NEW NCHS INITIATIVES INVOLVING THE HEALTH INTERVIEW SURVEY

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Since its inception in 1957, the Health Interview Survey (HIS) has provided valuable health and health-related information about the noninstitutionalized, civilian residents of the United States at both the national and regional level for a number of demographically defined subgroups of the population. In an effort to be more responsive to the changing needs for health data on a national, State, and local level, the program and procedures used by this survey are currently being evaluated. The earlier papers in this session by Robert Fuchsberg, Gail Poe, and Clint Burnham discussed such an evaluation effort. Within the past year several new initiatives involving the HIS have been undertaken by NCHS in response to the need and demand for additional health data.

Technical Assistance

The National Health Planning and Resources Development Act of 1975 (Public Law 93-631) authorizes the establishment and operation of health planning agencies at the local level [Health Systems Agencies (HSA)], and State Health Planning and Development Agencies (SHPDA) at the State level. In meeting their planning obligations, the HSA's and SHPDS's are required to assemble and analyze a variety of health data. As the planning agencies have become aware that much of the information they require for planning is generally not available and can only be obtained through population surveys, more requests are being made to the National Center for Health Statistics (NCHS) for assistance. To meet the increased needs for planning data, consideration has been given in the past to increasing the HIS sample to produce State estimates, and to producing a survey methods manual, but these approaches are limited in meeting many of the data needs of the State and local health agencies. A third alternative which has been tried on an ad hoc basis is the provision of technical assistance to the health planning agencies. One of the most significant conclusions of the HIS Technical Consultant Panel (TCP) (formed in 1977 to evaluate the HIS) was the need to establish a formal technical assistance program to Federal, State, and local health agencies. Although approaches such as an expansion of the HIS, the distribution of package survey materials, and the use of indirect local estimates derived from national statistics are appropriate for some situations, the TCP concluded that a technical assistance program would be more flexible in responding to the varied data needs of State and local health planning agencies.

To improve and expand its capability for providing technical assistance, HIS has recently employed two additional statisticians who will work at developing and testing systems to assist State and local health agencies gather necessary data. The Bureau of Health Planning and Resources Development (BHPRD) is providing funds to support this activity. Over the next several years the following activities are being planned and these activities will be implemented as the necessary resources become available.

1. Continuation of technical assistance activities of the nature provided in the past, with increased availability within NCHS of the required staff and a greater coordination of effort.

2. An evaluation of the survey methods which can be used to meet the data needs of State and local health agencies. The first step in such an evaluation will be an analysis of the data required by the health agencies and a determination of the issues or questions which could be answered by survey methods. The focus will not be on a full-scale personal health interview, but rather on survey methods in general including personal, telephone, and mail surveys. The second step in the evaluation will be a cost-benefit analysis of each of the survey methods for collecting the required information. Two of the specific evaluations are described in the next two paragraphs.

3. Evaulation of the comparability of telephone and personal interviews as mechanisms for the collection of health interview data. A "request for proposal" has been sent out for a research project which will involve a thorough and detailed evaluation of the relative merits of the telephone interview and the personal interview as mechanisms for the collection of health interview data at the national, State, and local levels. The results of this proposed project will help provide the intelligence required for the specification of the conditions and circumstances under which the personal interview, the telephone interview, or a mixed mode design represents the optimal apporach in terms of cost, quality, timeliness, and practical and technical feasibility for the collection of health interview data.

4. Evaluation of synthetic and composite estimates for small areas. The use of synthetic and composite (combination of synthetic and direct) estimates derived from national statistics represents one of the most promising methods of responding to the data needs of small areas. The major criticism of this approach is that each local area has unique health and health care characteristics which derived national estimates cannot adequately reflect. An evaluation study of the synthetic estimates produced from the Health Interview Survey is being planned. The results of this study will begin to provide the information required for an evaluation of the potential of synthetic estimates for meeting the data needs of State and local areas.

5. Establishment of a telephone health interview capability within NCHS. This activity is underway and is described in

detail in the next section. The development of this inhouse capability is particularly relevant to State and local area data needs in that it provides an opportunity to evaluate a methodology which State and local areas could possibly implement for the collection of data.

6. Development of a random digit dialing telephone survey package of materials for local area surveys. The Office of the Associate Director for Mathematical Statistics in NCHS has recently released a "request for proposal" for the development of a manual on the design and conduct of a local area telephone survey. This is one of several packages of survey materials that NCHS is planning to develop for local area surveys.

7. Small-scale random digit dialing demonstration project within one or two HSA's. Once activities (2) and (6) have been completed, a demonstration project will be designed to examine the feasibility of HSA's (either using their staff or under contract) conducting inexpensive ad hoc random digit dialing population surveys for obtaining information on specific issues requiring rapid turnaround.

8. Feasibility of conferences or workshops on survey methods for meeting the data needs of State and local agencies. HIS staff will, in consultation with BHPRD staff, examine the potential for workshops or conferences relative to meeting HSA data needs. Careful attention will be given to the goals, objectives and value of such efforts.

9. Session at the Public Health Conference on Records and Statistics. A session entitled "The State or Local Health Interview Survey" was held this past June and copies of the session are available upon request. The focus of the session was on the need for, uses of, and methods of obtaining health interview data for State and local areas. Particular attention was given to the practical considerations of health systems planners and to the development of a health interview capability at the State and local level.

10. Development of criteria for providing technical assistance. One of the initial steps in establishing a technical assistance program will be the development of a set of criteria and guidelines for providing assistance and for determining what type of assistance is most appropriate for a given situation. For example, when NCHS feels that a planning agency does not have the expertise to collect or analyze the data themselves, NCHS will in most situations recommend that the proposed survey be conducted by some qualified private organization (this was recently done in Virginia).

In summary, the primary objective of our technical assistance activites will be to coordinate and expand NCHS's ability to provide technical assistance on survey methods through assessment of data requirements, evaluation of data collection and analytical methods, and dissemination of information. The technical services which NCHS hopes to be able to provide include consultation, on-site technical assistance, technical survey materials, synthetic and composite estimates, and workshops and conferences. Technical assistance will not include the direct collection of data. The methodological and developmental research necessary for the provision of technical services will continue to be done by the Offices and Divisions of NCHS currently conducting research related to small area estimation and analysis.

Telephone Health Interview System

In the past several years it has become apparent that the NCHS needs to develop a more flexible data collection system which would be more responsive to an increasing demand for timely health data. Public health issues such as the swine flu vaccination program, the use of saccharin, the use of liquid protein diets, or the change in cigarette smoking habits all required the collection and analysis of data in a short interval of time in order to provide input for making public health decisions. One data collection system which has the potential for responding to many of the most urgent requests for data is a telephone interview system. In the past few months NCHS has begun to set up a Telephone Health Interview System (THIS). With the development of THIS, NCHS hopes to accomplish the following:

1. Establish an inhouse data collection operation. The data collection for most NCHS surveys is currently contracted to the Bureau of the Census or some other outside organization. Although this approach has been quite satisfactory, it does not allow the flexibility or control that an internal NCHS data collection system could have. An inhouse telephone survey system could be used to complement many of the current data collection activities in NCHS.

2. Develop a rapid reporting system. With a THIS, data could be collected, edited, and tabulated on a weekly, monthly, or quarterly basis. For nonseasonal supplemental topics, a four-month period is envisioned from the initial development of a questionnaire to the processed analytical results.

3. Respond to new initiatives within the Department of Health, Education, and Welfare (DHEW) and the Public Health Service. Although data from the HIS have been used on a number of occasions to help formulate national public health policy, NCHS has been limited in its ability to respond on a timely basis to many critical public policy issues. For example, as consumers become more and more discriminating in thier acceptance of certain products, it is important to be able to measure in a short period of time the use and effects of these products on our population. At the February 1978 Technical Consultant Panel meeting, Dr. Michael McGinnis, the Deputy Assistant Secretary for Health for Special Initiatives, identified a number of new health initiatives

within DHEW. Very little information is currently available for most of these new initiatives. Both the HIS and a telephone survey could be used to collect and analyze information about most of the new health initiatives. With a telephone survey capability, the NCHS can be responsive on a timely basis to new initiatives and to other health-related issues as they arise.

4. Conduct surveys for other Federal health agencies. During the past two years NCHS has established a reimbursable work program which permits NCHS to provide statistical services to other governmental agencies. Such agreements could allow NCHS to conduct telephone surveys for other governmental health agencies. Several agencies in the Public Health Service have already indicated an interest in such agreements.

5. Be more responsive to the State and local data needs. It has become apparent that the expansion of the HIS or the development of a survey "package" cannot satisfy many of the data needs and demands for small-area data. A telephone interview system could partially alleviate these needs by (1) assisting States and local health agencies to develop and implement their own telephone interview surveys, and (2) supplementing the HIS sample in State and local areas.

6. Expand the potential for methodological research in NCHS. Most of the methodological research in NCHS involving data collection procedures is currently done under contract. This procedure is both time consuming and expensive. An inhouse telephone survey operation would provide the opportunity to conduct essential methodological research covering a broad range of topics in a much shorter period of time and at considerably less expense. NCHS already has the necessary skills for conducting such research, and a balance between inhouse research and contracted research is essential for maintaining a productive research program.

7. Evaluate synthetic estimates for small areas. One of the more promising methods of responding to the data needs for small areas is through the use of indirect (synthetic) estimates derived from national statistics. As mentioned earlier, the major criticism of this approach is that each local area has unique health and health care characteristics which synthetic estimates do not reflect. Local area telephone surveys could be used to evaluate the estimates derived from national statistics and to indicate under what conditions it is appropriate to use synthetic estimates.

8. Pretest questionnaires and supplements for NCHS programs. With the development of THIS, NCHS would dramatically supplement its ability to pretest various versions of a questionnaire in a short period of time. Current contract procedures severely limit the amount of less formal pretesting that can be done by NCHS, but which is so vitally needed.

The THIS described below has four basic features: (1) it is feasible, (2) it can be quickly implemented, (3) it is inexpensive, and (4) it is simple. The THIS will be set up in three phases.

Phase I. Design and Development. The THIS will be designed to take advantage of current NCHS program operations. This will primarily involve the utilization of the existing NCHS data processing hardware and software. A random digit dialing (RDD) system will be set up with 8 to 12 telephones being installed to collect data. The interviewers will record responses on a separate questionnaire for each household. The questionnaire will then be coded and keypunched into the NCHS computer in a single key-to-disk operation. The coded data will be computer edited, and errors immediately sent to the field staff for followbacks. As a first step in designing the THIS, a review of the current state-of-the-art was made and a number of the organizations which are currently conducting national telephone surveys were visited. Concurrent with this activity was the organization of a small staff of NCHS personnel to begin developing the THIS. The staff's first responsibility is to design the THIS and purchase equipment for and debug the RDD system. Phase I will also include software development for data processing. Phase I of the THIS is currently underway, but has not been completed.

The development of an electronic questionnaire [computer assisted telephone interview (CATI)] has not been included in the initial phases of THIS. The electronic questionnaire requires a longer developmental phase and its potential will be investigated at a later time.

Phase II. Testing and Debugging. After the RDD system is in place, an existing questionnaire will be selected or a new questionnaire will be designed to conduct a pilot study of the THIS. The smoking supplement recently added to the HIS is a likely candidate. Comparing the telephone results with personal interview results is an important part of the testing phase. Phase II will include hiring and training of interviewers, testing the data processing system, and estimating the undercoverage and nonresponse rates. At the end of this phase the THIS should be completely specified and ready for implementation.

Phase III. Pilot Study. A carefully selected project will be used for the initial implementation of the THIS. Possible projects might be a methodological study, a small area demonstration project, a reimbursable national THIS project, or a Public Health Service new initiative project.

The pilot study will test each part of the THIS and provide an estimate of the time required for conducting a telephone interview survey from conception to completion. During this phase criteria will be developed to serve as guidelines for selecting additional projects and for future expansion of the THIS.

Each phase of THIS is expected to take about four months and, if all goes well, data collection for Phase II will begin during October 1978.

Medical Care Utilization and Expenditure Survey

A major new initiative involving the Division of Health Interview Statistics is the design and implementation of a Medical Care Utilization and Expenditure Survey (MCUES) beginning in 1980. The MCUES will be conducted by NCHS with the financial support of the Health Care Financing Administration (HCFA). In March of this year the Current Medicare Survey (CMS) was discontinued by HCFA and NCHS was asked to help implement a new survey which would collect health care and expenditure information for both the Medicare and Medicaid populations. NCHS was interested in a survey of the total civilian United States population in order to continue to collect health expenditure data which was collected in the National Medical Care Expenditure Survey (NMCES) in 1977 and the first six months of 1978. The MCUES is expected to provide population-based data for the Medicare and Medicaid programs and to provide data for the modeling and monitoring of a national health insurance program.

The specific goals of the MCUES are the collection and analysis of data on the utilization of all forms of health care by type of provider including outpatient care, hospital care, instituions for long-term care, and special health care units of nonmedical insitutions and the collection of out-of-pocket expenses and amounts paid by third-party payers. Special estimates required for the Medicare and Medicaid populations include the amounts paid by the programs, out-of-pocket expenses, and covered and non-covered services.

Experiences from both the CMS and NMCES indicate that in order to collect accurate utilization and expenditure information each household must be interviewed periodically throughout the year. Each interview will consist of a set of core questions which are asked each visit and a set of supplement topics which are asked only once for each family. In addition to the basic utilization and expenditure data such items as family income, employment status, usual source of medical care, access to medical care, limitation of activity and various socioeconomic and demographic items will be collected. The minimum set of data items for MCUES that was recommended by the MCUES Data Needs Committee is given in the Appendix. A medical provider and third-party payer survey is planned to supplement information on assigned benefits and costs that are not out-of-pocket. This survey is especially important for obtaining data on Medicaid recipients where the recipients are often not provided a statement of the costs of medical services. Diagnostic information is also available only through the medical provider.

Many of the sample design specifications and special features for MCUES have been agreed upon although the design has not been finalized. In addition to the three major groups of interest, disabled persons in the Medicare and Medicaid populations will be oversampled so that separate estimates can be made for the disabled. A multi-frame approach is proposed for the MCUES. The Health Interview Survey sample and the Master Facility Inventory (MFI) will be the primary frames used, with the Current Medicare Survey list frame being used primarily for special subgroups of the Medicare population. Both person and family statistics will be produced. Two independent samples of 5,000 households will be interviewed on alternate months beginning in January or February of 1980; producing a total sample of 10,000 households with a two-month recall period being used for each subsequent visit. Each household will remain in the sample for a period of 13 months. Thus, each household would be visited a total of seven times with each interview lasting approximately 45 minutes. The sample size allows one to produce statistics for the Nation and the four Census regions, but not for individual States. One design alternative that is being discussed with HCFA is the supplementation of the Medicaid sample in order to produce statistics for the four largest States.

A number of issues remain to be studied before a final design can be specified. A methodological study is being planned to address many of the yet unanswered questions concerning the sample design. The study will evaluate NMCES on such issues as the sampling unit, the reference period, the use of diaries, calendars, and computer generated summaries, the optimum size of a provider survey, response and attrition rates for each round, and the use of lengthy telephone interviews. The sampling unit to be used in the survey is of particular importance because of its cost implications. In the NMCES all persons living in the housing unit at the time of the initial interview were followed throughout the year. The expense of following sample persons who moved turned out to be very significant. The proposed study will evaluate the use of the housing unit as the sampling unit and the potential problems of producing distributional statistics.

During the first year the MCUES will be kept as simple as possible to minimize the number of operatonal problems. The number of primary sampling units will probably be smaller the first year and a simple followback procedure will be used to obtain missing data items from respondents. Detailed statistics for special subgroups of the populations such as the disabled are not planned for the first year of operation. These components will be phased in once the basic survey is operating smoothly.

All of the new initiatives discussed in this paper make it clear that NCHS is making a concerted effort to be responsive to the data needs of its users, the Public Health Service, and the State and local health planning agencies. Feedback from our users plays an important and vital role in our ability to be responsive.

APPENDIX

Minimum Basic Data Set for the Medical Care Utilization and Expenditure Survey (MCUES)

Household Interview Items

Medical Provider Visits - (includes phone)

1 Type of provider (includes physician assistant, etc.)
2 Name of provider
3 Name of place
4 Date
5 Type of place
6 Condition
7 Reason for visit
8 Tests associated with visit
9 Usual source of care
10 Travel and waiting time
11 Medical specialty
12 Cost questions

Hospital Stays and Other Medical Institutions

1 Name and address of institution
2 Admission and discharge date (includes emergency room)
3 Conditions (special obstetric visit item)
4 Operations
5 Medical providers seen
6 Type of medical provider
7 Cost questions

Dental Visits

1 Date of service
2 Type of service (orthodontia, routine care, filling, bridge)
3 Name of provider
4 X-rays during visit
5 Place of visit
6 Barriers to dental care
7 Cost questions

Prescriptions

1 Name of medicine
2 Person prescribed for
3 Number of times obtained
4 Condition for which prescribed
5 Cost questions
6 Any prescriptions not filled
7 Reason not filled

Costs

1 Total costs
2 Out-of-pocket payment
3 Reimbursement expected
4 Third-party payment
5 Source of third-party payment

Insurance by Person

1 Type of insurance (includes Medicare A & B, Medicaid, HMO's, other insurance plans)
2 Extent of coverage (includes deductible)
3 Champus and other public plans
4 Dread disease policies
5 Extra cash policies
6 Reason for no insurance
7 Length of time on Medicaid

Program Participation and Knowledge

1 Knowledge of and treatment from EPSDT program
2 Participation in AFDC and SSI programs

Socioeconomic and Demographic

1 Age
2 Sex
3 Race
4 Family size
5 Marital status
6 Ethnicity
7 Residence - an adjacency to SMSA code or some alternate region
8 Employment status
9 Characteristics of housing
10 Veteran Status
11 Occupation
12 Industry
13 Education
14 Income (both individual and family)

Health Status

1 Restricted activity days
2 Work loss days
3 Bed disability days
4 Perceived health status
5 Limitation of activity scale
6 Functions limitation scale
7 Worry about health