planning agencies and programs in the major countries of South Asia. He was able to visit our program in Harangwal.

K. Alice M. Forman, R.N., M.A., M.P.H. - Assistant Professor

Teaching Activities:

International Health 2  
International Health 5  
International Health Seminars

Lecture on "Maternal and Child Health Programs at the International Level," School of Nurse-Midwifery, Johns Hopkins University, February, 1969.

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Alice M. Forman, R.N. (continued)

Outside Activities:

Committees:

Planning Committee for Annual Convention of the American College of Nurse-Midwifery, Baltimore, April, 1969.

Consultant:

Admiral Bristol Hospital and American College for Girls, Istanbul, Turkey, January, 1969. - Reorganization of the ABH School of Nursing.

Ministry of Health, Ankara, Turkey, December, 1968. - Survey of Nursing Education Programs in Health Colleges of Turkey.

Conferences and Meetings:

Annual Convention of the American College of Nurse-Midwifery, Baltimore, Maryland, April 16-18-, 1969.

Yale University School of Nursing Alumni College, "Expanded Role of the Nurse," May 23, 1969.

International Council of Nurses Quadrennial Congress, Montreal, Canada, June 22-28, 1969.

L. George E. Immerwahr, M.S. - Lecturer

Mr. Immerwahr, on leave from the Department of International Health since September 30, 1968, has been at the Demographic Training and Research Centre in Chembur, Bombay, India. He has been there as part of the overseas staff of the U.S. Census Bureau under the auspices of US/AID. While there, he has been engaged primarily as consultant in connection with the Centre's computer simulation project under which vital events are being estimated and population projections are being made for India. This project is being sponsored by the National Centre for Health Statistics, Washington, D.C.

Mr. Immerwahr has also done teaching at the Demographic Training and Research Centre in Bombay.

M. Warren H. Winkler, M.D. - Research Assistant

While Dr. Winkler has a major commitment to the Admiral Bristol Hospital in Ankara as Medical Director, he is still acting as co-field director to our Functional Analysis Project in Turkey with Mr. Tekirli.

Warren H. Winkler, M.D. (continued)

Outside Activities: Lecture to staff of A.I.D. on the subject "Social Cultural Implications in Applying Health Services to Rural Turkey," April 10, 1969.

N. Richard Scott, M.A. - Assistant

Mr. Scott participated in the Functional Analysis Project in Ankara, Turkey as social scientist with Dr. Winkler and Mr. Tikirli

Research Activities of Second and Third Year ResidentsRobert L. Parker, M.D.

The majority of Dr. Parker's activities were tied into the research program in functional analysis at Narangwal which is described in detail earlier. In addition to this research program, Dr. Parker was able to attend several Indian regional health meetings. He had several consultations with Dr. Hugh Leavell, who served as his residency preceptor in Dr. Taylor's absence and he has taken an active role in the various project committees for the Narangwal projects.

Donald K. Wallace, M.D.

Dr. Donald Wallace initiated his residency year working with Dr. Harold Fredrickson of the Agency for International Development in the Office of the War on Hunger. After gaining some experience and familiarity with Dr. Fredrickson's research projects, Dr. Wallace undertook some preliminary work in preparation for a masters level thesis on "The Life Table Method for Evaluating the Cost of Various Types of Illnesses." At the conclusion of his assignment with the War on Hunger, Dr. Wallace was transferred to an operating division in the Southeast Asia Bureau. He worked under the direct guidance of Dr. James Shaefer, who gave him increasing responsibilities in back-stopping development of the health and family planning programs for the Southeast Asia Bureau.

In addition to his work - training experience, Dr. Wallace also completed his formal courses for an M.A. in Political Economy at Johns Hopkins University.

Dr. Wallace's final work assignment was with the AID/Vietnam Mission as a technician in health planning. He is working under the direct supervision of Dr. Richard Coppedge, the director of the Health Program in Vietnam.

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Research Activities of Second and Third Year Residents (continued)

Ralph Edward Dodge, Jr., A.B., II.D.

Dr. Dodge is on assignment to Haile Sellassie I University Public Health College, Gondar Ethiopia. His research activity is on a Study of the Epidemiology of Infant Malnutrition in Dabat, Ethiopia.

Public Health College Activities:

Assistant Professor in Public Health  
Chairman, Supervisory Team of Dabat Training Health Center  
Chairman, Supervisory Team of Gondar Training Health Center  
Chairman, Amba Ghiorghis Field Training Program  
Secretary, Supervisory Board of the Training Health Centers  
Secretary, Editorial Board for the Public Health College STAFF BULLETIN  
Library Committee  
Research Committee  
Faculty Recruitment Committee  
Social Events Committee

Dr. Dodge was an observer from the Public Health College to the "Seminar on Nutritional Problems in the Weaning Period," in Addis Ababa, March 3-15, 1969 sponsored by the Eastern Mediterranean Region of WHO.

James Alley, M.D.

Dr. Alley is a second year resident, who took his M.P.H. at Harvard. (He received his introduction to International Health in 1958 while a medical student at Syracuse from Dr. Baker who was teaching there.)

Dr. Alley carried out an analysis of his nutritional program in Montero, Bolivia in collaboration with Dr. Reinke. In addition to the analysis of this project, Dr. Alley took formal course work and served as the coordinator for the Tropical Medicine Series of Seminars.

It is of some interest to note that Dr. Alley received an honorary degree from Marquette University at the same time as Dr. Linus Pauling.

PUBLICATIONS

- Taylor, C.E., Dirican, R., Deuschle, K., "Health Manpower Planning in Turkey," The Johns Hopkins Monographs in International Health (The Johns Hopkins Press, Baltimore) 1968.
- Scrimshaw, N.W., Taylor, C.E., & Gordon, J.E., "Interactions of Nutrition and Infection," WHO Monograph Series No. 57 (WHO, Geneva) 1968.
- Taylor, C.E., "The Health Sciences and Indian Village Culture," Science and the Human Condition in India and Pakistan, (Published proceedings of Conference sponsored by Center for International Programs and Services of the State Education Department, University of State of New York and The Rockefeller University)[The Rockefeller University Press, New York, 1968] pp. 153-161.
- Baker, E. D., Coggeshall, L.T., Cassidy, J.E., Galkin, J.R., White, S.L., "Projections of Maryland's Health Manpower Needs Through the 1980's," (Maryland Council for Higher Education, Baltimore, 1968).
- Goerke, L.S., and Stebbins, E.L., "Mustard's Introduction to Public Health 5th Edition," (The Macmillan Co., New York) 1968.
- Wright, R.D., "Safari in Africa: Medical Education in West Africa," Wisconsin Medical Alumni Quarterly, (Wisconsin University Press) pp. 3-16, 1968.
- Buck, A.A., Sasaki, T.T., Anderson, R.I., "Health and Disease in Four Peruvian Villages," (Johns Hopkins Press, Baltimore, 1968).
- Graham, G.G., "The Significance of the First-Limiting Amino Acid in Human Infant Diets," in NYHAN, W., Ed. Amino Acid Metabolism and Genetic Variation, (McGraw-Hill, New York, 1967) pp. 403-412.
- Graham, G.G., "The Later Growth of Malnourished Infants. Effects of Age, Severity, and Subsequent Diet," in Calorie Deficiencies and Protein Deficiencies, (Churchill, London, 1968) pp. 301-316.
- Graham, G.G., "Nutrition Evaluation in Infants of New Protein Foods," AACC-AOCS, Washington, D.C., 1968.
- Graham, G.G., "Value of Oilseed Proteins for Child Feedings: Cottonseed Flours," Oilseeds, USDA., New Orleans, 1968.
- Graham, G.G. and Cordano, A., "Copper Depletion and Deficiency in the Malnourished Infant," Hopkins Medical Journal, 124: 139, 1969.
- Reinke, W. A., "Multivariable and Dynamic Air Pollution Models," Archives of Environmental Health, Vol. 18 (April, 1969), pp. 481-484.
- Reinke, W. A., Taylor, C.E., and Immerwahr, G.E., "Nomograms for Simplified Demographic Calculations," Public Health Reports, Vol. 84, No. 5 (May, 1969), pp.431-444.

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PUBLICATIONS (continued)

- Cunningham, N., "An Evaluation of an Auxiliary Based Child Health Service in Rural Nigeria," J. of the Soc. of Hea. Nigeria, 3:21-25 (1969).
- Cobey, J.C., and Cunningham, N., "An Evaluation of a Local Calendar Used in Determining Ages of Children in a Nigerian Village," J. Trop. Pediatrics, 14: 132-138 (1968).
- Hall, M.-F., "Field Effectiveness of the Oral and the Intrauterine Methods of Contraception: The Baltimore Public Program, 1964-1966," Milbank Memorial Fund Quarterly, Vol. XLVII, No. 1, Part I. January, 1969, pp. 55-71.
- Forman, A.M., "Supply of Nurses," (Chapter IV) Health Manpower Planning in Turkey, An International Research Case Study, (The Johns Hopkins Press, Baltimore, 1968) pp. 127-162.
- Forman, A.M., "Turkiye deki Hemsire Sayisinin Azliginin Nedenleri," Hemsire, Turkiye Hemsireler Sendikasi Dergisi, Subat, Mart - 1968, Sayi: 1-2, Yil: 1, pp. 25-28, 56. (Translation from Turkish: Problems of Nursing in Turkey, 1964-65).
- Forman, A.M., "Hemsire Sayirindaki Gelisim Hakkinda, Ozel Tavsiyeler," Hemsire, Turkiye Hemsireler Sendikasi Dergisi, Subat, Mart - 1968, Sayi: 1-2, Yil: 1, pp. 24, 51 ( Recommendations for Changes in Administrative Policies for Improvement in the Supply of Nurses in Turkey).
- Forman, A.M., "Saglik Insanqucu Calismasi Turkiye Hemsirelik Sorunlarinin Tavsiye Edilmis, Yol Gosteren Arastirmalari, Hemsire, Turkiye Hemsireler Sendikasi Dergisi, Subat, Mart-1968, Sayi: 1-2, Yil: 1, pp. 21-23. (Translation from Turkish: Suggestions for Studies of Nursing Problems in Turkey).
- Immerwahr, G. E. with M. A. Haynes, "Effectiveness of Sterilization in Reduction of Birth Rate," DEMOGRAPHY, 1969, No. 1.
- Scott, R. B., "The Village Headman in Turkey: A Case Study," Ankara, Public Health Administration Institute for Turkey and the Middle East, 1968.
- Takulia, H.S. and Taylor, C.E., "Social Sciences in the Marangwal Rural Health Research Projects," (report on village study) India. 1969.
- Takulia, H.S., "Black Power: A Brief Descriptive Analysis," Mankind, Hyderabad, May 1968.
- Takulia, H.S., "Martin Luther King: A Brief Appraisal," Gandhi Marg., (Gandhi Peace Foundation Quarterly, New Delhi, 1968).

PUBLICATIONS (continued)

Takulia, H.S., "Gandhi and Problem of Untouchability," Now, Calcutta,  
Feb. 7, 1969.

Takulia, H.S., "Student Unrest," Seminar, New Delhi, April 1969.

APPENDIX II

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Population Dynamics Division of  
Department of Population and Family Health

This is a report on five years of progress in training for careers in selected areas of population and family planning. This period has seen the building of a faculty and a student group who are full-time in population work. The results are summarized below and will be documented in the report.

Summary of Developments, Fall 1964 to Spring 1969

	1964- 1965	1968- 1969
Faculty - Full-time, Baltimore and Overseas	4	14
Number of courses offered by staff of Population Dynamics Division	3	9
Students majoring in population dynamics:		
Doctoral, Post-doctoral or Master of Science	1	22
Master of Public Health	10	11
Special Students, usually part-time	1	6
	<u>12</u>	<u>39</u>

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Total "Majors" in Five Year Period, September 1964-June 1969

Doctoral, Post-doctoral or Master of Science	26
Master of Public Health or Special	70
Total	<u>96</u>

There has been a substantial output of one-year MPH and special students who hold important positions in Family Planning Programs. Equally significant is the increasing number of two and three year students who are being trained in greater depth to supply the specialists who will be needed for the long pull ahead.

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Table 1  
Faculty of the Department of Population and Family Health

Family Planning Administration

Paul A. Harper, M.D.,M.P.H.	Professor	
Rowland V. Rider, Sc.D.	Professor	Biostatistics <sup>+</sup>
Donald W. Helbig, M.D.,M.P.H.	Assistant Professor	
*L. P. Chow, M.D.,Dr.P.H.	Associate Professor	Visiting
*John Whitridge, M.D.	Associate Professor	Obstetrics
**John Lesinski, M.D.,M.P.H.	Assistant Professor	Obstetrics
***Samuel B. Hopkins, LL.B.,M.P.H.	Instructor	Law

Demography - Social Science

John F. Kantner, Ph.D.	Professor	Sociology-Demography
Tom Sasaki, Ph.D.	Associate Professor	Anthropology
Melvin Zelnik, Ph.D.	Associate Professor	Sociology-Demography
Zenas M. Sykes, Ph.D.	Assistant Professor	Mathematics
*Paul White, Ph.D.	Associate Professor	Anthropology
**John J. Dempsey, M.S.W.,Dr.P.H.	Assistant Professor	Social Work
***Ismail A. Sirageldin, Ph.D.	Assistant Professor	Economics

Biology of Reproduction

John D. Biggers, D.Sc., Ph.D.	Professor	
Allen W. Schuetz, Ph.D.	Assistant Professor	
Samuel Stern, Ph.D.	Assistant Professor	
Charles Graves, Ph.D.	Assistant Professor	Visiting
George Marcus, Ph.D.	Assistant Professor	Visiting

+Basic discipline or other characterization is given when this serves to amplify the occupational grouping.

\*Part-time.

\*\*Primary appointment in Department's Division of Maternal and Child Health; work is related chiefly to problems associated with population dynamics.

\*\*\*Assigned to West Pakistan Research and Evaluation Center, Lahore, West Pakistan.

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Current Training  
Students of Population and Family Health  
1968-1969

<u>Specialization</u>	<u>Category</u>				<u>Total</u>
	<u>Doctor's Degree</u>	<u>Master's Degree</u>	<u>Post-Doctoral</u>	<u>Special</u>	
Demography	3	4*	-	1	8
Reproductive Biology	1	2*	4	-	7
Family Planning Administration	<u>7</u>	<u>11*</u>	<u>1</u>	<u>5</u>	<u>24</u>
	11	17	5	6	39

\*Candidates for Master of Science degree

\*\*Candidates for Master of Public Health with a "major" in population.

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Courses for Students of Population and Family Planning

Department of Population and Family Health  
Division of Population Dynamics

- Population Dynamics 1. Introduction to Population Dynamics (3 units)\*;  
Dr. Harper and Staff.
- Population Dynamics 2. Introduction to Physiology and Methods of Fertility  
Regulation (3 units); Third quarter: Drs. Biggers, Whitridge, and Staff.
- Population Dynamics 3. Population Studies (3 units): Third quarter: Dr. Kantner.
- Population Dynamics 4\* Public Health Statistics (6 units). The emphasis is on  
methods for quantitative analysis of current problems facing public health admin-  
istrators. Third quarter: Drs. Rider and Tayback.
- Population Dynamics 6\*. Introduction to Demographic Methods (4 units). Fourth  
quarter: Dr. Zelnik.
- Population Dynamics 7. Family Planning Administration (4 units). Fourth quarter:  
Drs. Chow and Helbig.
- Population Dynamics 9. Biology of Reproduction, Advances Course (4 units). Fourth  
quarter: Drs. Biggers, Schuetz, and Stern.
- Population Dynamics 10\*\*. Population Growth: Interrelations, Problems, and  
Policies (4 units). First and second quarters: Dr. Kantner.
- Population Dynamics 11. Techniques of Estimation of Population Parameters (4 units).  
Fourth quarter: Dr. Zelnik.
- Population Dynamics 12. See Biostatistics 9. (2 units) Fourth quarter: Dr. Abbey
- Population Dynamics 14. Mathematical Demography (3 units). Third and fourth  
quarters: Dr. Sykes. (Given in alternate years)
- Population Dynamics 15. Research Seminar in Demography (2 units). Third and  
fourth quarters: Staff.
- Population Dynamics 16. Seminar in Historical Demography (2 units). Fourth  
quarter: Dr. Sykes. (Given in alternate years)
- Population Dynamics 20. Special Studies and Research.
- Maternal and Child Health and Population Dynamics Seminar. Second, third, and  
fourth quarters.

\* Given jointly with Department of Biostatistics.

\*\* Given jointly with Department of International Health.

Research Projects Active in 1968-1969 by Staff or Students of Department of Population and Family Health

<u>Title of Project</u>	<u>Chief Investigators</u>	<u>Student Participation</u>	<u>Location</u>	<u>Cooperating Agency</u>	<u>Comment or Source of Support</u>
<u>Family Planning Administration</u>					
System for Evaluation of State Family Planning Services	Gary Snyder	Yes	Maryland	State Health Department	Communicable Disease Center, Public Health Service
Change in "High Risk" Births Related to Race and Socio-Economic Status	K. Basappa	Yes	Baltimore	City Health Department	Completed, October 1968.
Parity Status and Fertility Among Fifteen Year Olds	J. Dempsey	Yes	Baltimore	City Health Department	Completed, June 1968.
Teaching of Family Planning in Medical Colleges	J. Lesinski	No	Pakistan	Medical Colleges	Completed. Ford Foundation.
Age at Marriage and Fertility	F. Ahmed	Yes	Pakistan		Completed, September 1968.
Migration and Family Planning	Z. Alam	Yes	Pakistan		Active planning.
IUD Retention in West Pakistan	D. Helbig	Yes	Pakistan	GOP*	Editing for publication.
Evaluation of Lady Family Planning Visitors	WEPREC**	Yes	Pakistan	GOP*	
Acceptance of Oral Contraceptives	WEPREC**	Open	Pakistan	GOP*	
Use of IUD's in Rural Punjab	WEPREC**	Yes	Pakistan	GOP*	
Abortion and Family Planning	L. P. Chow	Open	Taiwan		
<u>Demography and Social Science</u>					
Sex Education and Contraception for Teenage Girls	T. Sasaki	Open	Baltimore	Urban League and Planned Parenthood	Ford Foundation
Canadian Family Growth Study	J. Kantner	No	Toronto		Canada Council

\*Government of Pakistan, Division of Family Planning

\*\*West Pakistan Research and Evaluation Center - Support from Ford Foundation