The Varied Uses of Health Statistics

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THE DATA COLLECTED and disseminated by the National Center for Health Statistics (NCHS) are widely used. Newspapers, radio, and television frequently carry interesting and important new findings reported by the NCHS. These findings, for example, may be about trends in the rates of births, marriages, divorces, and deaths; infant mortality; changes in causes of death; growth in the numbers of physicians, dentists, or nurses; how many people are being hospitalized and for what ailments; time lost from work due to accidents; how long people live in nursing homes or the services they get in them; the adequacy of people's diets; the extent of underweight and overweight; changes in family planning practices; or trends in cigarette smoking. The Center releases a vast array of information about health conditions, health problems, health services, health service resources, and costs of health care.

In addition to informing the people about things they urgently need to know, all the data have specific and important uses for the nation. The data are used for planning and evaluating health programs, resources, and services; for developing and legislating public health programs to meet health needs; for budgeting for health programs; for determining needs for health practitioners; and for planning activities in health education.

The extent of data usage is indicated by some 10,000 direct requests for data received in the Center each month and some 400,000 copies of publications sent annually to people who request them. In addition to publications, the Center has issued for public use more than 150 computer tapes containing detailed nonconfidential data from nearly all the surveys and data systems operated in the past 10 years. Several hundred tapes are sold annually, mostly to scientists who wish to make additional analyses of the data. Within the limits of staff and equipment, special tabulations of data are prepared; the costs are borne by the requestors.

Most of the specific uses of health data never come to the attention of the Center staff. The handful of specific uses that follow are examples of the mix of uses from the traditional program evaluation and health education to the more recent epidemiologic studies of environmental hazards.

—Growth charts for children, formulated from body measure-

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ments obtained in the National Health and Nutrition Examination Surveys, are used in medical practices throughout the world. More than 25 million copies of the charts have been distributed. They are now the "World Health Organization's Standard Reference" for physical growth of children 2–18 years of age.

—Twenty years of cancer mortality data, from the vital registration system, were used by the National Cancer Institute to produce the first U.S. "Atlas of Cancer Mortality for U.S. Counties: 1950–1969." The geographic concentration and dispersion patterns of various types of cancer shown in the atlas, such as consistently high rates of lung cancer along the Gulf Coast, provided clues that are being followed up in studies related to environmental and other exposures.

—Infant mortality and natality data, from the vital registration system, were used by the Mayor's Blue Ribbon Committee on Infant Mortality in the District of Columbia and the Public Health Service Task Force on Health in the District in a year-long effort to analyze causes and seek solutions to the District's excessively high infant mortality. Investigation revealed that an unusually high percentage of babies born in the District were of critically low birth weight, which probably accounts for at least some of the excess infant mortality.

—Characteristics of nursing homes, the services they provide, and their patients, from the National Nursing Home Survey, are used by the Health Care Financing Administration in drafting proposals for conditions for participation of skilled nursing facilities and intermediate care facilities in the Medicare and Medicaid programs and in determining the cost impact of implementing the regulations.

—Data on anemia and iodine excretion, from the National Health and Nutrition Examination Survey, are used by the Food and Drug Administration as a basis for decisions concerning iron supplementation or limitation for basic foodstuffs.

—Variations in blood pressure, from the National Health and Nutrition Examination Survey, are used by the National Heart, Lung, and Blood Institute to create models for funding high blood pressure control programs across the country.

—Data on pesticide residues and metabolites in blood and urine, from the National Health and Nutrition Examination Survey, are used by the Environmental Protection Administration to identify and assign priorities for research on the health effects of pesticides shown to have widespread exposure in the U.S. population.

—Data on prevalence of skin disorders among people living at various longitudes and latitudes, from the National Health and Nutrition Examination Survey, were used by the University of California under an Environmental Protection Administration grant as part of the study of ozone layer damage and its health effects.

—Heart disease mortality data, from the vital registration system, and serum cholesterol data, from the National Health and Nutrition Examination Survey, were used by the Conference on the Decline in Coronary Heart Disease in examination of the decline in deaths from this cause.

—Trends in cesarean deliveries, from the National Hospital Discharge Survey, were used by the Consensus Development Conference on Cesarean Childbirth, to review the upward trend and its incidence across the United States.

—Data on nurse supply, from the "RN Inventory," are used by the Health Resources Administration to formulate and update criteria for designating nurse shortage areas.

—Health characteristics of persons with diabetes, from the National Health Interview Survey, are used by the National Commission on Diabetes, National Diabetes Advisory Board, National Institute of Arthritis, Metabolic and Digestive Diseases, and Centers for Disease Control to guide administrative planning of diabetes programs, to evaluate the screening programs for diabetic retinopathy, to evaluate health services for diabetics, and to identify educational needs of diabetics and their families.

—Data on exposure of the population to medical and dental X-rays, from the National Health Interview Survey and a mail follow-up survey, were used by the Bureau of Radiological Health and the Food and Drug Administration to estimate the effect of such exposures and then to initiate a national program to evaluate X-ray trends and promote the safe and efficient use of X-ray equipment.

—Data on prevalence of cigarette smoking among various population groups, from the National Health Interview Survey, are used by the Office on Smoking and Health in its mandated reports to Congress, in public service messages, and in health education campaigns.

—Data on health of children, from the vital registration system and surveys, were used by the Secretary's Select Panel for the Promotion of Child Health in preparing a congressionally mandated report. The panel recommended that highest priority be given to meeting three areas of need: comprehensive prenatal care, care to children under age 5, and family planning services.

—Data on health of the aged, from multiple data systems, are used by the White House Conference on Aging to prepare fact books. These fact books are to be sent to all delegates well in advance of the conference to be used as background for study and deliberations on problems and needs of the aged.

—Data on trends in surgery, from the National Hospital Discharge Survey, are used by the American College of Surgeons in the annual "Socio-Economic Factbook for Surgery." These data are presented to and used by the congressional subcommittees on health, fellows of the American College of Surgeons, deans of medical schools, and others to evaluate the needs for surgery and surgeons of various types.

—Data from the 1977 National Nursing Home Survey were first used by the National Institute of Mental Health to describe the mentally ill in institutions and then to create the Department's National Plan for the Chronically Mentally Ill.

—Data on use of family planning and infertility services, from the National Survey of Family Growth, are used by public and private agencies to evaluate the success of their programs in providing services and to plan future programs.

—The use-effectiveness rate of contraceptive methods, from the National Survey of Family Growth, is used by clinicians and family planning programs to guide clinic patients in the selection of methods and to identify subgroups of women in need of family planning services.

The preceding are just a few examples—perhaps some of the more dramatic ones—of the general uses of NCHS data; many more could be cited. In anticipation of such important uses, Congress directed the Center (in 42 U.S.C. 242k) to collect statistics on the extent and nature of illness and disability of the U.S. population; the impact of illness and disability; environmental, social, and other health hazards; determinants of health; health resources; use of health care; health care costs and financing; and family formation, growth, and dissolution.

The Center gathers and makes available a large and varied body of highly reliable and useful data in these areas. Although many important uses of the data are known, the Center staff is keenly aware that its data product continues to be seriously underused. It is hoped that more and more individuals and organizations will be looking to the Center's growing store of information on health problems and concerns.