

VITAL and HEALTH STATISTICS
DOCUMENTS AND COMMITTEE REPORTS

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**History of the United States
National Committee on
Vital and Health Statistics
1949-1964**

A summary of the Committee's history and working arrangements prepared for its 15th anniversary meeting.

Washington, D.C.

June 1966

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
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Public Health Service Publication No. 1000-Series 4-No. 5

Library of Congress Catalog Card Number 66-60075

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IN THIS REPORT are background materials for the 15th anniversary meeting of the United States National Committee on Vital and Health Statistics, which was held on December 14 and 15, 1964, in Washington, D.C. The purpose of the anniversary, in the words of the Committee's Chairman, Dr. Robert Dyar, was "to view the past and help plan for the future." Nearly all present and former members of the Committee were in attendance.

The aim in preparing this report was to summarize the activities of the Committee, including its subcommittees, in enough detail to convey adequately the considerations that were weighed in reaching substantive decisions. Other background data were prepared on Committee and subcommittee structure, basic working arrangements, and detailed work patterns for the consideration of the Committee. All statements and data in this report are current as of December 1964.

The materials presented here are arranged in terms of subject matter, with little emphasis on the contributions of particular individuals or groups. It is obvious, however, that the Committee has been especially successful in securing the cooperation of many workers in many fields, whether to serve on the Committee itself or its subcommittees or to act as consultants to either. The overall success of the Committee demonstrates that statisticians and experts in a variety of health areas can work and plan together to the mutual advantage of their professional interests. The institutional forms and procedures that sometimes had either to be created or allowed to grow in accomplishing this should be of interest even outside the rather wide boundaries of public health.

HISTORY OF THE U. S. NATIONAL COMMITTEE ON VITAL AND HEALTH STATISTICS

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I. INTRODUCTION

THE COMMITTEE

The U.S. National Committee on Vital and Health Statistics was established in 1949 by the Surgeon General of the U.S. Public Health Service to put into effect a recommendation of the First World Health Assembly. The Assembly had acted favorably on proposals of the International Conference for the Sixth Decennial Revision of the International Lists of Diseases and Causes of Death that a number of "methods of international co-operation in the fields of health statistics and vital statistics" be created, including:

- (b) *The establishment by the different Governments of national committees for the purpose of co-ordinating statistical activities within the country, and to serve as links between the national medical-statistical institutions and the Expert Committee on Health Statistics of the World Health Organization;*
- (c) *decentralization of studies of certain statistical problems of public health importance to interested national committees on*

health statistics and other national agencies. . . . (ref. 1, Recommendation J, p. 21)

BASIC COMMITTEE STRUCTURE AND FUNCTIONS

In summarizing the achievements of the Sixth Revision Conference, the official *Chronicle of the World Health Organization* expressed the view that

perhaps the most interesting and far-reaching proposal of the conference was that all governments should establish national committees on vital and health statistics. (ref. 2, p. 114)

At the same time, only very general guidelines concerning the structure and activities of national committees had been recommended by the Sixth Revision Conference, including a few suggestions of study topics. (See appendix.) In effect, the membership, organizational structure, working methods, problems selected for study, and methodologies to be utilized were left to the individual committees. Although such matters

will be dealt with more fully later in this study, some introductory description may be helpful.

Membership

Resolution No. 9 of the Sixth Revision Conference had recommended that national committees be "composed of representatives of administrations entrusted with the compilation of such [vital and health] statistics" (ref. 1, p. 26). However it was felt that the interests of the United States would best be served by a technical committee rather than a coordinating or administrative body. While the Secretary and various National Committee members have held official positions in the country's health administration, other Committee members, including the Chairman, have not. This has not been the case with many other national committees. The U.S. Committee acts formally, however, through the Surgeon General of the U.S. Public Health Service.

As a principle in selecting the initial membership of the Committee, it was decided

that members should not represent organizations or agencies but rather that they should be chosen to represent a point of view, an area of interest, or a field of knowledge essential to the carrying out of the committee's responsibilities. (ref. 3, p. 3)

Structure and Operating Authority

At the start of its first meeting, the Committee decided that it would perform its functions

by working through its technical subcommittees and through other committees and organizations. The Committee will not have any authority or operating responsibilities and will exercise its coordinating function through cooperative effort. (ref. 4, p. 1)

The quoted passage is only one of a number appearing in Committee documents^a which state

^aMost Committee and subcommittee documents are identified by NC numbers; these numbers have been used in this report.

that the Committee possesses no authority and exercises no operating responsibilities. Some aspects of this self-denying ordinance will be considered in Chapter III, as will the committee-subcommittee structure.

The U.S. National Committee constitutes an interesting experiment in whether a committee that carries on its work largely through creating subcommittees for special tasks thereby dilutes or strengthens its capacity for achievement. Can the common weaknesses of committees—indecision, inconsistency, incomplete handling of problems, indolence—be overcome by proliferating the committee structure?

Further, can a committee be successful that dispenses only work, without funds for doing the work and sometimes with only thanks as recognition for accomplishing a difficult and largely anonymous task?

Statement of Committee Functions

The Committee and its individual members spent a great deal of time and thought in arriving at a suitable statement of the Committee's areas of interest. A draft statement of policy and functions had been prepared prior to the first meeting of the Committee and underwent careful revision, which can be followed in the Committee's files (refs. 3-6).

The basic purpose was clear: "...to guide and stimulate studies of technical problems in the field of vital and health statistics (interpreted in its broadest sense)" (ref. 4, p. 1). By the time the Committee's first annual report was published, the statement of functions had taken essentially final form, as follows:

- (a) *Delineate statistical problems of public health importance which are of national or international interest;*
- (b) *Stimulate studies of such problems by other organizations and agencies whenever possible, or make investigations of such problems through subcommittees appointed for the purpose;*
- (c) *Review findings submitted by other organizations and agencies, or by its subcommittees, and make recommendations for national and/or international adoption;*

- (d) *Cooperate with other committees or organizations concerned with public health statistics in the United States so as to serve as a clearinghouse for activities dealing with public health statistics problems;*
- (e) *Serve as a link between the organizations in the United States engaged in public health statistics and the statistical secretariat of the World Health Organization and other in-*

ternational agencies concerned with public health statistics; and

- (f) *Cooperate with national committees of other countries in the study of problems of mutual interest. (ref. 7, p. 11)*

This statement of functions has been reprinted with only slight editorial changes in each annual report.

II. REVIEW OF COMMITTEE ACHIEVEMENTS

The Committee has usually met twice a year, for the most part to consider reports from subcommittees concerning work accomplished and to decide on future activities. A typical subcommittee will have met once, though sometimes more frequently, between two Committee meetings. A half dozen or more subcommittees will usually be working simultaneously, each on its own particular problem as assigned to it by the Committee. As a rule, no more than one subcommittee will be working at any time in a single area. Sometimes, however, the same or a related question may eventually be referred to several groups before a result is reached that satisfies the Committee.

This chapter summarizes the tangible end products of activities involving many people, without considering how the results were reached, or by whom. Although there are exceptions, of which some notice will be taken, in almost every instance it would be impossible and probably futile to allocate personal credit. Obviously the Committee's very considerable achievements were made possible "through cooperative effort" (ref. 4). As a reflection of this fact, and in view of the Committee's ultimate official responsibility, all final actions of whatever origin within the complex of persons and structures here described will be identified as emanating from the Committee.

This chapter will describe 32 Committee investigations, which have been grouped for convenience into the following nine areas of study:

<i>Area of study</i>	<i>Number of studies</i>
Vital statistics-----	7
Morbidity statistics -----	3
Hospital statistics-----	3
Military health statistics-----	1
Classification drafts for ICD revision---	8
Fertility and population-----	6
Medicolegal death statistics-----	2
Quantification of wellness-----	1
Health economics-----	1

VITAL STATISTICS

Definitions of Live Birth and Fetal Death

In 1950 the World Health Assembly adopted the following definitions of live birth and fetal death, in wording almost identical with Committee recommendations:

Live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live born.

Foetal death is death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy; the death is indicated by the fact that after such separation the foetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. (ref. 8, p. xxii)

These definitions also were adopted by the United States as nationally recommended definitions in 1950 and are currently accepted by over half of the country's registration areas. The previously recommended United States definitions were somewhat less explicit and stipulated that at least 20 weeks of gestation was required for a stillbirth. The prior international definition of a stillbirth, dating from 1925, ran as follows:

A stillbirth is the birth of a (viable) foetus after at least 28 weeks of pregnancy, in which pulmonary respiration does not occur; such foetus may die either (a) before, (b) during, or (c) after birth, but before it has breathed. (ref. 9, p. 173)

There is some evidence that users of the new definitions have found difficulty in practical application of the stated criteria as to "evidence of life," especially since the phrase is followed by "such as . . ." which suggests that other criteria might legitimately be applied. In addition, the criteria themselves have not been generally accepted. The WHO Subcommittee on Classification of Diseases therefore has recommended reconsideration of the definition at this point (ref. 10, p. 16).

Tabulation of Fetal Deaths

In submitting the definitions for international use, the Committee also recommended that tabulation of all fetal deaths, irrespective of gestation period, be set as a goal; that tabulation of fetal deaths of 28 weeks and over gestation be established as a bare minimum essential for comparability; and that fetal deaths (and also live births) be tabulated in at least the following groupings:

Less than 20 completed weeks of gestation -----	Group I
20 completed weeks of gestation but less than 28-----	Group II
28 completed weeks of gestation and over-----	Group III
Gestation period not classifiable in above groups -----	Group IV

In 1962 10 registration areas in the United States required fetal death registration for all products of conception, as compared with but 1 area in 1950. Actual registration remains far from complete, although it probably has improved since 1950. Evidence suggests that lowering the age of reporting has increased the completion of reporting in the following gestation period.

Improving Fetal Death Statistics

Extensive studies were conducted on needed improvements in fetal death statistics, based on an orientational analysis especially prepared for the Committee (ref. 11). Discussion, surveys, study of various reporting forms (actual and proposed), and field tests were carried out:

- to clarify ways of reporting the causes of fetal death;
- to identify obstacles to reporting these causes adequately;
- to investigate variations in reporting length of pregnancy by alternative definitions;
- to discover what useful information could be obtained by matching birth and infant death records, etc.

These studies resulted in a revision of the fetal death certificate to make it agree more nearly with the birth certificate so far as personal particulars are concerned, and with the death certificate in requiring a sequential arrangement of conditions related to the death, designed to identify the underlying cause of death. The Committee nevertheless recognized the obscurity with respect to cause that is characteristic of so many fetal deaths.

The 1955 revision of the country's standard certificate of fetal death followed the recommended format in the above respects, but the new certificate did not include numerous also recommended checkbox items on conditions occurring during pregnancy, labor, and delivery (ref. 12).

The studies summarized above gave added point to the conclusion that the perinatal period—the period immediately before, during, and after birth—should be approached as a continuum. (For later work on the perinatal period, see Chapter II, pages 15-16, "Causes Peculiar to Perinatal Period.")

Occupation Item on Census Schedules and Vital Records

In June 1953 it was decided "to explore ways and means of obtaining funds (research grants) for studying the comparability between Census and birth and death record reports on occupation" (ref. 13, p. 1). A plan, outlined in reference 13, recommended by an *ad hoc* subcommittee of the National Committee was submitted by the Scripps Foundation for Research in Population Problems for a Public Health Service research grant, which eventually was approved (ref. 14, p. 3).

National Vital Statistics Needs

In 1951, the problem of defining what was indispensable in national vital statistics was referred to the Committee, which advised that detailed national tabulations certainly should be produced for the 3-year period around a population census. For other years, local-area tabulations might become primarily a responsibility of the States, and natality data might be obtained from a sample of birth certificates. It was thought that a level vital statistics budget might be desirable, in view of "unpredictable difficulties in a cyclical budget" (ref. 15, p. 3). For 1951-54, and for 1956 and subsequent years, national natality statistics have been based on a 50-percent sample of registered births.

Later, after extensive study of the objectives and program in national vital statistics, the

Committee in 1957 published its recommendations. They advised that the agency

should reject any data procurement method that limits or restricts the use of vital statistics records for research or that prevents it from controlling the quality of national vital statistics tabulations. (ref. 16, p. 222)

Specifically, this meant that data should not be obtained in pretabulated forms or through punched cards supplied by the registration areas, except possibly in a few cases where the punched-card method

can be shown to be mutually advantageous and where it will not adversely affect the scope, quality, continuity, and usefulness of national vital statistics. (ref. 16, p. 223)

Among the report's detailed recommendations it was suggested that the agency:

undertake studies of birth, death, late fetal death, marriage, and divorce registration completeness;

continue regular efforts to maintain uniformity of classification, completeness, and accuracy of reported items;

consult regularly with data users in planning tabulations and publications;

develop a schedule which releases final data to the printer within 15 months of the close of the data year;

strengthen the agency's analytical functions along directions needed for program planning, administration, and research;

obtain the budget needed to provide more adequate technical services to registration areas.

Need for National Marriage Statistics

The above-described report as published consolidated an independently conducted study of the need for marriage statistics with the more general analysis of vital statistics needs. In addition to outlining the kinds of data needed by various types of users, it noted that "strong support was expressed for complete national

and State coverage on an annual basis" (ref. 16, p. 225) and urged the national vital statistics agency to "work actively to establish a Marriage Registration Area" (ref. 16, p. 223). This area was in fact set up in 1957, just prior to publication of the report. On October 1, 1964, the marriage registration area included 36 States and 4 other reporting areas.

Improving National Divorce Statistics

After conducting two surveys of consumers of published national statistics on divorces and annulments, one of researchers and a second of other users, a series of immediate and longer-range objectives for the national program was developed (ref. 17). Immediate needs included:

technical help to registration areas through more detailed awareness of their special situations which would result in their establishing central files of records;

helping areas to adopt all the standard-record items;

encouraging research uses of divorce data;

enlisting the cooperation of judges, attorneys, court clerks, and their professional organizations.

Less immediate needs included:

improving measurement of the completeness and accuracy of items on the records;

encouraging training programs for local officials;

revising the standard record;

expanding the collection of data to other legal actions related to family dissolution, as well as possibly to desertions and separations.

MORBIDITY STATISTICS

Case Registers

By mid-1949 a Committee-sponsored group had distinguished case registers from "various

types of files, indexes and other collections of static records" by the following definition:

The term "register" [should be reserved for] a system of recording that permits the purposeful collection at regular intervals of information about the cases included in the register. (ref. 18, p. 2)

It was noted that such questions were unresolved as "the creation of standards relative to the time period for follow-up, a definition of the index case and uniform methods for calculation of survival rates" (ref. 18, p. 2). Although the question of case registers was referred to another subcommittee, it was not actually pursued further.

Glossary of Terms Used in Morbidity Statistics

At the third meeting of the WHO Expert Committee on Health Statistics, in late 1951, it was recommended that national committees *prepare, discuss, and evaluate definitions of the terms in current use in morbidity statistics from the following points of view:*

- (1) *terms descriptive of ill health;*
- (2) *terms used to describe a particular episode of ill health;*
 - (a) *in relation to previous health experience;*
 - (b) *in relation to other episodes of ill health present at the same time;*
- (3) *terms used to describe severity;*
- (4) *terms used in measuring duration of an episode, or in locating it in time;*
- (5) *specific terms used in hospital statistics (in addition to those for morbidity in general);*
- (6) *terms referring to medical consultation. (ref. 19, p. 19)*

In May 1954 the Committee decided to establish "an *ad hoc* committee to define the areas in which definitions or a glossary of terms, commonly used in morbidity and medical care statistics were needed" (ref. 20, p. 3). The chairman of the appointed group stated that its work would be

focused on organized medical care programs, insurance plans, etc. . . . to find out what terms people want to have defined, what definitions they are now using and what information and cooperation they would like to furnish for national and international purposes. . . . [Emphasized was] the need for indexes of measurement of social and environmental factors relative to health. (ref. 21, p. 2)

For example, occupation as a classification has little health meaning, but there is "need for a series of indexes of familial status and standards or levels of living" (ref. 21, p. 3).

Very early it was recognized that actually preparing a glossary would require "a full-time staff, including some physicians" (ref. 21, p. 3). After further investigation, including contracts with institutions and organizations to determine their needs, it was more explicitly concluded that constructing a glossary covering the five areas of health personnel, institutional facilities, medical and related services, illness and impairments, and relevant demographic data

will be a long, difficult, and expensive undertaking, requiring a large full-time staff for several years. (ref. 22, p. 2)

It was hoped, however, that a workshop to be organized by the American Hospital Association might make a start toward initiating a feasible project. In its final report the group emphasized the need for continuing technical oversight to solve problems relating to

- (1) *agreement or compromise on definitions,*
- (2) *selection of different and more specific terms for different concepts when agreement or compromise cannot be reached, and*
- (3) *sponsorship and promotion of widespread use of glossary terminology. (ref. 23, p. 2)*

Design of National Health Survey

Two subcommittees labored briefly and without concrete result on the problem of morbidity statistics (refs. 24, 25) before a third group, appointed in October 1950, developed a detailed

statistical design that was instrumental in bringing the National Health Survey into existence. Their end result is embodied in *Proposal for Collection of Data on Illness and Impairments: United States* (ref. 26).

The structure of this report faithfully corresponds to the line of investigation which stands behind its recommendations. After some introductory matter, Part III deals with "Current and Potential Uses of Morbidity and Related Data"

as determined from the experience of the members of the Subcommittee, from the files of the Public Health Service, from the responses of a limited number of potential users of morbidity data who were questioned by members of the Subcommittee, and from other sources. (ref. 26, p. 7)

It was found, and details of need were supplied in each instance, that morbidity and related statistics were required for

administrative planning and evaluation of health programs;

determining current health needs for medical and dental service, facilities and personnel;

suggesting hypotheses and providing other aids to medical research;

determining manpower needs;

estimating markets for manufacturers of drugs and appliances;

supplying statistics for public health education programs.

Upon the basis of this inventory of needs, Part IV of the report considers "Types of Data, Detail, and Frequency of Collection Required." The following general statement governs the findings of this section:

A minimal adequate program to provide statistics for the uses listed in Part III would necessitate collection of data of national scope on incidence, prevalence and the duration of disability for the major categories of disease and impairment. The data should allow subclassification by sex, by several age groups, and by employment, educational, income and occupational sta-

tus, and should have sufficient regional geographic detail to be usable by the Health Officers of States or cities. (ref. 26, p.9)

It was recognized that some of the needs developed in Part III "would require specialized studies which have little relation to one another or to a national program of data collection" (ref. 26, p. 10).

The problem of estimating the need for medical care was discussed in an appendix which outlines three possible methods for getting such data that seemed to be worth further study: (1) by expert appraisal of needs; (2) by study of services being obtained under favorable conditions now existing; (3) by collecting evidence regarding shortages of services and facilities (ref. 26, pp. 22-23).

Part V of the report surveys present sources of national morbidity statistics. Included is a summary of advances in sampling and survey techniques since the earlier National Health Survey. The results of this study were still being used in the fifties because later national data were lacking, in spite of these improvements, great demographic changes, and fundamental alterations in the country's morbidity patterns. Consideration of a variety of new but relatively limited sources of morbidity data led to the conclusion:

It is not possible to fill the urgent needs for national statistics on the incidence and prevalence of diseases, injuries, and impairments and on the utilization of medical services by relying solely upon records now being collected or data currently available. (ref. 26, p. 16)

It was therefore recommended "that a continuing national survey be conducted, adequate to provide regional estimates at intervals of two years and estimates for the nation as a whole at quarterly intervals" (ref. 26, p. 18). It was further recommended that this survey obtain its information from a probability sample of households, for which the report then developed concrete statistical specifications.

Since the household survey would be based on lay responses of experienced morbid conditions, the report also recommended "special

studies . . . to obtain data on undiagnosed and non-manifest diseases by means of physical examinations of a sample of the U.S. population" (ref. 26, p. 21). It was foreseen that this might involve "mobile examining units, publicity campaigns, special transportation for examinees, etc." (ref. 26, p. 21), since the sample could be considered representative of the population only if a large proportion of the selected individuals was actually examined. Other special studies would focus on methodological problems and evaluations.

On July 3, 1956, President Eisenhower signed the National Health Survey Act, Public Law 652, 84th Congress, empowering the Public Health Service to make studies to determine the extent of illness and disability in the population of the United States and to gather related information. To October 1964, 88 reports had been published based on information from the household interview and health examination surveys which came into existence by virtue of this law.

HOSPITAL STATISTICS

Community's Need for Hospital Statistics

At its first meeting the subcommittee members were asked "to obtain viewpoints on the orientation of International Statistical Classification to hospital use and on uses of hospital morbidity statistics" (ref. 4, pp. 2-3). Study of both matters was started early in 1950, but a concrete result was first obtained on the second topic. Attention was addressed in part to the intriguing question of using hospital information "to provide data with respect to morbidity in the community" (ref. 27, p. 10). It was recognized that the community needs data of much the same kind as does the individual hospital, including information on the kind and quantity of available facilities. The community also needs information on the relative importance of various factors that influence the use of hospital facilities, which can best be obtained through special studies that take account of the existing social machinery and general social purposes of the community. It was also suggested, however, that hospital data might throw light on the

occurrence of disease in the community in two other ways:

- a. Certain diseases, such as multiple sclerosis, show very high hospitalization rates, and thus may be studied directly from hospital records.
- b. Hospital data might be combined with other data to form a picture of the extent of illness in the community:

The problem here is one of methodology—of determining how the several types of data may be combined. It is essential to the development of such methodology that studies be designed to bring out the relationship of hospital data to other sources of information on illness in the general population, such as the household survey, industry, the schools, the physicians of the community, etc. (ref. 27, p. 16)

The same idea had been expressed over a year earlier in a footnote added by the WHO Expert Committee on Health Statistics to the report of the first meeting of its Subcommittee on Hospital Statistics, which was held in April 1950:

. . . the Expert Committee on Health Statistics stresses the need for investigating methods and possibilities of bridging the gap between hospital statistics and statistics representative of the community from which the patients of the hospital are drawn. The committee believes that the family type of survey or the complete coverage of medical-care services might offer the means of opening hospital statistics to broader interpretation and of enhancing their usefulness for public health-purposes. (ref. 28, p. 31)

The Expert Committee returned to the idea at its third meeting, in November 1951, when it suggested that "sub-samples of hospital records random with reference to the general population" could be studied to adjust biases in the hospital data (ref. 29, NC doc., p. 15).

A 1953 article (which WHO has translated into French and Spanish) based on the Committee-initiated studies considers ways in which information from cases treated in hospitals might be used to study community morbidity, as for example by using morbidity surveys to find out how the hospital data would have to be adjusted to apply to the community (ref. 30).

Adaptation of ICD for Diagnostic Uses

The 1949 interest of the National Committee in the possibility that the International Classification of Diseases (ICD) might be used to code diagnoses followed hard upon the 1948 Sixth Revision introduction of usually nonfatal disease categories into the list so that it could be used for morbidity coding. In 1950 the Veterans Administration and the Public Health Service Hospital in Baltimore started tests of the classification for hospital indexing, while the Columbia-Presbyterian Medical Center in New York City modified the list for the same purpose a year later. Already by early 1950 use of the classification for diagnostic purposes had gone so far that WHO thought it necessary to offer recommendations on how variations from the ICD should be indicated (ref. 28, p. 35).

Previously, hospitals had used either lists of their own making or made-do with the Standard Nomenclature of Diseases and Operations (ref. 31). This work lists essentially every recognized term regardless of its frequency of use. An adaptation of the ICD was developed under the coordinating leadership of the Committee, and a study of its effectiveness in diagnostic indexing was initiated in 1956 by the American Hospital Association and the American Association of Medical Record Librarians, with financial support from the Public Health Service. The study showed that coding and posting were faster with the adaptation than with the Standard Nomenclature, and that more pertinent records were found in answering requests (ref. 32). On this basis major users of the adaptation cooperated to develop a uniform modification of the ICD for hospital indexing, using the Seventh Revision (1955) as a base (ref. 33). An operation and treatment classification also was produced.

Most of the changes from ICD listings in the diagnostic code are confined to adding fourth-digit codes to gain greater specificity. This involved renumbering some of the ICD's fourth-digit subdivisions. For the most part three-digit codes were not altered, but in some cases terms were transferred from one three-digit category to another so that they would conform to usage in American hospitals. The major area where comparability is not maintained is the section

on "Mental, Psychoneurotic, and Personality Disorders," where the 1952 diagnostic code of the American Psychiatric Association was used because it is accepted by American mental institutions. Residual categories such as "Injuries of Other and Unspecified Nature" were eliminated, as were combination codes (such as "Measles with Pneumonia"), and classifications depending entirely on sex, age, occupation, or type of operation. In addition the external-cause listing of injuries was sharply reduced (ref. 33, vol. I, pp. iii-v).

Hospital Statistics and the National Health Survey

In 1957 the Committee decided to study what kinds of hospital data the recently established National Health Survey might collect for hospital use, and also the kinds of data that hospitals might produce for the survey. By late 1959 a report including a number of recommendations had been prepared and was transmitted to the National Health Survey and the American Hospital Association. Included were indications of data needed on both in-patients and out-patients. Some of the recommendations in this report probably now need review in light of the fact that a Division of Health Records Statistics has been established in the National Center for Health Statistics. Other recommendations were concerned with the types of information that States and communities might collect, for the most part so that they might be obtaining data comparable to that recommended for collection by the National Health Survey (ref. 34).

MILITARY HEALTH STATISTICS

In 1948 the First World Health Assembly recommended that Canada and the United States adapt the ICD to the needs of the armed services (ref. 1, Recommendation No. 9, 7(b), p. 26). The Committee entered into cooperation with representatives of their Canadian counterparts, the Medical Advisory Committee to the Dominion Statistician, using Army, Navy, and Air Force experts who had been working on an adaptation for the Department of Defense as members of

its own group. A draft adaptation of the external-cause-of-injury code (E code) was prepared and submitted to WHO. This classification (ref. 35) was circulated by WHO; comments on the classification are given in reference 36. At the Seventh Revision Conference it was decided that this classification did not meet the needs of all countries, and it was recommended that a list be developed "which would be sufficiently detailed for the needs of the armed services, capable of conversion to an abbreviated list . . . as well as to the three-digit categories of the E code of the International Classification . . ." (ref. 37, pp. 14-15). Subsequently the Department of Defense and the British War Office prepared a further adaptation of the E code which was accepted by the armed forces of both countries and also was submitted to WHO for trial use (ref. 38).

In 1954 the Committee also submitted recommendations to WHO on minimal tabulations of military health statistics designed to permit international comparisons (refs. 39 and 40, p. 2). In 1959, further modifications were made to develop a draft revision which would be suitable both for use in the United States and as a draft proposal for further international discussion. A representative of the British War Office participated in the development of this draft classification which was completed early in 1961. The classification was accepted for use by the Armed Forces of the United States and by the Armed Forces of the United Kingdom and submitted by the Committee to WHO in 1963 (ref. 41, p. 2).

CLASSIFICATION DRAFTS FOR ICD REVISION

In this section, classification proposals for the Eighth ICD Revision emanating from the Committee will be taken up in the order of the chapters to which the diseases involved principally belong in the Seventh Revision. The names of the section subheadings, however, will agree substantially with names proposed by the Committee as follows:

- Mental disorders
- Cardiovascular diseases
- Congenital defects
- Causes peculiar to the perinatal period

Accidents, poisonings, and violence (E code)
Accidents, poisonings, and violence (N code)
Physical impairments
Operations and treatments

Mental Disorders

The WHO Subcommittee on Classification of Diseases made note of several criticisms of Section V of the ICD:

the title of the section—"Mental, Psychoneurotic, and Personality Disorders"—is misleading;

many organic mental disorders are classified elsewhere, or not at all, while categories are lacking to accommodate diagnostic terms in current use;

the category "Mental deficiency" confounds degree of lack and etiology, in addition to inadequate coverage of specific types of deficiency (ref. 10, pp. 20-21).

There is a further difficulty in arriving at an international classification in that psychiatrists of different countries do not agree on diagnosis and terminology. In the United States the 1952 classification of the American Psychiatric Association is generally followed by mental institutions.

In mid-1961 a listing substantially identical with the Association classification was submitted as a working document to WHO and to the United Kingdom group working on mental disorders.^b WHO then had at least seven classifications to consider, concerning which it hopefully reported "substantial agreement." It was noted, however, that the United States proposal involved

distinguishing whether "organic brain syndromes"—disorders associated with known factors acting on brain tissue (infections,

^bThe American Psychiatric Association classification as edited by the Committee (and including the 1959 classification of mental retardation of the American Association on Mental Deficiency) is contained in an unnumbered Committee document (ref. 42) which was accepted for submission to WHO "for discussion purposes" (ref. 43, p. 3). The classification as edited by the WHO Subcommittee on Classification of Diseases is found in reference 44.

drugs, etc.)—were accompanied by psychotic reaction or by other mental disturbance, the two being separately coded;

coding the etiologic factors associated with organic mental disorders, and likewise the organic factors associated with mental deficiency;

using many terms not commonly accepted elsewhere (as "psychophysilogic" rather than "psychosomatic"; "antisocial"—and also "dissocial"—"reaction" rather than "psychopathic personality"; also general use of "reaction" where other psychiatrists would use a variety of terms);

including some classifications based on age distinctions.

(This last is noted in reference 10, p. 23).

In September 1962 a joint United Kingdom and United States meeting in London resolved most of the above (and yet other) difficulties (ref. 45); in September 1963 a preliminary meeting of eight nations on the classification of mental disorders was called by WHO and produced yet another list (ref. 46); and thereafter the United States recommended a few changes in the resulting draft. (ref. 47; differences between the United States and WHO drafts can be identified by referring to the notes on p. 5 of this reference.) At a meeting held late in 1963, the WHO Subcommittee on Classification of Diseases made recommendations concerning two main points of still outstanding difference, decided to circulate the latest American proposal, and itself recommended a number of relatively minor changes in the classification (ref. 48, pp. 18-19).

At its late 1961 meeting the Subcommittee on Classification of Diseases strongly endorsed a proposal made by the WHO Expert Committee on Mental Health, in its first and eighth reports, that a glossary of terms, with descriptive definitions, be compiled that would be applicable to categories in the new classification (ref. 10, p. 21; refs. 49 and 50). At its late 1963 meeting the subcommittee took note of a glossary drawn up in the United Kingdom, which has been circulated as an example of the definitions given to psychiatric terms in one country (ref. 51). At

its 1961 meeting the subcommittee looked far ahead to the eventual preparation of a comprehensive monograph on psychiatric terms which would take account of "the differences in general conception and symptomatology in different schools and parts of the world" (ref. 10, pp. 21-22).

Regardless of the ultimate outcome in the way of a revised classification of mental disorders for the Eighth Revision, the work that was accomplished over these half-dozen years at the national and international levels in a problem-studded area offers a splendid example of the strength and versatility of the system that links national committees and technical WHO groups into a powerful force for improving the statistical data on which so many of the efforts in public health must rest.

Cardiovascular Diseases

The effort to work out a satisfactory cardiovascular disease classification faced in heightened form very much the same difficulties that had been encountered in the case of the mental-disorder classification, along with other special problems. Very similar efforts toward cooperation, starting from different empirical and theoretical backgrounds, were engaged in over a half-dozen years between the United Kingdom, the United States, and WHO committees.

The problem is given great urgency by virtue of the fact that in cardiovascular and closely related conditions medicine and public health are faced by a great and still largely mysterious disabler and killer. Chapter VII of the Seventh Revision of the ICD, "Diseases of the Circulatory System," by itself accounts for about 40 percent of all deaths in "developed" countries. A health examination administered to a probability sample of the noninstitutionalized, civilian population of the United States between October 1959 and December 1962 indicated that 13.2 percent of the country's population aged 18-79 years had definite heart disease, while an additional 11.7 percent showed indications of suspect heart disease. At ages 65-74 years 39.9 percent showed definite heart disease, while an additional 20.7 percent showed suspect heart disease. At ages

75-79 years these percentages were 42.3 and 25.2, respectively (ref. 52, table 1).

Although much is known about the bare phenomena associated with cardiovascular-renal morbidity and mortality, the etiology of the known phenomena and indeed often even their manner of relationship still remain obscure. How does the concept of underlying cause that is used for coding deaths fare in this situation? The ICD Seventh (1955) Revision cardiovascular classification was taken over substantially unchanged from that in the Sixth (1948) Revision which was somewhat outdated even then. In discussing "the large group of degenerative vascular conditions manifesting themselves as hypertension, arteriosclerosis [i.e., conditions substantially similar to what is now called atherosclerosis], cardiac and renal affections or lesions of the central nervous system," the *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death, Based on the Recommendations of the Seventh Revision Conference, 1955* (Seventh Revision Manual) states:

It is conceded that the arrangement in the Classification is artificial and difficult to apply, involving reference to numerous notes and instructions. The present arrangement, however, was adopted at the sixth revision as a compromise between giving hypertension its due weight as an etiological factor and providing continuity with previous statistics. (ref. 8, p. xxxi)

According to criteria recommended by the American Heart Association, identification of cardiovascular disease requires a four-fold diagnosis: etiological basis; anatomical or structural changes involved (as thrombosis, active myocarditis); disturbance of cardiac physiology or the patient's symptomatology; and functional and therapeutic classification (ref. 53, p. 492). The last would not be appropriate in the present situation.

Two solutions of the cardiovascular classification problem appeared to be possible, each calling for a fundamental, but different, revision of the classification for cardiovascular-renal, and possibly also for diabetic, conditions. One might code combinations of conditions as derived from the death certificate, or one might code

substantially each condition identified on the certificate and thereafter produce desired combinations ("multiple causes") through tabulation. Both these procedures, however, assume that medical certifications can be translated into statistics in these ways without substantial distortions. Do most physicians fill out certificates in about the same degree of detail? Do they organize their responses with a satisfactory degree of uniformity according to the steps laid out in the medical certification, as it appears below?

18. CAUSE OF DEATH (Enter only one cause per line for (a), (b), and (c))	
PART I. DEATH WAS CAUSED BY: IMMEDIATE CAUSE (a) _____	
Conditions, if any, which gave rise to above cause (a), stating the underlying cause last.	DUE TO (b) _____
	DUE TO (c) _____
PART II. OTHER SIGNIFICANT CONDITIONS CONTRIBUTING TO DEATH BUT NOT RELATED TO THE TERMINAL DISEASE CONDITION GIVEN IN PART I (a)	

Of the two solutions, one was exemplified by the Statistics Section of the American Public Health Association, and the other by Dr. Harold F. Dorn, Chairman of the National Committee's Subcommittee on the Classification of Diseases; while in a series of meetings that began in August 1962 the United Kingdom and United States experts attempted to find a common ground between them (ref. 54). The APHA committee favored "combination categories." The first of its six recommendations advised, for the Eighth Revision, that "consideration be given to the fuller development of a disease-complex type of classification" (ref. 54, APHA, p. 78). While the committee also advised study of the multiple-cause problem, it noted several difficulties standing in the way, among which the most important probably are "a satisfactory description of the specific disease categories to be classified for the desired statistical purposes" (ref. 54, APHA, p. 75) and the present medical certification form.

There appeared to be relatively little disagreement as to the nature of the problem in need of solution. For years, the underlying cause concept had served the purposes of mortality statistics well in delineating the principal mortality problems. However, with the increasing proportion of deaths from the chronic diseases, the underlying cause concept had become less

and less adequate in describing the diseases involved in the causation of death. The solution to this problem was to make available more information on disease complexes.

There are two ways of accomplishing this. One is to build into the disease classification itself the various combinations of diseases that are desired. The objections to introducing a large number of cross-classifications into the International Classification of Diseases were summarized as follows by Dr. Harold F. Dorn.

It interferes with the various uses . . . such as a medical indexing in hospitals and in obtaining a total count of conditions. . . .

Only a limited number of combination categories can be provided for in the classification. . . . It would not be possible to anticipate future needs.

Introducing rigidity into the classification which will be frozen for the period of its use. . . .

Designing a disease classification to yield information which should normally be obtained in the tabulation procedure. (ref. 54, Dorn, p. 1)

Dorn proposed a second solution, that an unduplicated list of diseases be adopted for a disease classification, and that multiple diagnoses be coded. The association of diseases could then be established in the tabulation stage. This approach avoids the technical objections to introducing combination categories into the disease classification.

While there was agreement in principle to the desirability of coding multiple diagnoses, it was felt that not many countries would be able to undertake routinely the coding and tabulation of multiple causes of death.

In view of this situation, the U.S. and U.K. groups adopted the position of admitting a limited number of combination categories. With respect to combination categories, the representatives of the U.S. and U.K. groups met in London on August 28-29, 1963, and reached an agreement (ref. 54, U.K.-U.S. documents) which included the following items:

- (1) *The increased reporting of combinations of diseases complicates the direct use of the*

underlying cause principle in compiling medical statistics, and makes necessary the use of combinations of disease categories in cases where it would be meaningless to select one among the conditions reported.

-
- (3) *These combination categories should always be made up of conditions receiving independent numerical recognition elsewhere in the classification. This would ensure that tabulation of the categories could be achieved either by primary coding to them or by compilation from their constituent elements.*
- (4) *. . . The combination categories should be distinguished in the ICD in some way from the conditions of which they were made up.*

In regard to the cardiovascular disease classification, it was suggested that hypertension should receive more definite recognition, with nine three-digit categories allotted to its more important combinations with other cardiovascular conditions.

The U.S. National Committee accordingly forwarded a classification to WHO in October 1963 which provided 10 three-digit codes in one block for combination categories involving hypertension and various forms of heart disease and cerebrovascular diseases.

The WHO Subcommittee on Classification of Diseases "agreed in principle that the ICD should be so constructed as to allow any country to demonstrate associations either by multiple-cause coding or by direct coding to combination categories" (ref. 48, p. 12). At the same time, the subcommittee gave little guidance to the WHO Secretariat in choosing combination categories: "The particular combinations which would be desirable in the ICD would be decided when the individual sections were revised" (ref. 48, p. 12).

Congenital Defects

When consideration of Chapter XIV of the Seventh Revision, "Congenital Malformations," was begun in late 1961, it was known that the existing list was incomplete:

The present classification includes only malformations or structural changes and does not cover important congenital anomalies which are now classified elsewhere. A more inclusive classification is needed to include all manifestations of disease, whether based on clinical observations or on laboratory tests, which are present at birth or presumed to be present at birth and concerning which there is no indication that the condition was acquired during or after birth. It was recognized that it would not be practicable to include all diseases or conditions which have some genetic background (e.g., diabetes mellitus), but that an effort will be made to bring together the important defects which have a fairly clear-cut genetic base. (ref. 55, p. 1)

Accordingly, it was decided at an early stage to include not only gross anatomical genetic defects, but also congenital cellular defects recognizable chiefly by microscopic examination and congenital defects due to inborn errors of metabolism (ref. 56, p. 1). The subcommittee eventually called its list a classification of "congenital defects."

The resulting draft was submitted to interested agencies, including vital statistics offices, maternal and child health groups, crippled children's programs, hospitals working on related studies, and other concerned groups and individuals (ref. 57). Comments on the draft are given in reference 58. In October 1963 a slightly revised version of the classification was sent to WHO (ref. 59, p. 3), although it was recognized that a number of changes in the classification were probably desirable:

Question was raised as to the appropriateness of including the congenital hernias in this section since it would be difficult to determine whether they were congenital or acquired. . . . It was also suggested that the subcategories for congenital tumors be transferred to the section on neoplasms. Recommended also was the deletion of the term "Endocardial fibroelastosis" from the section on congenital heart defect . . . because not all such conditions are congenital in origin.

Lack of specificity of certain categories, defects of organs or organ systems was noted (e.g., chondrodystrophy, congenital hypertrophic pyloric stenoses, etc., which are identifiable categories in the Seventh Revision). It was suggested that certain specific subcategories be accommodated in the space vacated by the suggested deletions and transfers. (ref. 60, p. 1)

When the WHO subcommittee met to consider the accumulated revision proposals

discussion . . . tended to favour a mixture of the United States and United Kingdom classifications, which would retain the detail of the United Kingdom classification of structural abnormalities with the addition of the metabolic and cellular defects as proposed by the United States of America. . . . However, it was realized that the number of categories would have to be increased to make this possible. It was recommended that if this expansion were not possible, the congenital metabolic defects should be classified with the other metabolic disorders in order to preserve the detail of the United Kingdom proposal in respect of the gross malformations. (ref. 48, p. 26)

Another WHO document (ref. 61), comments on the implications that transfer of inborn errors of metabolism to congenital defects would have elsewhere in the list.

Causes Peculiar to Perinatal Period

The early interest of the Committee in the problem of fetal deaths led to efforts in two directions. First, since "it is estimated that the present magnitude of the fetal death problem is as great, if not greater, than that of infant deaths at the turn of the century" (ref. 62, p. 1), the Committee saw the need for

establishment of a continuing committee under a broader sponsorship than can be provided by the National Committee to promote and coordinate activities for the prevention of reproductive wastage. Such a committee should have representation from the fields of obstetrics, pediatrics, pathology, hospitals and statistics. (ref. 62, pp. 1-2)

In considering how to improve fetal death registration and other supposedly limited questions,

study groups were continually forced, on the one hand, into consideration of causal factors, and on the other felt the need to move across the dividing boundary of birth. A subcommittee was established in June 1956 with the following extremely broad charge:

To recommend a method of classifying causes of fetal deaths as reported on vital and hospital records;

to review existing classifications of causes of fetal deaths and causes of neonatal deaths;

to develop a satisfactory classification after studying the interrelationships of existing classifications;

and to determine the need for a nomenclature to use in reporting fetal deaths. (ref. 63, p. 17)

Experts in the United States were not alone in reaching the conclusion that the period immediately before, during, and just after birth forms a continuum that should be bridged statistically. The following action, for example, was taken at the Seventh Revision Conference:

The Conference endorsed the proposals of the Expert Committee in respect of studies to serve as a basis for the improvement of the present classification of causes of stillbirths and of its application, namely:

(c) studies aimed at comparing and integrating the reported causes of foetal deaths and deaths during the neo-natal period. (ref. 37, Conclusions (a) I 1.5, p. 7)

Over several meetings the experts pressed forward in many directions, while increasingly directing attention on a workable classification. It was early decided to confine the classification "to diseases and causes that were peculiar to the reproductive process" (ref. 64).

In June 1957 the National Committee "suggested . . . action on a definition of the perinatal period" (ref. 65, p. 2). Not until September 1960 did the Committee receive a definite reply, and that was a recommendation, not of a definition the subcommittee itself had devised, but of the 1959 definition of the American Medical Association's Committee on Maternal and Child Care:

I. Perinatal Period I as a minimum basis for achieving nationwide as well as international

comparability, will begin with deaths of fetuses weighing 1,001 grams (28 weeks gestation) and include deaths of infants occurring in the first 7 days of life.

- II. *Perinatal Period II for more inclusive study, and recommended whenever possible, will begin with deaths of fetuses weighing 501 grams or more (20 weeks gestation) and include deaths of infants occurring in the first 28 days of life (full neonatal period). (ref. 66)*

By June 1958 a draft classification excluding congenital malformations (which were eventually turned over to another group of experts) had been prepared for what was called a pretest on mortality records. (ref. 67. This draft was supported by various coding materials, references 68-72.) After some modifications, the revision was tested on morbidity data from a dozen or so hospitals, leading again (ref. 73) to a revised draft which is given in reference 74. By this time it had been decided that the classification should be titled "Certain Causes of Morbidity and Mortality Peculiar to the Fetal and Early Infancy Periods." Some additional comments (ref. 75) led to the final revision (ref. 76) which was accepted for submission to WHO.

The resulting classification of the perinatal period has the following general characteristics:

- a. It completely eliminates all fourth digits for immaturity.
- b. It emphasizes certain conditions, as distinguished from causes, as for example birth injuries, difficulties of labor, maternal state during pregnancy or labor, conditions associated with asphyxia or hypoxia (anoxia).
- c. It eliminates all age categories, as for pneumonia and diarrhea, although there is a three-digit code for infections acquired before or during birth.

In considering the classification the WHO Subcommittee on Classification of Diseases observed:

It is not a self-contained list for classification of all causes of perinatal morbidity and mortality without reference to the other sections of the ICD and it will lead to a disruption in the historical trend of statistics of causes of still-birth.

The Subcommittee considered whether the classification of perinatal causes should be a separate list or whether it should be an integral part of the main ICD classification. The general opinion favoured integration. (ref. 10, p. 14)

The subcommittee accepted the proposal as a basis for further study, and recommended "that WHO work out the detailed implications of bringing the perinatal list into the general ICD" (ref. 10, p. 15).

Accidents, Poisonings, and Violence (E Code)

Since the Sixth Revision of the ICD (1948), the list has included a dual classification of accidents, poisonings, and violence, according to external cause (E code) and according to nature of injury (N code). Each section provides for adverse reactions to prophylactic inoculations and therapeutic misadventures. With respect to accidents occurring while at work, the Seventh Revision Manual made this recommendation:

As far as practicable, occupational accidents should be tabulated separately under each category of both the E and N classifications. Occupational accidents may be conveniently defined as all injuries and poisonings to gainfully employed persons while at work. "Gainfully employed" includes self-employed. . . . Accidents to persons whose occupation is directly connected with the cause of injury, even though unspecified that the person was at work at time of injury, are to be tabulated as occupational accidents. However, other definitions may be used, depending on the source or purpose of the statistics. For this reason, it is important that the definition used be specifically stated. (ref. 8, p. 243)

As the WHO classification subcommittee noted in late 1961, however, while reviewing the E list, accidents occurring in industry "at present lack sufficient specific categories" (ref. 10, p. 26). Thus E912, Accident caused by machinery, includes a listing of 45 types of machine under this undivided rubric, from binder through electric fan and on to pile driver, roller coaster, and finally washing machine. Nor, in many instances, were more than a few of the 10 fourth-digit codes identifying the place where the accident or

poisoning occurred really applicable to the three-digit rubrics for nontransport accidents to which they were intended to apply.

In its examination of the Seventh Revision E code, the WHO subcommittee also noted that it

devotes a relatively large proportion of its categories to transport accidents. . . . Moreover, it was pointed out that it was difficult in certain countries to obtain from the medical certifier adequate information on the circumstances of the transport accident to allow proper classification in the E section. (ref. 10, pp. 25-26)

Yet in a country like the United States deaths from motor vehicle accidents constitute about 40 percent of all accidental deaths. This is double the number of deaths due to accidental falls and about 15 times the number of deaths due to accidental poisonings, which are other categories showing a considerable number of deaths.

In almost any country, accidents figure among the more important causes of death. In the United States, for example, accidents alone (without suicide and homicide) were the seventh most frequent cause of death in 1900 and the fourth most frequent cause in 1963, although the death rate for accidents had been reduced from 72.3 to 53.4 per 100,000 population over these years (ref. 77, p. 452; ref. 78, table 1-8). Accidents account for about half of all deaths for the age group 5-24 years in the United States. During the 4-year period ending with June 1961, about one out of eight acute conditions (acute illnesses and injuries) experienced by the noninstitutionalized, civilian population of the United States was an injury, and each 100 such persons experienced an average of 27.8 injuries per year (ref. 79, pp. 4-5).

After a preliminary draft of an E code had been developed by the American experts, it was tested through coding of 4,000 deaths and 60,000 cases of nonfatal injury. A revised version then was sent to State health departments and agencies concerned with accident prevention, after which the classification underwent another revision, and thereafter a few final changes. In this classification, which was forwarded to WHO by the National Committee in October 1963, the previously mentioned 10 fourth-digit codes identifying

place of occurrence of the accident were given up: "The Subcommittee had considered this problem and elected to utilize the subdivisions for specific items which it considered more useful for accident prevention purposes" (ref. 80, pp. 2-3). Many of its proposed fourth digits pertained to place of occurrence, but others covered manner of injury involved, nature of the injury, etc.

WHO had received another proposal for complete revision of the E code from the United Kingdom, which

set out to incorporate into the ICD a series of categories for industrial accidents which would be compatible with the International Labour Office (ILO) classification [International Labour Office Official Bulletin, Vol. 46, No. 1, 1963], using two axes of classification according to type of accident and agency, though not at the sacrifice of necessary detail for non-industrial accidents. (ref. 48, p. 29)

The WHO subcommittee found that

the United States proposal was designed to produce the maximum information useful for measures of general accident prevention, going into great detail, for example, in respect of fires and falls. . . .

The Sub-Committee considered the amount of detail desirable in the ICD. As a classification for general purposes, it could not convey the type of information required for highly specialized investigations. . . . On the other hand, this section was the only source of large-scale statistics on accidents and ought perhaps to provide for all the detail likely to be available in the source documents. . . .

The question of identifying occupational origin . . . arose in this section also [chiefly in relation to the United Kingdom proposal], and the view was expressed that this factor should be brought out separately in cross-tabulations in the same way as age or sex. (ref. 48, p. 29)

It was decided to circulate both documents to obtain comments on "whether alignment with the ILO classification of industrial accidents was desirable; the level of detail needed in the ICD; and the relative weight of transport accidents" (ref. 48, p. 30).

Accidents, Poisonings, and Violence (N Code)

In late 1961 the WHO classification subcommittee recommended that the N code, on nature of injury, should be examined in relation to the E code, "with a view to developing closer correspondence between related categories," as for example by using the same numbers in the two codes for the same conditions, with differentiation between them by the letters (ref. 10, p. 26). It was also recommended that WHO continue to cooperate with ILO with respect to "a short classification by broad anatomical site and type of injury . . . to be used in statistics of industrial accidents," and it was suggested that the present N code "could be adjusted to suit the purpose" (ref. 10, p. 26).

The WHO classification subcommittee in late 1963 considered two complete revisions of the N code, once more from the United Kingdom and the United States. Like its E code, the United Kingdom's N code was compatible with the ILO nature-of-injury classification. To accomplish this it set up "for the main types of injury, a two-digit code for site to be used in conjunction with a two-digit code for type of injury" (ref. 48, p. 30). The U.S. National Committee submitted Chapter XVII, "Injuries and Adverse Effects of Chemical and Other External Causes," of the American adaptation of the ICD for indexing hospital records (ref. 33, vol. I). As the WHO subcommittee pointed out:

Apart from the section on poisonings, which was radically altered, this used the same three-digit categories as the ICD, omitting a few categories for "multiple injury," but utilizing the fourth digit for increased specificity of site or type of injury. (ref. 48, p. 30)

The section on poisonings in the American diagnostic index indeed was different from the Seventh Revision. The index section for its categories 960-989, "Adverse Effects of Chemical Substances," not only brought the list up to date, occasioning many new entries and many changes of position, but it also provided for continuous contemporaneousness:

In order to keep abreast of new drugs this section is keyed to the continually revised Hospital Formulary of the American Hospital Formulary Service (AHFS) published under the direction of the American Society of Hospital Pharmacists. In coding adverse effects of drugs, first determine the list number from the AHFS Formulary. Then by turning to the numerical sequence of AHFS list numbers which is located under Effect, adverse, drug in the ICDA [International Classification of Diseases, Adapted] Index, the correct diagnosis code can be found. (ref. 33, vol. I, p. 240)

On the second matter mentioned by the WHO subcommittee, in the Seventh Revision classification the fourth digit can be used throughout for 10 rubrics, on nature of injury, ranging from ".0 Simple (not characterized below)" through to ".8 Open wound with infection and foreign body, with or without delaying healing" and ".9 Late effects of injury." It is not known whether these digits have been much used, nor whether they have provided useful information.

The WHO subcommittee requested that the United Kingdom and United States proposals be circulated for comment.

Physical Impairments

A group has been engaged since early 1951 in a study of how physical impairments should be classified, working on the following charge:

To determine current practices in coding physical impairments and the type of classification needed for statistical studies of data from hospitals, clinics, disability plans, and public health programs. (ref. 63, p. 12)

A questionnaire was prepared and sent to all known American users of a code on physical impairments. It was also circulated by a subcommittee of the Canadian National Committee to Canadian users (ref. 81, p. 3; ref. 82). The Canadian group proposed only to establish requirements for a classification, which they did, without actually preparing a classification. Replies from American users suggested that a code was needed, but

so far did not yield a clear-cut indication of a definite type of classification . . . that would meet the needs of the respondents. . . . There appeared to be sufficient indication of general interest and consistency in certain areas to warrant developing some concrete tentative proposals for a fairly comprehensive scheme . . . to consist of a series of about three or four rather simple codes with possible alternatives in certain areas, [including] some that might be used independently and others that would be more or less supplemental to some other basic code. (ref. S3, p. 3)

These activities were thus summarized in the following National Committee meeting:

They are working on several different codes; one to describe the impairment, another to give the etiology of the impairment, a third which will indicate the extent of the impairment, and a fourth to indicate the extent of rehabilitation potential. (ref. S4, p. 3)

At the rather early date of 1953, this technique promised to open up potentials of coding that might make use of the almost limitless combinatorial possibilities of electronic data processing, while at the same time considerable benefits would still be available through use of less sophisticated processes. From time to time, considerably later, there has been discussion in WHO circles of a so-called "pyramidal type of classification" for the entire ICD which would have somewhat similar attributes, and at any rate should make it easy to derive short lists in a systematic manner from the full ICD list (ref. 10, pp. 29-30; ref. 48, pp. 10-11; and refs. 85-87). To date little or nothing has been done in relation to the physical impairments classification to make it conform to the plan described before.

By May 1955 the experts had "prepared a draft of three integrated codes which describe (1) the nature and site of the impairment [three digits], (2) the etiology of the disease or injury [two digits] and (3) the extent of disability pro-

duced [one digit]" (ref. 14. Cf. ref. 88). An unnumbered document, reference 89, was ready by October 1955 (ref. 90, p. 1). The Association for the Aid of Crippled Children held a meeting in October 1955, from which a cooperative arrangement with the National Committee resulted. In September 1956 it was noted that

recent legislation under the Social Security program involving persons suffering permanent disabilities has made it necessary for that organization also to have a means of classifying impairments. The Chairman was requested to add to the Subcommittee on Physical Impairments two persons qualified to represent the needs of the Association for [the Aid of] Crippled Children and the Social Security group. (ref. 91, p. 2)

Already, however, a meeting with the Office of Vocational Rehabilitation and other interested groups had decided

that the code being developed . . . would not suffice for functional purposes. . . . A vocational guidance staff member is not only interested in how many limbs a client may have lost, but primarily in what he can do with what remains. (ref. 92, p. 2)

It was also agreed, however, concerning development of a functional code, that "if at all possible this work should be under the general 'umbrella' of . . . [the] subcommittee" (ref. 92, p. 3). The Association for the Aid of Crippled Children thereupon received a grant to develop a suitable functional code relating to rehabilitation potential. After editing and redrafting, nine field tests of the various codes that had been developed were started, beginning in 1959, under the auspices of the Steering Committee on Rehabilitation Codes of the Association for the Aid of Crippled Children (ref. 93, p. 2). Upon the conclusion of these tests and further editing, "Rehabilitation Codes—Five Year Progress Report, 1957-1962" was issued by the Association for additional field trials. To this work National Committee efforts had concretely contributed only the classi-

fication of physical impairments and the etiology code.^c

In the Seventh Revision of the ICD, many impairments are classified either as late effects of a disease or injury, or as chronic diseases and conditions; but in addition

Supplementary Classification Y50-Y79 classifies impairments by cause with fourth digits for site and extent of involvement. Nos. Y80-Y88 provide for blindness and deafness with a fourth digit specifying etiology. While perhaps useful for general purposes, the ICD has been proved an inadequate basis for collecting detailed data as needed by agencies concerned with physical impairments and their rehabilitation. (ref. 36, p. 5)

In January 1961 the National Committee suggested that the rehabilitation codes be considered for submission to WHO (ref. 95, p. 2), and they have been so submitted.

Operations and Treatments

At the Seventh Revision Conference it had been recommended "that WHO take steps towards the eventual establishment of an international code of surgical operation" (ref. 37, Recommendation 3.6, p. 15). Accordingly, the National Committee in late 1963 submitted to WHO the "Classification of Operations and Treatments" which concludes the "International Classification

^cThe National Committee has "raised a number of questions concerning the Rehabilitation Codes. Among these were: (a) The relationship of the U.S. National Committee on Vital and Health Statistics to the Manual, as given in the text of the report . . . suggests a closer association with the whole manual than with the two parts with which it is concerned, (b) Many of the classifications are not designed for statistical purposes but for the administrative operation of programs, (c) The section on socioeconomic characteristics might very well be viewed from the standpoint of the Census classification in order to relate data to the population at risk, and (d) The identification of services code is not useful from the standpoint of medical rehabilitation. It was suggested that a test of reliability be included in the field tests on the applicability of the code" (ref. 94, p. 3).

of Diseases, Adapted" (ref. 33, vol. I, pp. 279-375).

FERTILITY AND POPULATION STATISTICS

The Committee has been responsible for four thorough studies of fertility and population questions in their relation to the American situation. Of these studies three were conducted while Pascal K. Whelpton was Chairman of the Subcommittee on Fertility and Population Statistics. Mr. Whelpton also served on the National Committee itself from its inception, was its Vice Chairman from 1958, and its Chairman in 1961.

Needed Fertility Statistics

Study of fertility and population questions began for the Committee when Whelpton and Dorn were asked, apparently on an *ad hoc* basis,^d

to act as a subcommittee to prepare a statement on what information is needed concerning fertility. The assignment includes the discussion of the stage of demographic knowledge in the United States and of source material needed to provide fertility data, with recommendations for obtaining these data from census and from registration records. (ref. 97, p. 4)

The requested report was ready by October 1950 (ref. 98) and accepted to be circulated to demographers for review and comment (ref. 99, p. 2). The final report (refs. 100, 101) was essentially the same.

^dIn the Committee's first annual report, for fiscal year 1950, this was still listed as an *ad hoc* subcommittee, but its membership had been enlarged, perhaps because at the National Committee's fourth meeting "the members requested additional assistance from the National Office of Vital Statistics and the Bureau of the Census" (ref. 96, p. 3). From that time on the subcommittee included, besides Whelpton and Dorn, only experts from the country's vital statistics and population agencies.

This study is a clarion "demand for new and greatly detailed forms of vital statistics and census data" (ref. 100, p. 196). In greater detail, the report found that

more information is needed on patterns of child-bearing in the United States, with particular reference to the changing size of family, the timing of childbearing, and the dynamics of family formation and dissolution. Much remains to be done in the study of social and psychological factors affecting fertility and in the extent to which couples attempt and successfully plan the number and spacing of their children. (ref. 101, p. 193)

There is need, that is, to turn attention away from "short-run fluctuations in birth rates" to "the total number of children eventually born to the average couple . . . [But] it is not sufficient to have answers to these questions for the Nation as a whole" (ref. 101, pp. 193-194). One also needs to measure fertility in groups that deviate above and below the national average.

After summarizing in Part II the presently available fertility, population, marriage, and divorce statistics, in Part III the report considers "Recommendations for Federal Agencies' Activity in Obtaining New Fertility Data and Improving Current Series," and enumerates the following needs. (Items are grouped differently than in the document; ref. 101, pp. 200-202.)

A. Natality Statistics:

1. Additional tabulations of available data:
 - a. Birth order by age of mother by race (and by nativity of white mothers) for large cities and various population size groups, and possibly for standard metropolitan statistical areas;
 - b. Occupation of father by such characteristics as birth order, age of father, and race.
2. Increased reliability of basic data.
3. New data not available from the birth certificate:
 - a. Interval between current and last previous birth;
 - b. Duration of marriage or age of mother when married, with distinction between first marriages and remarriages;
 - c. One or more measures of socioeconomic status.
4. Improvement in reporting fetal deaths.

B. Census and Survey Statistics:

1. Additional tabulations:
 - a. As yet untabulated data from 1950 census;
 - b. Study of

child spacing on a national scale and for various groups; c. Use of Current Population Survey (CPS) to measure changes in fertility.

2. Measures to improve reliability.

C. Population Base Data:

1. More population estimation to permit rate calculations on variables indicated above.
2. Extension of CPS to give more detailed data on population characteristics by age, color, and regional detail.

D. Marriage and Divorce Statistics:

1. Increased and more uniform coverage.
2. Additional data:
 - a. Ages of bride and groom by order of marriage;
 - b. Interval between divorce or death of spouse and remarriage, number of previous marriages and how each was terminated;
 - c. Duration of marriage prior to divorce by number of children by age of woman.

Later Review of Needed Statistics

In May 1954, a little over 2 years after the above-described study had been published, the Committee asked its subcommittee

to indicate the order of priority of studies recommended in its report . . . with suggestions for actions needed to implement the recommendations; to outline the kinds of population statistics needed for health statistics; and to report on the current state of development of techniques of population estimation, a program for experimentation, and means for promoting activity in this area. (ref. 20, pp. 2-3)

A draft (ref. 102) was accepted by the Committee "with some modifications," (ref. 90, p. 2). In May 1956 this report, only slightly altered, was published as "Progress in Development of Fertility Statistics and Population Estimates" (ref. 103). In the first part of the report, the several recommendations made previously were reviewed, progress was noted, and additional recommendations were made as required:

A. Natality Statistics:

1. Additional tabulations of available data: Some additional tabulations were made for 1949 and 1950, but with some cutback thereafter.

New recommendations: 1.1 Essentially the same recommendation as A.1.a above; 1.2 Development of a satisfactory place-of-residence classification for computing vital rates; 1.3 An adaptation of A.1.b above; 1.4 The Federal vital statistics agency should take over preparation of the fertility tables for birth cohorts of women, then being prepared by the Scripps Foundation for Research in Population Problems.

2. Increased reliability of basic data: Studies of 1950 birth-registration completeness have been published; steps have been taken to improve residence information.

New recommendation: 2.1 More attention to State programs; study of practicability of 1960 test of birth registration and infant enumeration completeness in areas seriously deficient in 1950.

3. New data not available from the birth certificate: Little progress in getting the information indicated as needed added to the certification; some data on child spacing and socioeconomic characteristics now available from Census; resistance to education item on certificate on part of data providers, and even data users.

New recommendation: 3.1 Further efforts to get information on child spacing.

4. Improvement in reporting fetal deaths:

New recommendation: 4.1 Study of experience of the 8 areas requiring registration of all fetal deaths.

B. Census and Survey Statistics:

1. Additional tabulations: some at first untabulated 1950 fertility data have been and will be published through private grants; CPS is being used for new fertility data.

New recommendations: 7.1 Further publication of the 1950 data; 7.2 Further use of CPS for fertility data; 7.3 Speedy publication of now-available child-spacing data; 7.4 Larger sample for fertility questions in 1960 census.

2. Measures to improve reliability: some information has been published on infants missing in the census for 1950, but not all loopholes have been studied.

New recommendation: 8.1 Further improvement in 1960 census.

C. Population Base Data: not covered in this detailed way.

D. Marriage and Divorce Statistics:

1. Increased and more uniform coverage: standard records have been recommended; arrangements have been made for establishing marriage and divorce registration areas.

2. Additional data: considerable additional data are now available, but the coverage is still very incomplete.

New recommendation: 6.1 Continue efforts to obtain the needed data from more areas.

The report found that adequate population data for health needs were available for the country as a whole and its subdivisions in census years, and for the country as a whole in other years, but that "the situation is quite different for all geographic subdivisions below the national level in years between censuses The timing as well as the content of population estimates is important from the standpoint of health needs" (ref. 103, p. 438).

After a description of current methods of population estimation, whose brevity is made possible by 18 explanatory references (ref. 103, part II, pp. 439-440), the report, Part IV, developed "A Program for Experimentation on Population Estimates." As the analysis notes, the chief problem now interfering with satisfactory local-area population estimation is internal migration. The report concludes with the following recommendation:

The need for current annual population estimates for States, and for the cities and counties with larger populations is urgent and continuous in the fields of public health, demography, business, and community planning. . . . Use of the BOASI [Bureau of Old-Age and Survivors Insurance] and the Internal Revenue Bureau records seems to have great potentialities for improving the estimates of internal migration. It is recommended that vigorous efforts be made . . . to obtain the financial support required for a more adequate estimates program, and particularly for the migration aspects of such a program. (ref. 103, p. 442)

Recommended Census-Period Studies

In June 1957 the Committee asked for a report on fertility studies centering around data available in the 1960 census period. The original and amended changes are given in references 65 (p. 3) and 104 (p. 1), respectively. Results of this investigation were published in June 1959 (ref. 105), after being accepted by the Committee (ref. 106, p. 3). The report first outlined the kinds of data expected from the census and from birth records, and then suggested two kinds of studies—substantive and evaluative—as follows:

Substantive Studies

1. Monograph based mainly on census data.^e
2. Monograph utilizing birth-registration statistics, bringing up to date Vital Statistics Rates in the United States, 1900-1940, but also including "a thorough evaluation of the quality and usefulness of all vital statistics available for all or part of the 60-year period" (ref. 105, p. 152).
3. Concepts of family size: a study primarily of the relationship between the residential family as defined by the Bureau of the Census and the biological group of children ever born to the women in a household.
4. The effect on fertility of the dissolution of marriages by divorce or death, and of remarriage.
5. Interrelationship between changes in economic conditions and changes in fertility: on a regional as well as a national basis; using more refined measures as, for example, age-parity-specific birth probabilities; inquiring into the extent to which prosperity and depression are associated with inter-cohort differences in age of women at childbearing.
6. An evaluation of 1955 expectations regarding childbearing during 1955 to 1959.
7. Geographic variations in fertility including, in addition to obvious subdivisions, studies of fertility rates for:
minor civil divisions and by distance from a central city;
various parts of a central city or metropolitan area, by demographic and socioeconomic characteristics;
communities of different sizes or with differing number of dwelling units per structure;
levels of living.
8. Cohort fertility tables for regions or States.
9. Birth spacing studies.

Evaluative Studies

1. Completeness and accuracy of birth registration, to include each of the 14 States with less than 97 percent completeness in

^eThe report suggested that this book might include data from other sources, as for example vital statistics and cohort fertility studies. This agrees fairly well with a monograph being prepared in the APHA-sponsored series which draws together and analyzes population and vital statistics data centering around the census period.

1950, and also a sample of States where registration completeness was high.

2. Completeness of census enumeration and accuracy of data.
3. Completeness of reporting on children ever born (four methods are suggested).
4. Comparison of cumulative birth rates according to the 1960 census, current population surveys, and cohort fertility tables.

Fertility Measurements

By mid-1962, a slow but steady decline in the country's birth rate and its fertility rate had been continuing for 5 years. Demographers, however, found it difficult to assess the significance of this trend with the measures currently available. Accordingly in May it was suggested that the problem be studied (ref. 94, p. 5), and in November it was decided that a statement should be drafted as a frame of reference for such a study by a new group of demographers (ref. 41, p. 3). This statement ran as follows:

The Subcommittee was asked if a change in fertility was developing, and whether our currently published measures are adequate to reflect it. The proposed tasks were: -

1. *To study the adequacy of measures of fertility that are currently being published, and to recommend needed improvements or alternative series . . . and to recommend research that may be needed in order to develop such measures. Attention should also be given to measures of fertility which would have some value for projections into the future.*
2. *The Subcommittee should be concerned primarily with measures that can be provided periodically. It should, however, take into account information which might result from repeated sample surveys and censuses, as well as the information which is derived from reports of birth registration. Data available for only a single point in time, or for only a limited area, should not be ignored, for they may provide leads to useful measures of fertility. . . .*

Items Proposed for Particular Attention

1. Standardization of Birth Rates.
2. Cohort Fertility.
3. Information needed for short-range projections of fertility.
4. Possible changes in the birth certificate.
5. Sample collection of data on planned completed fertility.
6. Public information program on the importance of fertility statistics. (ref. 107, unnumbered introductory pages)

Through effective division of labor it was possible for the group to prepare a draft report for submission to the April 1964 meeting of the Committee (ref. 108). In considering this draft,

various Committee members commented upon lack of reference to measurement of illegitimacy; possible use of some form of standardization of rates for changes in age-composition of mother; because fertility performance in the future depends on people not yet married, need to query expectations of people not yet married . . . consideration of possible measures of fertility not currently published; and too much emphasis upon completed fertility and cohort rather than period fertility, with need for more attention to period rates as they related to completed fertility. (ref. 109, p. 2)

A revision of the report was thereupon prepared (ref. 110). The report reaches the following conclusions (ref. 110, pp. 3-5):

I. A change in fertility has been developing in the United States.

. . . There is no doubt about the decline in period fertility. . . . It can be said with a fair degree of confidence that the rise in completed fertility that was initiated by the cohort of about 1910 is likely to continue only through the cohorts born in the early 1930's . . . and early 1940's. . . .

II. Currently published measures are adequate to reflect certain changes in fertility but require improvement and refinement.

. . . A deficiency in these data . . . is the lack of information on the marital characteristics of the population. Data such as age at marriage

and duration of marriage for the parents and for the total childbearing population in each year are necessary. . . . In addition, information on the spacing of children in relation to date of marriage and date of birth of the previous child would permit an evaluation of the effects of changes in the timing of births. . . . Information on socioeconomic status of parents would also be useful.

. . . Serious thought might be given to adding a measure called the "Standardized" or "Age-adjusted General Fertility Rate." . . . It is recommended that two series of cohort fertility rates be maintained, i.e., one for birth cohorts and one for marriage cohorts.

Also recommended were uses of followback studies and the National Health Survey to obtain information on number of children ever born and the date of first marriage of married women. The live-birth certificate should be used as a sampling frame to get additional fertility information.

III. More research is required in the area of Fertility Projections.

. . . Through the Current Population Survey the Census Bureau should collect periodic data on expectations regarding ultimate size of family and expectations of births during the next five years. Research on models for population projections is wholeheartedly endorsed. The Division of Vital Statistics should itself enter the field of making fertility projections.

The Subcommittee also recommends that the work of private institutions be sustained and enlarged. (ref. 110, p. 5)

IV. Further research is required in areas where data are absent or scarce.

. . . It is recommended that foundations, universities and other private institutions . . . [collect and study] data on family planning practices and attitudes, fecundity and fecundity impairments, and religion of parents. Because of the persistence of high fertility among nonwhites and Catholics in the United States, studies especially designed for these groups should be encouraged.

V. Information on fertility developments should be communicated to the public.

... The Bureau of the Census and the National Center for Health Statistics are urged to devote a portion of their program to those publications which will inform the lay public concerning their work.

It is recommended that the National Division of Vital Statistics write an annual evaluation of current fertility trends that would bring together all of the latest information on cohort fertility, timing, and expected childbearing from a variety of sources. . . . This review of current trends should be written in non-technical language and be made available to the news media. (ref. 110, p. 6)

This report draws the conclusion that

all attempts to make the fertility process more specific [statistically] . . . are inherently incapable of providing reliable predictions about the subsequent fertility of cohorts of women who are currently in the childbearing ages. . . . (ref. 110, p. 9)

Though the surveys of expected completed family size that have been conducted since 1955 have thrown much light on fertility questions, "their usefulness is somewhat limited since the survey cannot cover women not yet of childbearing age, and in a very few years it will be they who will be bearing most of the children" (ref. 110, p. 26). In summary, two things may be said, of which the first is that

no project for making birth projections now takes account of all the variables which have been shown to have a bearing on the level of fertility and for which data are available. It would be desirable to devise a method which would take account of all important variables if only to prevent incongruities that may be implicit in assumptions. A fully articulated methodology would account for at least the following variables: completed fertility, age of mother, marital status, parity of mother, and birth interval. The cohort fertility projections of the Growth of American Families Study take account only of completed fertility, age, and marital status. The marriage-parity progression

method does take account of parity and interval as well as marital status but at present disregards completed fertility and has only indirect control on age. The sheer magnitude of the computations has been a hindrance to complex models in the past, but the availability of computers and of the condensed languages for programming should now make them practicable. (ref. 110, p. 27)

The other final consideration looks perhaps at the same complex of factors, but views them from the standpoint of social patterns which are stable even while they change:

It is true that completed fertility changes, but it does not change rapidly and does not behave erratically. . . . Fertility values are embedded in a cultural context which changes slowly, and these values are the most important determinant of the number of children expected and the number actually born. (ref. 110, p. 32)

Is there any way of quantifying these slowly changing social processes as they embody themselves over time in different patterns of family formation?

Two Briefer Studies

More Detailed Birth Statistics on a Current Basis

In June 1958 the National Office of Vital Statistics asked the Committee for "advice on data that should be obtained currently on fertility statistics" (ref. 111, p. 4). The result was two relatively brief documents, "Providing Birth Statistics on a Current Basis" (ref. 112) and "A Current Birth Sample Program" (ref. 113). Recommended was a systematic 5-percent probability sample of live births, to be tabulated quarterly on the following variables:

- Age of mother by 5-year age groups
- Order of birth of child (each order from 1 to 7, with 8th and higher orders combined)
- Place of birth, or place of residence of mother, by four regions (Northeast, North Central, South, West)
- Color of child (white or nonwhite)

It was recognized that it "is not likely . . . that the sampling error will be small for all of these categories." It was recommended, however, "that the data be tabulated and published in this detail so that users can make the combinations which are of most value to them." With births running at say 4 million per year, the probability would be about 95 out of 100 that the estimated number of second births to women 20-24 years of age, for example, would not differ from the true number by more than 2.6 percent.

This proposal has not as yet produced a practical result.

Need for Quinquennial Census

In January 1960 the Committee asked for a statement on the need for a quinquennial census (ref. 114, p. 4). The resulting report after being accepted (ref. 93, p. 3) was forwarded to the Surgeon General. It surveyed current programs related to the proposal, of which there were by then a large number (ref. 115). Costs were discussed; thus a sample survey covering 3 percent of the population "could provide much analytically useful data for States, urban and rural, and for large metropolitan areas, at a cost of about \$7 million" (ref. 115, p. 5), while a quinquennial census might cost \$50 million. In concluding the analysis, "the subcommittee recommends the endorsement of the principle of a mid-decade census, supplemented by sample surveys, with no curtailment of the decennial census program" (ref. 115, p. 8).

In May 1962 the Committee was informed that, at hearings on the proposal of a quinquennial census, the Bureau of the Budget had expressed interest in sample surveys for getting current population estimates, rather than such a census (ref. 94, p. 5).

MEDICOLEGAL DEATH STATISTICS

Improving Medicolegal Certification

It is estimated that from 20 to 30 percent of all deaths occurring in the United States are medicolegal deaths—deaths, that is, which fall

under the jurisdiction of a coroner or medical examiner, as the law may direct. These 300,000 to 450,000 deaths differ in kind from State to State:

The cases that clearly come under the medicolegal jurisdiction are deaths resulting from violence (that is, accident, suicide, or homicide) and deaths in which there is reason to suspect violence. . . . In some areas, all deaths without medical attendance are investigated by the medicolegal authority, while other areas refer such cases to the local health officer. In some areas, the medicolegal officer may investigate deaths resulting from known or suspected industrial diseases, deaths where the cause of death cannot be determined, deaths where the identity of the deceased is not established, etc. There are jurisdictions where the medicolegal officer investigates any death occurring in a hospital within 24 hours after admission.

The function of the medicolegal officer is to carry out official, impartial investigation of deaths within his statutory jurisdiction, including a determination of the cause and mode of death. (ref. 116, pp. 1-2)

Although medicolegal deaths are important because of their numbers and concentration among certain causes of death, it was felt that many medicolegal authorities were unaware of the nonlegal ramifications of medical certification. In October 1955 (ref. 90, p. 3), therefore, the Committee decided

to study the problems of medical certification of causes of death coming within the purview of the medical examiner and the coroner; to delineate the various problems from the statistical as well as the medicolegal viewpoints; and to formulate plans for creating a better understanding of medical certification procedure (ref. 63, p. 16)

A draft report was prepared and sent to the registration executives of the 56 autonomous vital registration areas of the United States and

to 50 selected coroners and medical examiners.^f After several revisions, the report was accepted (ref. 122, p. 2) by the Committee and published (ref. 116). In June 1961 the Committee was informed that the report had been endorsed by the American College of Pathologists and the National Association of Coroners (ref. 123, p. 4).

Five areas bearing on medicolegal certification are considered in this document:

- Registration laws related to medicolegal certification
- Kinds of deaths requiring medicolegal investigation
- The death certificate and medicolegal reports
- Needed statistical classification
- Information programs for medicolegal officers

Registration Laws Related to Medicolegal Certification

After defining "physician" and "physician in attendance upon the deceased," it is recommended that the physician be authorized to certify the cause of death only if he views the body after death. For all other deaths, the case should be reported to the medicolegal authority, who may or may not decide to take jurisdiction.

Since vital statistics acts and medicolegal acts differ widely in some States, it is recommended that they be revised so that they complement each other. Also

where a death is subject to investigation, the law should require prompt notification to the medicolegal officer by every person having knowledge of the case The coroner or medical examiner should then make an immediate preliminary investigation to determine whether or not further investigation is necessary. If not, he should immediately turn the case back to the physician. (ref. 116, p. 9)

^fFirst draft of report is given in reference 117; comments on this draft are in reference 118. The second draft is reference 119. Comments from registration officials and medicolegal officers are summarized in reference 120 and given verbatim in reference 121.

Since the local registrar of vital statistics is the only public official who is in a position to determine whether a competent person viewed the body and prepared the medical certification,

A permit should be required to authorize the disposal of a dead body or its removal from the State. Such a permit should be issued by the local registrar of the district in which the death occurred or where the body was found, and then only when a satisfactorily completed death certificate is presented. If it is not possible to obtain a determination of the cause of death within 24 hours of the death, the physician, coroner, or medical examiner should be required to inform the local registrar whether there is a legal or medical reason why the permit should not be issued. (ref. 116, p. 11)

To make this recommendation effective, a study of problems relating to it in various areas of the country should be made and guidance handbooks prepared.

A 3-day filing requirement for death certificates was recommended, with special provision for sparsely settled areas and for cases, such as inquests, where more time is needed to secure completed certificates. Where the cause of death cannot be determined within the statutory time limit, the medicolegal authority should file a certificate indicating that the case is pending (ref. 116, pp. 12-14). Amendments and corrections to the death certificate should be made by identical procedures.

Kinds of Death Requiring Medicolegal Investigation

The following kinds of deaths (ref. 116, pp. 15-16) should be investigated by medicolegal authorities to determine whether they should assume jurisdiction:

- Deaths due to violence, whether apparently homicidal, suicidal, or accidentally inflicted;
- Deaths occurring under suspicious or unusual circumstances;
- Deaths due to industrial diseases and injuries;

Sudden and unexpected natural deaths: "All deaths occurring unexpectedly where the deceased was not under medical treatment for the disease or condition believed to be the cause of death";

Deaths without medical attendance within 10 days prior to death;

Deaths occurring while in custody of the law;

Deaths associated with diagnostic, therapeutic, and anesthetic procedures;

Maternal deaths associated with abortion or suspicion of abortion;

Deaths from diseases thought to be of a contagious nature.

The Death Certificate and Medicolegal Reports (ref. 116, pp. 16-19)

Until it has been established that every certifier must view the body before pronouncement of death, the medical certification should indicate whether or not the certifier did view the body. Since the facts certified must be different for medicolegal authorities and for physicians, death certificates should include a separate medical certification statement. Further, a study of forms used by coroners and medical examiners should be made to see how effective they are in securing information for needs served by death certificates.

Needed Statistical Classifications (ref. 116, pp. 19-21)

Medicolegal authorities need the rubric "undetermined" for certain violent deaths where, after investigation, "the circumstances of a death cannot be established." Prior to the Seventh Revision of the ICD, on January 1, 1958, violent deaths of undetermined circumstances were coded to accidents; thereafter, self-inflicted injuries not specified as due to accident or suicide have been coded as suicide, as have deaths where homicide and suicide are jointly named. However, the report recommends, "when the certifier in-

dicates that the circumstance was 'undetermined,' the case should be tallied as such."

Vital statistics tabulations have traditionally assigned deaths due to therapeutic misadventure to the disease for which the procedure was initiated. The report recommends that

Multiple cause tabulations should show association between diseases (or conditions) and misadventure during therapy, anesthetic, and diagnostic procedures. Where only one cause of death is coded, a special one-digit code should be added routinely to indicate deaths that result from misadventure during therapy, anesthetic, and diagnostic procedures. (ref. 116, p. 21)

Information Programs for Medicolegal Officers

Medical examiners and coroners need guidelines to assist them in preparing medical certifications. The national vital statistics agency "in cooperation with medical examiners and coroners should prepare suitable instructional material and initiate an information program" (ref. 116, p. 24).

Improving Medicolegal Death Statistics

In May 1963 the Committee decided to form a subcommittee to study statistics available from medicolegal deaths because of

an expressed desire on the part of a few medical examiners to develop a system of gathering and tabulating their basic data in a uniform fashion. Their purposes were:

1. *To consolidate information from uniform data*
2. *To permit comparisons*
3. *To stimulate research among themselves*
4. *To exchange information (and possibly, specimens) on rare events. (ref. 124, p. 1; and ref. 80, p. 3)*

The final report (ref. 125) of the group was presented to the National Committee in April 1964, by which time enough collaborators had expressed an interest in participating to make

approximately 60,000 cases available annually.⁸ The basic recommendation of the report is as follows:

It is recommended that a central organization (Center) including representatives of selected medicolegal systems be established with the following functions and responsibilities:

- A. *Develop a record system for the collection of a core of basic information on investigated medicolegal cases; be responsible for the processing, tabulation, analysis and dissemination of summarized data; and provide technical assistance and consultation to members of the group and to outside investigators;*
- B. *Within their own organization, arrange for special purpose research projects;*
- C. *Promote the utilization of the core of basic information and stimulate ad hoc research studies by outside groups, and enter into contracts with such groups;*
- D. *Establish policy and administrative procedures governing the quality of data, access to information, and costs of providing information. (ref. 125, p. 2)*

What this recommendation proposes is the setting up of a system of voluntary collaboration of several medicolegal jurisdictions, with certain standards for inclusion of areas, plus a mechanism for handling the data that the system would make available, which were thus described:

The basic data which are common to all cases . . . are the items necessary for the completion of death certificates, a report from a law enforcement agency, photographs, and physicians' examinations. For a large portion, when the circumstances warrant, specialized laboratory examinations and investigations of circumstances

⁸Quotations in this section are from this report. The 60,000 deaths available annually would include 40,000 unattended and unexplained deaths, sudden deaths when the decedent had apparently been in good health, and deaths in public places; 1,800 homicides, 3,700 suicides, 4,200 home accident fatalities, 6,000 vehicular accident fatalities, 1,200 industrial accident fatalities, and 3,700 deaths due to other types of accidents.

surrounding death are performed. Among these are autopsy findings (gross and microscopic), chemical and immunological examinations, x-ray and anthropometric and anatomic measurements. (ref. 125, p. 3)

Appendix B of this reference describes these data in more detail.

The report lists 14 examples out of the many medical, methodological, and epidemiological investigations that could be conducted either from data currently being obtained, or obtainable through research efforts.

When this report was presented,

the Committee went on record as endorsing the idea of the central organization and recommended that a small group of potential collaborators explore further the feasibility of cooperative effort, and promote a pilot study. The need for adequate statistical and pathological support was emphasized. . . .

The Committee approved a motion to urge the National Center for Health Statistics to provide support by recognition of values to be derived from this activity; to give consultative assistance to this development; and to endorse and encourage efforts of this group to seek fiscal support for development of a pilot program in this area. (ref. 109, p. 3)

QUANTIFICATION OF WELLNESS

Few can resist being intrigued by the preamble of the Constitution of the World Health Organization, with its bold declaration of nine "principles," each centering around health, that are stated to be "basic to the happiness, harmonious relations and security of all peoples." And of these principles the first is certainly the most quoted and no doubt the most puzzling: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

Can health in the World Health Organization or some related sense be measured, scaled, counted? In December 1957

Dr. [Halbert L.] Dunn [Chief, National Office of Vital Statistics] presented the problem of developing measures of positive health, rather than of illness, for the consideration of the Committee. Several related studies were reported—the Peckingham Health Center experiment, the Army system of categorizing persons by means of a health profile, the University of Chicago study of nonchronological criteria of aging. It was also pointed out that health should be measured in terms of an individual's functions. (ref. 104, pp. 3-4)

At this meeting an *ad hoc* subcommittee was authorized "to look into the possibility of measuring degrees of health." When this group reported,

A subcommittee was authorized to explore ways and means of obtaining measures of positive health beginning with an examination of the materials available in the National Health Survey and in the inventory that will be made . . . of agencies and individuals that might cooperate in researches on positive health. (ref. 111, p. 3)

In its first meetings the subcommittee developed two apparently opposed ways of regarding "wellness" (as yet undefined). One possibility was that wellness consists in realizing potentialities that are fundamentally human—"the living thing fulfilling itself" (ref. 126, p. 2). For example, it was stated that man is simultaneously physical, living, animal, and a reasoning being; and as the last he is a knower, a maker, and a lover, which are ways of fulfillment for man.

One way of stating the second possibility was in terms of a probability definition:

A general state of health [wellness?] is a state of a given man such that:

- (1) The behavior of the man himself, and each of his components, is in one of its more probable configurations for that point in the ideal life cycle.*
- (2) The behavior of the man, the man himself, and each organization in the hierarchy of which he consists, is in one of the configurations more appropriate to the state of the higher organizations of which it is a part.*

- (3) The behavior of the man, and of each component of the man, is such as to maintain the integrity of the higher organization of which it is a part. (ref. 127, p. 2)*

The essential difference between the two views is the difference between realizing potentialities and functioning according to more probable configurations. The first view places more emphasis on goal or purpose; the second on the fact that choice actually is limited by the natural and social surroundings. When the first view is at its worst it refers conduct to a merely abstract ideal; when the second view is at its worst it justifies accommodating one's life to a mere "ecological niche."

Among hypotheses that were entertained at this stage of the group's thinking were the following:

- 1. The level of wellness is reflected by the extent to which an individual realizes his full potential for valued achievement.*
- 2. The degree of health of an individual is reflected by the soundness and functional efficiency of the mind and body together with its organs and parts. . . .*
- 3. Although health is relevant to wellness, wellness is not a function of health and is not necessarily positively correlated with health.*
- 4. Physical fitness in the sense of high performance on muscle strength and coordination tests and related measures is not synonymous with health. (ref. 128, p. 1)*

The group then planned to take up, in turn, physical health, emotional health, achievement or fulfillment, and possibly creativity. Of this program, only the first two phases were carried out in any detail when it seemed best to cast up accounts, which was done in a final report (ref. 129) and accepted by the Committee (ref. 95, p. 3).

This report reiterated the above-cited distinction between health and wellness, and stated the conclusion that "although health and wellness should not be considered to be synonymous they are, however, closely and probably indissolubly related" (ref. 129, p. 4) and not invariably with

positive correlation. "The relationship is not easily defined or described" (ref. 129, p. 5). The report proceeded to suggest two lines of research as offering the possibility of yielding quantitative data on health and wellness and their relationships:

1. Longitudinal (cohort) studies based on "definite populations with relation to characteristics appearing over time" in differential patterns (ref. 129, p. 7). These studies could be extended to past data if ways were developed of translating cross-sectional data into acceptable longitudinal data.
2. Study of populations or groups of individuals thought to be representative of the categories to be studied—high and low levels of health and of wellness—and, as a fifth group a suitable stratified sample of controls, with these populations compared on:

Pertinent medical history variables
Present physical state as determined by medical examination
Present fitness, strength and endurance
Psychological background variables
Present personality structure (ref. 129, pp. 9-10)

HEALTH ECONOMICS

In January 1961 the Committee decided to study the needs for statistical data in health economics, and shortly thereafter set up a subcommittee with the following charge:

To make a study and prepare recommendations as to areas relating to the economics of health where data are not now available or are not adequate for national planning in the health field. (ref. 130, p. 19)

The group early decided to frame its report in terms of types of medical services and "major categories of services." The types of services chosen were the following:

Physician's services
General and special short-term hospital services
Long-term institutional services
Drugs and appliances
Dental services
Miscellaneous other services for noninstitutionalized patients (ref. 131, p. 3)

The "major categories of services" which were to be applied in turn to each of the services were:

Resources
Use
Price
Costs
Quality (ref. 132, p. 4)

In actually preparing the report some of the service categories were subdivided and, with respect to sources of funds, it was decided "to narrow the lens to medical services themselves and not include many peripheral areas, such as medical education and training of paramedical personnel, and traditional public health activities (environmental health)" (ref. 131, p. 2).

Each subsection of the report considers in turn what statistics are needed, which of these statistics are presently available, and recommendations for action, which are divided into ongoing series and special studies. After a draft of the report had been prepared, it was sent to interested agencies. These agencies also were asked for data-collection forms, to be included as an appendix to the report. On the basis of comments that were received, a final draft was prepared and published (ref. 133).

III. STRUCTURE AND BASIC WORKING ARRANGEMENTS

The term "National Committee" can be used to indicate either the parent Committee or the entire organization composed of that Committee and its subcommittees. The central Committee itself, its subcommittees, and relationships between these two groups will be briefly discussed in this chapter.

STRUCTURE OF THE NATIONAL COMMITTEE

The National Committee—meaning here the parent body—differs from many committees in that, formally at any rate, it neither coopts its members nor chooses its officers. "Committee members [including its officers] will be appointed by, and will serve at the pleasure of the Surgeon General of the Public Health Service" (ref. 7, p. 12). In practice, the Surgeon General has acted on nominations made by the Chairman, with considerable actual responsibility resting in the hands of the Secretary.

Membership of the Committee

The normal level of membership of the Committee is 12, including its officers, and in fact no meeting has been held in which the number of members eligible to attend was less than 11 or more than 13.

Prior to July 1958 members served for an indefinite term. Minutes of the December 1957 meeting of the Committee, however, contain the following item:

It has been proposed that a system of rotating membership be established for the National Committee in order to provide an opportunity for broader representation of problem areas in health statistics. A term of office of four years was agreed upon; the first rotation will be made on July 1, 1958. (ref. 104, p. 2)

The Secretary has remained in office throughout the life of the Committee, to maintain continuity in Committee functioning and in providing secretariat services.

Officers of the Committee

The Committee originally had three officers, the Chairman, the Vice-Chairman, and the Secretary; but the vice-chairmanship has not been filled in recent years. The Secretary is ex officio member of the Committee.

Neither the Chairman nor the Secretary are figureheads. While it is stated, for example, that "the Committee, through its chairman, will have the power to create subcommittees" (ref. 7, p. 12), the appointments have prevalingly been made by the Chairman, acting largely in terms of the detailed advice of the Secretary.

The Committee has had five Chairmen:

<u>Chairman</u>	<u>Meeting</u>	<u>Date</u>
Dr. Lowell J. Reed	1-17	February 2, 1949- September 28, 1956
Dr. Philip M. Hauser	19-25 [†]	June 14, 1957- June 8, 1960
Mr. Pascal K. Whelpton	26-27	January 9, 1961- June 19, 1961
Dr. Brian MacMahon	28-31	October 30, 1961- May 17, 1963
Dr. Robert Dyar	32-	October 14, 1963-

[†]The Committee had no formally appointed Chairman for its 18th meeting, held February 1, 1957.

All Chairmen (except of course the first) had previously served as Committee members. The second Chairman had been a member from the Committee's second meeting; the third from its first meeting. Both left the Committee by virtue of the 4-year rotation rule, which was applied in staggered fashion on its initiation.

The 4-year tenure of Committee membership acts to decrease the term of office of the Chairman. Thus the present incumbent will be leaving the Committee, presumably after having served first as a member and then as Chairman for four meetings each. This also was true for the previous incumbent.

The general advantages of a limited tenure on the Committee appear to be obvious, but consideration should be given to:

the merits of a 4-year limitation as opposed, say, to one of 5 or possibly 6 years;

the desirability of extending the tenure in the case of Chairmen to say 3 or possibly 4 years in that office.

The Secretary oversees practically all of the administrative details involved in maintaining not only the National Committee itself, but the 10 or so subcommittees that were currently in existence over recent years; he attends many subcommittee meetings and is entitled to attend all; he canvasses the field of public health to identify appropriate subjects for study and appropriate persons for appointment to the National Committee and its subcommittees; he maintains liaison with national and international public health organizations, including an especially active relationship with WHO groups which frequently requires him to attend meetings abroad; and he is called on for advice from many quarters because of the experience and associations that have accrued over the years.

STRUCTURE AND ACTIVITIES OF SUBCOMMITTEES

Membership and Officers

The following passage describes the Committee's subcommittees and states the conditions under which they are formed, function, and are disbanded:

For study of particular problems, subcommittees shall be appointed by the Committee. These working parties will be generally small in size and composed of qualified technicians. The members of the subcommittees shall be appointed by the chairman of the Committee in consultation with the chairman of the respective subcommittees. Members of the subcommittees will usually not be members of the Committee. The subcommittees shall serve until the completion of their assignment, or until discharged or reconstituted by the Committee. (ref. 7, p. 12)

Although the quoted statement is part of a formal document, it outlines two procedures for appointing a subcommittee that might differ

under certain conditions. This was clarified when it was decided in March 1953 that it is "the responsibility of the Chairman to appoint all subcommittee members" (ref. 134, p. 1).

In general, members of subcommittees have not been members of the parent Committee, although a few exceptions (chiefly subcommittee chairmen) might be cited. There is of course one general exception:

In order that the secretary may be generally conversant with all work being conducted by the subcommittees, the secretary shall be an ex-officio member of every subcommittee formed, and as such shall receive copies of all correspondence or other material which normally go to a member of a subcommittee. (ref. 7, p. 13)

As with members of the parent Committee, subcommittee members are chosen because of their personal competence, not as official representatives of organizations.

The policy statement was that subcommittees shall be small. The printed annual reports for fiscal years 1956-63 contain data on 19 regular subcommittees out of the 25 that have functioned since 1949. (Figures exclude some 16 or more *ad hoc* subcommittees.) These data show that the typical size of a regular subcommittee has been seven members—an average that has been fairly consistently maintained over these years.

Types of Subcommittees

The National Committee has administered the technical studies of over two dozen groups, of which about a score have had a tenure of at least 2 years, over a period of 15 years. The subcommittees whose work was described earlier might not qualify as subcommittees in the dictionary sense because their membership for the most part is not drawn from the parent Committee itself. They are neither identical in form among themselves, nor do they constitute the only kind of subcommittee structure used by the National Committee. It will be convenient to distinguish at least the following kinds of subcommittee:

Ad hoc subcommittees (to use the name employed in Committee circles)
"Definite charge" or "regular" subcommittees
Synthesizing subcommittees
"Control" subcommittees

Ad Hoc Subcommittees

There have been at least 16 *ad hoc* subcommittees:

- 1949: medical care statistics
case registers
morbidity statistics (2)
fertility and population statistics (became a regular subcommittee)
- 1951: ICD Seventh Revision date
- 1952: validation of surveys
review of case-register findings
review of morbidity survey report
- 1953: 5-year review of National Committee
- 1956: synthesis of vital statistics needs and marriage statistics reports
- 1957: family classification for health purposes
positive health
- 1960: accuracy of vital statistics
- 1963: needs and uses of hospital statistics
preparation for 15th anniversary of National Committee

Drawn largely from the ranks of the National Committee itself, and usually limited to three or four members, these groups have edited or reviewed subcommittee reports, attempted to present a synthesis or line of approach to a broad area, worked on a limited substantive task, looked into the desirability of establishing a regular subcommittee, etc.

This kind of subcommittee may also be used to prepare charges to guide new subcommittees; explore relationships between existing subcommittees; consider possible contacts with other organizations; outline limited areas of Committee concern or estimate the merits of alternative techniques in some definite situation; clarify chosen alternatives.

"Definite Charge" or "Regular" Subcommittees

These are the typical study groups working on more or less clearly assigned problems of which one naturally thinks when considering the work of the Committee. These subcommittees are trying to find a solution for a particular technical problem or are carrying out some assigned technical task. The Committee's policy statement reads "within the scope of their assignment, the subcommittees shall be free to function according to their best judgment" (ref. 7, p. 12). This statement has two closely related aspects—first an assignment, and thereafter freedom to use judgment. The assignment is usually neither more nor less explicit than is appropriate to validate the freedom.

Synthesizing Subcommittees

There have been several long-continuing subcommittees of this kind: Military Health Statistics, Fertility and Population Statistics, Classification of Physical Impairments, and perhaps Hospital Statistics. On the one side, synthesizing subcommittees have had a series of problems in their areas referred to them by the parent Committee, and on the other, they have exercised somewhat more freedom than is usual for subcommittees in determining the functions they perform. The Hospital Statistics Subcommittee first produced a report on relating hospital morbidity to morbidity in the community, and thereafter developed a diagnostic index for hospital use. In connection with the latter assignment, it was necessary that contacts with a number of organizations developing or trying out the list should be maintained. The subcommittee also did a certain amount of thinking in other areas related to hospital statistics, more or less on its own initiative.

"Control" Subcommittees

The National Committee has had only one "control" subcommittee so far—the Subcommittee on International List Revision. It has per-

formed functions appropriate to the National Committee itself with respect to the Eighth Revision of the ICD, with final decision of course remaining in the hands of the parent Committee.

Working Procedures and Records

Subcommittees, like the National Committee itself, are not operating agencies. Thus subcommittees cannot directly conduct research, although they may stimulate it, and individual members may do research for a subcommittee:

When a subcommittee is considering subjects that require new data or pilot studies before definitive recommendations can be reached, its progress would be dependent on obtaining a secretariat from an operating agency with overlapping interests, or on having Subcommittee members stimulate studies in their own organizations. It was recognized that these possibilities do not always exist. On certain issues, a subcommittee might be able to do no more than point up the problem, an approach for dealing with it, and suggest a course of action. The National Committee, in turn, might refer the problem to the proper agency or organization for consideration and in some instances it may be of assistance in securing necessary funds through appropriate channels. (ref. 135, p. 1)

Following the same line of thinking, a subcommittee cannot accept grants, although individual members of a subcommittee may (ref. 136, p. 2). "A questionnaire sent out in the name of the Subcommittee must be cleared through the usual government channels," but individual members of subcommittees may circulate questionnaires according to their own procedures (ref. 137, pp. 1-2).

At the same time, the following principles were enunciated in the Committee's early policy statement:

Within the scope of their assignment, the subcommittees shall be free to function according to their best judgment.

The subcommittees shall have the authority to work with any other national or international groups concerned with similar problems, but the initial contact with such organizations shall be made through the secretary [of the National Committee]. (ref. 7, p. 12)

Subcommittees have not been unduly restricted in conducting their studies, or in getting outside cooperation, by the rather bare prospect of research money they have had to face.

Subcommittees do not have secretaries according to any particular pattern and have differed widely in arranging for minutes. In some cases, the secretary is definitely identified either as being a member of the subcommittee or, in at least two instances, a well-equipped nonmember. In many instances, the function was performed anonymously, and possibly at some distance in time from the meeting, as for example by the chairman.

Relations Between the Committee and Its Subcommittees

The Committee's policy statement says that "each subcommittee will report the status of its activities at least twice a year," with responsibility lodged with the subcommittee chairman unless it has been otherwise delegated (ref. 7, p. 12).

Publication of subcommittee reports is a responsibility of the National Committee, but

it was within the province of the subcommittee to use its report as a working document to be circulated freely in any way desirable in forwarding the work of the subcommittee. (ref. 81, p. 1)

The Committee has not hesitated to edit subcommittee reports, sometimes rather drastically, or to turn them back to subcommittees after making technical recommendations.

APPENDIX

ORIGINS OF THE NATIONAL COMMITTEE SYSTEM

Of the many recommendations adopted by the First World Health Assembly at its meeting in Geneva in June-July 1948, "perhaps the most interesting and far-reaching . . . was that all governments should establish national committees on vital and health statistics" (ref. 2, p. 114). To understand the novelty and importance of this pattern for cooperation in international public health, it will be helpful to trace the rise of interest in the study of disease as a problem, not merely in the life of individuals, but in the life of populations.

The first systematic concern with disease as a population problem—with public health, that is to say—was pioneered in the late 17th century by John Graunt. Graunt studied the mortality essentially of a single city over a considerable period, during and between plagues; by analyzing London's death records he established many epidemiological conclusions that are still of interest (ref. 138). While the records themselves testify to genuine concern in an important public health problem, little actually was done toward using them constructively, and the records were not meaningful to people living elsewhere.

There were indeed difficulties in using the bills of mortality for comparative studies in public health, as Graunt himself pointed out. In the words of William Farr, writing not quite 200 years later than Graunt:

Each disease has, in many instances, been denoted by three or four terms, and each term has been applied to as many different diseases: vague, inconvenient names have been employed, or complications have been registered instead of primary diseases. (ref. 139)

Farr was of the opinion that several classifications of diseases "may . . . be used with advantage"; the medical practitioner, the pathologist, the anatomist or physiologist, the medical jurist "may legitimately classify the diseases and the causes of death in the way that he thinks best adapted to facilitate his inquiries, and to yield

general results" (ref. 140). That Farr's position was eclectic is shown by the rather descriptive nature of his own classification, which was organized into five groups:

- Epidemic diseases
- Constitutional (general) diseases
- Local diseases arranged according to anatomical site
- Developmental diseases
- Diseases that are the direct result of violence (ref. 8, p. xi)

This classification, as likewise the somewhat later classification of Dr. Jacques Bertillon which together have so greatly affected the ICD was guided mainly by descriptive considerations.

With the backing of the General Register Office, Farr labored to improve the classification and to gain international acceptance of its use. Although he was supported by the existing international statistical organization, which sponsored revisions in 1855, 1864, 1874, 1880, and 1886, the classification never came into general use. Following Farr, Dr. Bertillon in 1893 prepared a new classification, based on one used by the city of Paris which synthesized English, German, and Swiss classifications. This list gained a measure of general support since it was adopted by several countries and many cities, and in 1898 was endorsed by the American Public Health Association.

At this stage, therefore, Bertillon's classification had statistical and some general public health backing and had secured some national acceptance. In 1900 the French Government was encouraged to convoke the first International Conference for revision of Bertillon's classification, which thus became the International List of Causes of Death. Other such conferences were held under Bertillon's leadership in 1909 and 1920. After his death in 1922 the revisions were continued in 1929 and 1938 under the sponsorship of the international statistical organization and representatives of the Health Organization of the

League of Nations. At this point neither governmental nor nongovernmental national public health interests were directly involved.

Over this period, however, the international significance of the classification was greatly extended, including of course its use by many countries, and a number of efforts had been made to develop a similar list of morbid conditions. These all

failed to receive general acceptance, chiefly because they provided only a limited expansion of the basic cause-of-death list. The 1938 Conference . . . adopted a resolution urging that the various national lists in use be brought into line with the structure of the International List of Causes of Death. . . . The Conference further recommended that the United States Government continue its studies of the statistical treatment of joint causes of death. (ref. 1, p. 16)

The resulting United States Committee on Joint Causes of Death included among its members and consultants experts from the United Kingdom, Canada, and the Health Section of the League of Nations.

It will be noted that the line of thinking followed by the Committee supported the view that *the classification of sickness and injury is closely linked with the classification of causes of death. The view that such lists are fundamentally different arises from the erroneous belief that the International List is a classification of terminal causes, whereas it is in fact based upon the morbid condition which initiated the train of events ultimately resulting in death. (ref. 8, p. xix)*

The Committee accordingly drafted a single list for use in coding both mortality and morbidity.

The remarkable effectiveness of the committee on joint causes of death was due on the one hand to its broad interpretation of its mission and on the other to the fact that it made extraordinarily effective use of national as well as international experience in the course of its deliberations. One of the experts who was most active in the work of the committee was Dr.

Halbert L. Dunn, Chief of the National Office of Vital Statistics, U.S. Public Health Service. After discussing the achievements of the committee in an article written some years later, Dr. Dunn continued:

The conference participants were impressed by the success of this activity. After clearing other items on the agenda, the conference addressed itself to the question of whether some of the other problems in the fields of vital and health statistics should be handled in a similar manner. Obviously, if this were to be done, the conference would have to request nations to undertake such actions, since international protocol would be necessary for nations to work on international technical problems. After considerable discussion, this led to the recommendation that all nations should designate national committees to work on problems of an international nature which were of particular concern to them. (ref. 141, p. 159)

The Sixth International Conference for the Revision of the International Classification of Diseases which was inaugurated in 1948

marked the beginning of a new era in international vital and health statistics. Apart from approving a comprehensive list for both mortality and morbidity and agreeing on international rules for selecting the underlying cause of death, it recommended the adoption of a comprehensive programme of international co-operation in the field of vital and health statistics. An important item in this programme was the recommendation that governments establish national committees on vital and health statistics for the purpose of co-ordinating the statistical activities in the country, and to serve as a link between the national statistical institutions and the World Health Organization. It was further envisaged that such national committees would either singly or in co-operation with other national committees, study statistical problems of public health importance and make the results of their investigation available to WHO. (ref. 8, p. xxi)

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The following abbreviations are used except when a term is spelled out in a reference title. Unless otherwise indicated, references to subcommittees apply to working groups of the U.S. National Committee.

- GRO--- General Register Office, Great Britain
- HS---- Expert Committee on Health Statistics, World Health Organization
- ICD--- Sub-Committee on Classification of Diseases, Expert Committee on Health Statistics, World Health Organization
- MNS--- Advisory Committee on Medical Nomenclature and Statistics [to General Register Office, Great Britain]
- NC---- U.S. National Committee on Vital and Health Statistics (When NC is preceded by "Doc." and followed by a number, the reference is to a document in NC files.)
- NCHS-- National Center for Health Statistics
- NOVS-- National Office of Vital Statistics, U.S. Public Health Service
- PHS--- U.S. Public Health Service, Department of Health, Education, and Welfare
- WHO--- World Health Organization (WHO documents are referenced according to WHO usage. For example, WHO/HS/ICD/50 signifies Document 50, Sub-Committee on [International] Classification of Diseases, Expert Committee on Health Statistics, World Health Organization.)

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