# International Activities of the National Center for Health Statistics

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THE NATIONAL CENTER for Health Statistics (NCHS) engages in a variety of international activities that support its national mission and that reflect its worldwide reputation. Through its Office of International Health Statistics (OIS), the Center maintains programs of research (the Special Foreign Currency Research Program), analysis (the Comparative Health Statistics Program), and technical assistance (the Vital Statistics Improvement Program). In addition, the NCHS serves as the World Health Organization (WHO) Center for Classification of Diseases for North America and is closely involved with the work of other WHO Centers in France, Brazil, Russia, Venezuela, and England.

The foregoing programs are supplemented by informal work with visitors from other countries, many of whom visit the United States to learn directly about NCHS activities in the collection and dissemination of health statistics. Moreover, NCHS staff members have provided technical assistance to such countries as Saudi Arabia, Colombia, the Philippines, and Portugal.

## Background of NCHS International Activities

Programs in international statistics and assistance date back to the precursors of the Center, the Federal Division of Vital Statistics in the Bureau of the Census and the National Office of Vital Statistics (NOVS) of the Public Health Service. In 1939–40, Dr. Forrest Linder, then in the Federal Division and later the first director of NCHS, was sent to Montivedeo, Uruguay, to assist in the development of that country's vital statistics system. During World War II, the Division briefly housed the Inter-American Statistical Institute. Somewhat later, a training program for Latin American statisticians was instituted under the Point Four Program, and resident consultants were sent to six South American countries. The training programs were continued in the Public Health Service by the NOVS and the NCHS until 1975.

Before the NCHS became a WHO reference center, its involvement with the International Classification of Diseases (ICD) was less formal, although important. Just after World War II, Dr. Iwao Moriyama of NOVS (later to become the Associate Director for International Statistics in NCHS) worked intensively, along with colleagues from Canada and the United Kingdom on the sixth revision of the ICD. This group made significant recommendations for the incorporation of the ICD as a permanent part of the activities of WHO when it was formed in the late 1940s. Subsequently, the staffs of NOVS and NCHS were instrumental in revising the seventh, eighth, and ninth editions.

The Center's interest in comparative analysis was also evident during the 1960s, when a number of cross-national comparisons of mortality were contracted to foreign statisticians in England and Wales, the Netherlands, Japan, Denmark, Norway, Scotland, and Chile.

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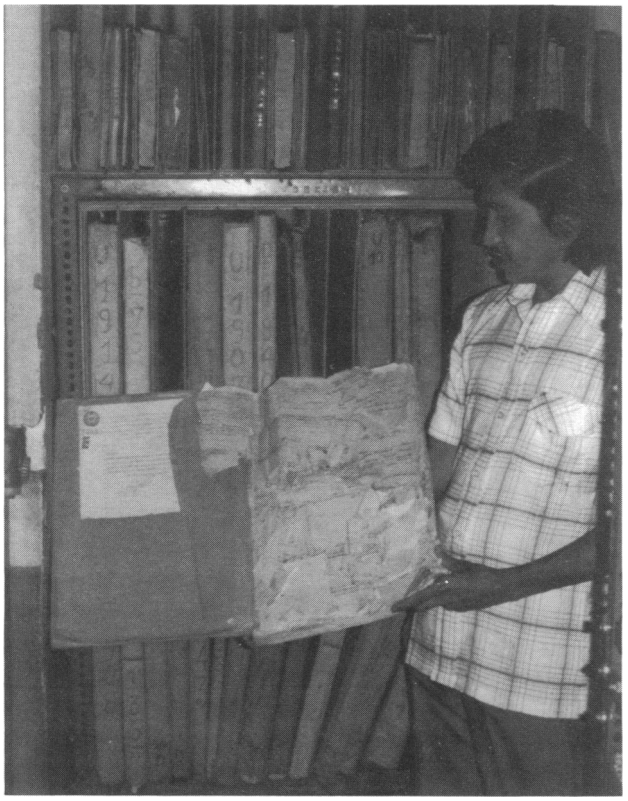


*Under Peru's improving vital registration system, birth and death records are permanently preserved on microfilm. Because of poorer quality paper, these recent records have deteriorated faster than older records*

## Special Foreign Currency Research Program

The Special Foreign Currency Research Program (SFCRP), also known as the Public Law 480 Program after the legislation that created it, draws upon surplus local currencies generated by the sale of U.S. commodities in foreign countries.

Since 1963, when NCHS involvement in the Program began, approximately 40 projects have been initiated; they have covered a wide range of health statistics topics. The following are only a few of the topics. Analytic studies of demographic indicators have been carried out in India, Egypt, and Yugoslavia. Variations in cause of death have been investigated in Israel and Yugoslavia. In Poland, a most successful study of chronic respiratory disease included two series of data collection and analysis before it was turned over to the National Heart, Lung, and Blood Institute for continuation. The data generated in this study will form part of the data base for a new project stressing the use of established data systems in the study of environment and health. Still another focus of study has been the physical growth and development of children, undertaken in Sri Lanka, Tunisia, Egypt, and India.

Since the supply of excess currencies has been exhausted in many of these countries, SFCRP Projects continue only in India, Egypt, Tunisia, and Pakistan. In Tunisia and Pakistan, NCHS is collaborating with WHO to foster awareness and understanding in the development of health statistics among users and providers of those statistics—a task of signal importance where resources for health care and useful information as how to best employ them are scarce. In India, where a massive government program is underway to train and employ local personnel for the delivery of primary health care, a project to evaluate the role of village school teachers in State programs is nearing completion. Preliminary findings indicate that the special characteristics of elementary school teachers (education and prestige, for example) make them particularly suitable to deliver primary health care in rural areas. Also nearing completion is a project designed to establish physical and psychomotor growth standards for Indian children. The data have not been collected on a cross-sectional basis, as is usually done in such studies, but by following a birth cohort of children through the first 9 years of their lives.

The Health Profiles of Egypt Project, initiated in June 1977, is one of the Center's more recent collaborative efforts. This project grew out of the awareness by the Egyptian Ministry of Health that the development of a national data base is indispensable to the planning requirements for the country's pressing health problems. Three components, a Health Examination Survey (including a medical examination), a Health Interview Survey, and a Health Facilities Inventory form the core of the Project.

To date, approximately 180,000 people have been interviewed in the Egyptian Health Interview Survey (HIS), representing a response rate of more than 85 percent, and data are now being tabulated for major administrative units (governorates). An important feature of the Egyptian HIS sample design is that it makes possible national estimates for each year. Data to be used for making national estimates are already available on personal hygiene, reasons for visiting hospitals, physicians, and other health care sources, nurses, results of treatments, children's vaccination history, smoking habits, attitudes toward diseases, and dental care.

Pretests were completed, and the Egyptian Health Examination Survey (HES) began in February 1981. It will provide an extensive evaluation of the health status of the population by means of laboratory tests and body measurements as well as clinical assessments of the people examined. The prevalence of conditions such as the following will be measured: endemic diseases such as bilharzial infestation and malaria; nutri-

tional deficiencies such as nutritional marasmus and avitaminosis; anemias; malignant neoplasms; pulmonary tuberculosis; hypertension, heart disease, and diabetes; and dental diseases.

The Egyptian HES sample consists of a one-tenth subset of the HIS sample. Health examinations of the HES sample are performed as soon as possible after the health interviews. This "dual" sample procedure is of particular methodological interest to the NCHS because the samples for the two comparable U.S. surveys are independent of each other. Among other advantages, a single sample with a subset approach will enhance the information gained from both surveys.

Comparable progress has been made in the development of inventories of health facilities and data on manpower, equipment, and activities of health facilities. In view of the progress made so far, it is expected that within the next 2 years, national estimates of the health status of the Egyptian population as well as information concerning available health resources will enable the Egyptian Government to further refine plans for health programs and services.

*Water supply for an Egyptian village, one of the aspects of environmental health being surveyed in the Health Profiles of Egypt project*

## Comparative Health Statistics Program

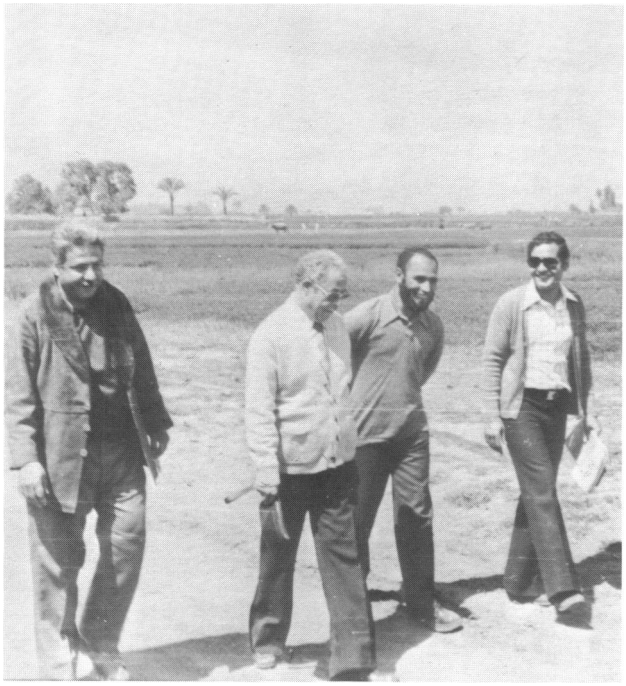
Comparative data are essential to the evaluation of performance of the U.S. health services system, its success in improving the health of the population to levels attained elsewhere, and the amount of resources used to produce improvements. Other countries also can provide a wide range of new ideas about ways of dealing with problems in health and health care delivery, and much can be learned from their experiences with programs under consideration for implementation in the United States, such as national health insurance. Furthermore, international comparisons can reveal problems that persist in most countries despite a variety of approaches toward solving them, and they can help to generate an understanding of the interactions between health systems and social, cultural, and political conditions.

A basic requirement of comparative research is adequate data. In recognition of this requirement, the Office of International Statistics has undertaken a series of studies to investigate the availability, comparability, and quality of data produced by different countries. The initial studies have concerned data from other Western industrialized countries, since these countries, are most frequently compared with the United States. Detailed reports on the status of hospital use statistics have been completed, and work has begun on manpower data.

The reports on hospital statistics include "The Status of Hospital Discharge Data in Six Countries" (*1*), which covered Australia, Canada, England and Wales, Finland, France, and Sweden, and "The Status of Hospital Discharge Data in Denmark, Scotland, West Germany, and the United States" (*2*). The reporting systems that collect abstracts of information on individual patients discharged from hospitals are the primary focus of these reports but other hospital statistical systems are also considered. A wealth of data is available on hospital use in most of the countries. All of the hospitals routinely prepare annual reports that contain aggregated data on use. There are also discharge reporting systems—covering part or all of each country—that collect information on the age, sex, and diagnosis of hospital patients. In addition, either continuous or recently completed household surveys supply some information about hospital use.

However, the data collected in the various countries are not completely comparable. Not all countries distinguish between long-term and short-term hospital patients. Unless adjustments are made to account for such differences, international comparisons of statistics such as average length of stay and bed-day rate per population are likely to be misleading. There are also important differences among countries in coverage of psychiatric, maternity, and other special categories of hospitals and patients. Definitions and procedures used to calculate use rates differ as well.

The quality of hospital data appears to differ from country to country, but little information is available on quality. Data on diagnoses and surgical procedures are usually checked for improbable or impossible com-



*Interviewers in the Egyptian countryside*

binations, (for example, male hysterectomies), but other types of errors are likely to exist in varying degrees. Different types of health personnel, from chief physicians to ward clerks, may report and code hospital data, and the types of personnel vary within as well as between countries.

Even after hospital statistics are adjusted for problems in comparability, differences in use rates persist. An analytic study is underway to see whether patterns in the organization of health statistics systems can help to explain the variations. The findings of this study are expected to complement previous studies of hospital use that have focused on factors such as the supply of hospital beds and hospital financing patterns. The effects of all of these factors must be understood before the international differences in hospital use can be explained fully.

## Vital Statistics Improvement Program

Supported through an interagency agreement between NCHS and AID, the Vital Statistics Improvement (VISTIM) Program provides technical assistance for the improvement of vital registration in developing countries. Although this assistance takes various forms, in the main, it consists of development projects, regional meetings, regional and national level training courses, and the preparation of training materials and instruction manuals.

Initiated in 1977, the VISTIM Program, in addition to holding regional meetings in Latin America, Asia, and Africa, has established projects in such varied cultures as those of Thailand, Jamaica, Peru, and Brazil. The Jamaican and Peruvian projects differ markedly in the type of assistance rendered and illustrate best the utility of the VISTIM Program under varying conditions.

The Jamaican vital registration system collects data that generally are of good quality and nearly complete in coverage. However, when the VISTIM Project was initiated in 1978, no natality or mortality annuals had been published for nearly 15 years. This serious bottleneck in the preparation of vital statistics was due to lack of data entry equipment. Under the VISTIM Project, keypunching equipment and facilities were purchased with excess currency funds. Technical assistance was also given to enhance the efficiency of the data entry process and to eliminate duplication in keypunching efforts. As a result, birth and death statistics for Jamaica are being prepared for publication for the first time since 1965.

In Peru the task was much more complicated, because this country does not enjoy the same quality of data or completeness of coverage as Jamaica. Because deficiencies in the Peruvian registration system are much more fundamental, a "model demonstration" approach was taken. Initiated in 1979 with the Peruvian National Office of Statistics, this project involves operations at a central office and in three demonstration areas. The goal is to develop a model vital registration system in three geographically and culturally distinct areas of Peru—the coast, the jungle, and the mountain regions—and ultimately, a plan for a totally new system that is feasible for implementation at the national level.

Significant results have been achieved in Peru's demonstration areas and at the national level. In the demonstration areas, the results include legal and administrative reforms, preparation of training manuals and provision of training for registrars, and implementation of the model system. At the national level, modernization of data entry equipment has been completed, and separate and detailed publications of birth and death statistics have been prepared for the first time in the country's history.

## Reference Center for Disease Classification

One of the oldest activities in the international health statistics of the NCHS and its predecessor agencies is participation in the development, revision, and application of the International Classification of Diseases (ICD). The ICD, a statistical system that has been under development for more than 200 years (*3*), provides an invaluable tool for the study of the temporal

and spatial distribution of diseases; for estimation of the effects of disease on populations, particularly with respect to morbidity and mortality by age, sex, and other demographic characteristics; and for the investigation of other epidemiologic aspects of disease in human populations. Although the ICD's roots lie in the 18th century works of de Lacroix, Linnaeus, and Cullen —or even in Graunt's analyses of the London Bills of Mortality in the 17th century (*3*)—its modern form is the responsibility of the World Health Organization, which undertook the process of decennial revisions beginning with the Sixth Decennial Revision Conference in 1948.

In addition, over the years, WHO established reference centers in several countries to assist in the development and use of the ICD in various languages. In recognition of contributions made by the NCHS to earlier decennial revisions, and in view of the differences in terminology and usage among English-speaking countries around the world, WHO, in April 1976, designated the NCHS as the WHO Center for Classification of Diseases for North America. There are now six such Centers, located in Paris (for French-language users), São Paulo (for Portuguese), Moscow (for Russian), Caracas (for Spanish), and two Centers for English-language users, one in London and, for North America, one at the NCHS in the Washington, D.C., area.

The work of the North American Center includes not only general support and assistance to users of the current 9th revision of the ICD, but also the organization and planning for input into the 10th revision from a wide variety of users in the United States, Canada, and other English-speaking countries in the Western Hemisphere.

Some of the projects in which the Center is engaged include computerized access to the alphabetic index of the ICD; comparability or bridge-coding studies between revisions of the ICD; and devising and testing special ICD-related classifications such as for primary care, lay reporting of diseases, and environmental hazards of high interest to both developed and developing countries.

A special relationship exists between the WHO Center and Statistics Canada, the Canadian Government agency responsible for use of the ICD in that country. Close ties also exist among all six WHO reference centers. However, the North American Center has especially close contact, through the Pan American Health Organization (PAHO) with the Centers in Caracas and São Paulo, since these three Centers are within the Western Hemisphere responsibilities of PAHO, the WHO Regional Office for the Americas.

*Vital registration officials in Latin America call graves such as this "clandestine" because they often represent unreported vital events—perhaps both the birth and death of a baby or only a death*

## Future Activities

Future plans call for the continuation of research by use of remaining Public Law 480 funds. A health statistics project is being created in Egypt, and similar projects are being considered for India and Pakistan. The VISTIM Program has prepared training manuals for civil registration, and efforts are underway to test the procedures in Jamaica and perhaps in Indonesia. Finally, the Center's Comparative Health Statistics Program will be expanded to include such topics as health care financing, ambulatory care, manpower, long-term care, morbidity, and mortality.

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