MEPS
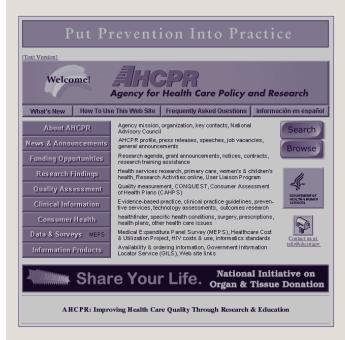
Design and Methods of the 1996
Medical Expenditure Panel Survey
Nursing Home Component

Methodology
Report 3

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Abstract

The Medical Expenditure Panel Survey (MEPS) is the third in a series of nationally representative surveys of medical care use and expenditures sponsored by the Agency for Health Care Policy and Research (AHCPR). MEPS comprises four component surveys. The Nursing Home Component (NHC) produces national estimates of insurance coverage and the use of services, expenditures, and sources of payment for persons residing in or admitted to nursing homes. The NHC also gathers information on nursing home characteristics–such as facility type, ownership, chain affiliation, certification, facility size, and location–for a nationally representative sample of nursing homes. This report describes the design of and methods used in the MEPS NHC. Information is included on the NHC objectives, sample design, instruments of data collection, and data collection procedures.

MEPS

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The Medical Expenditure Panel Survey (MEPS)

Background

The Medical Expenditure Panel Survey (MEPS) is conducted to provide nationally representative estimates of health care use, expenditures, sources of payment, and insurance coverage for the U.S. civilian noninstitutionalized population. MEPS also includes a nationally representative survey of nursing homes and their residents. MEPS is cosponsored by the Agency for Health Care Policy and Research (AHCPR) and the National Center for Health Statistics (NCHS).

MEPS comprises four component surveys: the Household Component (HC), the Medical Provider Component (MPC), the Insurance Component (IC), and the Nursing Home Component (NHC). The HC is the core survey, and it forms the basis for the MPC sample and part of the IC sample. The separate NHC sample supplements the other MEPS components. Together these surveys yield comprehensive data that provide national estimates of the level and distribution of health care use and expenditures, support health services research, and can be used to assess health care policy implications.

MEPS is the third in a series of national probability surveys conducted by AHCPR on the financing and use of medical care in the United States. The National Medical Care Expenditure Survey (NMCES) was conducted in 1977, the National Medical Expenditure Survey (NMES) in 1987. Beginning in 1996, MEPS continues this series with design enhancements and efficiencies that provide a more current data resource to capture the changing dynamics of the health care delivery and insurance system.

The design efficiencies incorporated into MEPS are in accordance with the Department of Health and Human Services (DHHS) Survey Integration Plan of June 1995, which focused on consolidating DHHS surveys, achieving cost efficiencies, reducing respondent burden, and enhancing analytical capacities. To accommodate these goals, new MEPS design features

include linkage with the National Health Interview Survey (NHIS), from which the sample for the MEPS HC is drawn, and enhanced longitudinal data collection for core survey components. The MEPS HC augments NHIS by selecting a sample of NHIS respondents, collecting additional data on their health care expenditures, and linking these data with additional information collected from the respondents' medical providers, employers, and insurance providers.

Household Component

The MEPS HC, a nationally representative survey of the U.S. civilian noninstitutionalized population, collects medical expenditure data at both the person and household levels. The HC collects detailed data on demographic characteristics, health conditions, health status, use of medical care services, charges and payments, access to care, satisfaction with care, health insurance coverage, income, and employment.

The HC uses an overlapping panel design in which data are collected through a preliminary contact followed by a series of five rounds of interviews over a 2½-year period. Using computer-assisted personal interviewing (CAPI) technology, data on medical expenditures and use for 2 calendar years are collected from each household. This series of data collection rounds is launched each subsequent year on a new sample of households to provide overlapping panels of survey data and, when combined with other ongoing panels, will provide continuous and current estimates of health care expenditures.

The sampling frame for the MEPS HC is drawn from respondents to NHIS, conducted by NCHS. NHIS provides a nationally representative sample of the U.S. civilian noninstitutionalized population, with oversampling of Hispanics and blacks.

Medical Provider Component

The MEPS MPC supplements and validates information on medical care events reported in the MEPS HC by contacting medical providers and pharmacies identified by household respondents. The MPC sample includes all hospitals, hospital physicians, home health agencies, and pharmacies reported in the

HC. Also included in the MPC are all office-based physicians:

- Providing care for HC respondents receiving Medicaid.
- Associated with a 75-percent sample of households receiving care through an HMO (health maintenance organization) or managed care plan.
- Associated with a 25-percent sample of the remaining households.

Data are collected on medical and financial characteristics of medical and pharmacy events reported by HC respondents, including:

- Diagnoses coded according to ICD-9 (9th Revision, International Classification of Diseases) and DSM-IV (Fourth Edition, *Diagnostic and Statistical Manual of Mental Disorders*).
- Physician procedure codes classified by CPT-4 (Current Procedural Terminology, Version 4).
- Inpatient stay codes classified by DRG (diagnosis-related group).
- Prescriptions coded by national drug code (NDC), medication names, strength, and quantity dispensed.
- Charges, payments, and the reasons for any difference between charges and payments.

The MPC is conducted through telephone interviews and mailed survey materials.

Insurance Component

The MEPS IC collects data on health insurance plans obtained through employers, unions, and other sources of private health insurance. Data obtained in the IC include the number and types of private insurance plans offered, benefits associated with these plans, premiums, contributions by employers and employees, and employer characteristics.

Establishments participating in the MEPS IC are selected through four sampling frames:

- A list of employers or other insurance providers identified by MEPS HC respondents who report having private health insurance at the Round 1 interview.
- A Bureau of the Census list frame of private-sector business establishments.
- The Census of Governments from the Bureau of the Census.

- An Internal Revenue Service list of the self-employed.

To provide an integrated picture of health insurance, data collected from the first sampling frame (employers and other insurance providers) are linked back to data provided by the MEPS HC respondents. Data from the other three sampling frames are collected to provide annual national and State estimates of the supply of private health insurance available to American workers and to evaluate policy issues pertaining to health insurance.

The MEPS IC is an annual panel survey. Data are collected from the selected organizations through a prescreening telephone interview, a mailed questionnaire, and a telephone followup for nonrespondents.

Nursing Home Component

The 1996 MEPS NHC was a survey of nursing homes and persons residing in or admitted to nursing homes at any time during calendar year 1996. The NHC gathered information on the demographic characteristics, residence history, health and functional status, use of services, use of prescription medications, and health care expenditures of nursing home residents. Nursing home administrators and designated staff also provided information on facility size, ownership, certification status, services provided, revenues and expenses, and other facility characteristics. Data on the income, assets, family relationships, and caregiving services for sampled nursing home residents were obtained from next-of-kin or other knowledgeable persons in the community.

The 1996 MEPS NHC sample was selected using a two-stage stratified probability design. In the first stage, facilities were selected; in the second stage, facility residents were sampled, selecting both persons in residence on January 1, 1996, and those admitted during the period January 1 through December 31.

The sampling frame for facilities was derived from the National Health Provider Inventory, which is updated periodically by NCHS. The MEPS NHC data were collected in person in three rounds of data collection over a $1\frac{1}{2}$-year period using the CAPI system. Community data were collected by telephone using computer-assisted telephone interviewing (CATI) technology. At the end of three rounds of data collection,

the sample consisted of 815 responding facilities, 3,209 residents in the facility on January 1, and 2,690 eligible residents admitted during 1996.

Survey Management

MEPS data are collected under the authority of the Public Health Service Act. They are edited and published in accordance with the confidentiality provisions of this act and the Privacy Act. NCHS provides consultation and technical assistance.

As soon as data collection and editing are completed, the MEPS survey data are released to the public in staged releases of summary reports and microdata files. Summary reports are released as printed documents and electronic files. Microdata files are released on CD-ROM and/or as electronic files.

Printed documents and CD-ROMs are available through the AHCPR Publications Clearinghouse. Write or call:

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Additional information on MEPS is available from the MEPS project manager or the MEPS public use data manager at the Center for Cost and Financing Studies, Agency for Health Care Policy and Research, 2101 East Jefferson Street, Suite 500, Rockville, MD 20852 (301/594-1406).

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Design and Methods of the 1996 Medical Expenditure Panel Survey Nursing Home Component

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Introduction

The 1996 Nursing Home Component (NHC) of the Medical Expenditure Panel Survey (MEPS) is a national, year-long, panel survey of nursing homes and their residents. MEPS is the third in a series of surveys sponsored by the Agency for Health Care Policy and Research (AHCPR) to collect information on the health care utilization and expenditures of the American public. The first survey was the 1977 National Medical Care Expenditure Survey (NMCES); the second, the 1987 National Medical Expenditure Survey (NMES). NMES was the first national expenditure survey to contain an institutional component designed explicitly to collect medical expenditure information on persons in long-term care facilities.

The 1996 MEPS NHC is cosponsored by AHCPR and the National Center for Health Statistics (NCHS), both agencies of the U.S. Public Health Service. Westat, Inc., is the prime contractor for data collection and is supported by MedStat, the National Opinion Research Center, and CODA.

This report describes the design of and methods used in the MEPS NHC. Information is included on the NHC objectives, sample design, instruments of data collection, and data collection procedures. The appendix provides a glossary of terms and acronyms used in this report and in the MEPS NHC questionnaires.

Note: Earlier versions of this report were presented at the 1996 Joint Statistical Meetings of the American Statistical Association, Chicago, August 1996, and the 1996 annual meeting of the American Public Health Association, New York, November 1996.

Objectives of the MEPS NHC

The primary objective of the NHC is to estimate use and expenses for nursing home services and health care for persons who were nursing home (NH) residents at any time during 1996. Other major objectives are to permit estimates of the following measures:

For nursing home residents—
- Annual expenditures and sources of payment for nursing home services.
- Annual use, expenditures, and sources of payment for inpatient hospital services.
- Use, expenditures, and sources of payment for physician services during periods of NH residence.
- Use of prescribed medications.
- Health status at selected points in time.
- Discharge status for residents discharged during 1996.
- Characteristics of NH residents prior to admission.
- Annual use, expenditures, and sources of payment stratified by facility and resident characteristics.

For nursing home facilities—
- Facility structure, type of ownership, expenses, and revenues.
- Services typically provided, staffing, and numbers of beds and residents.

The MEPS NHC is also designed to permit national estimates of—
- Number of persons who were NH residents as of January 1, 1996.
- Number of persons admitted to an NH during 1996.
- Number of persons discharged from an NH during 1996.
- Total NH users for the year.

Sample Design

The MEPS NHC is a year-long panel survey for calendar year 1996. The design is similar to that of the 1987 NMES Institutional Population Component survey (Cohen, Potter, and Flyer, 1993) and is intended to equal or exceed the precision of the 1987 survey. The final sample design is based on results from the 1987 survey, analyses conducted during the 1991 NMES Institutional Feasibility Study (Bethel, 1993; Bethel, Flyer, and Wolters, 1993; Bethel, Ward, and Kalton, 1993), and work conducted during the pretest stage of the NHC.

The NHC has a multistage stratified probability design, with facilities selected in the first stage and residents in the last stage. The reference population (universe) is all persons who spent one or more nights in 1996 as a resident of a nursing home. To allow a chance of selection for all persons in this universe, two samples of residents were selected within sampled cooperating facilities:

- A cross-sectional sample of January 1, 1996, residents (referred to as January 1st residents or current residents).
- A sample of persons admitted during 1996, with no prior admissions during 1996 to a facility eligible for the NHC (referred to as first admissions).

Thus, all persons who were residents of an NH any time during 1996 were represented in the sample.

Facility Eligibility

The universe of institutions eligible for inclusion in the MEPS NHC consisted solely of nursing homes, whereas the 1987 institutional survey also included personal care homes and facilities for persons with mental retardation. For a discussion of why these facility types were excluded from MEPS, see Sommers (1995).

To be included as a nursing home, a facility must have met one of the following definitions:

- A facility or distinct portion of a facility certified as a Medicare skilled nursing facility (SNF).
- A facility or distinct portion of a facility certified as a Medicaid nursing facility (NF).

- A facility or distinct portion of a facility licensed as a nursing home with three or more beds that provides onsite supervision by a registered nurse (RN) or licensed practical nurse (LPN) 24 hours a day, 7 days a week.

By these definitions, all SNF- or NF-certified units of licensed hospitals were eligible for the sample, as were all Department of Veterans Affairs (VA) long-term care nursing units. In such cases, and in the case of retirement communities with nursing facilities, only the long-term care nursing unit(s) of the facility were eligible for inclusion in the sample. If a facility also contained a long-term care unit that provided assistance only with activities of daily living (e.g., a personal care unit) or provided nursing care at a level below that required to be classified as a nursing facility, that unit was excluded from the sample. (For operational details on how this was accomplished, see information in this report on the Round 1 Facility-Level Data.)

Sample Frame

The cleaned (unduplicated) list of eligible facilities from the 1991 National Health Provider Inventory (NHPI) served as the starting point for frame construction (Sirrocco, 1994). NCHS updated the NHPI with lists of facilities that were licensed by the States or certified by the Health Care Financing Administration (HCFA). New facilities (births to the frame) were determined by NCHS and AHCPR staff, who compared the updated list with the 1991 NHPI. To ensure that the updated list had no duplicate listings, comparisons were made of facility name, address, phone number, and size (Sommers, 1995).

Additionally, efforts were made to add hospital-based long-term care (LTC) units to the frame. LTC units have grown considerably in the last few years (Prospective Payment Assessment Commission, 1996). The American Hospital Association's listing of hospitals was carefully reviewed. Any hospital-based LTC units not on the updated NHPI, including VA nursing homes, were added. As a result, 275 facilities were added, representing 13 percent of the hospital-based NHs in the frame. The updated list consisted of 17,572 nursing facilities containing 1,789,772 beds, an increase of 2,641 facilities and 174,086 beds over the 1991 NHPI (Table 1).

Key information required for sampling, such as number of nursing home beds, was available for 15,581 of the 17,572 facilities in the final NHC frame. By searching directories and lists of NHs, NCHS and AHCPR staff found missing bed-size information for all but 100 facilities. Bed size was imputed for these facilities. A somewhat larger number of facilities had missing information on other variables needed for sampling, such as ownership. However, it was felt that this amount of missing information was insignificant (Sommers, 1995). Thus, to save resources, AHCPR did not update frame information any further.

The final numbers of NHs and NH beds in the NHC frame were compared with an independent source (Harrington, Preston, Grant, et al., 1990) and found to be well within range (Sommers, 1995). Additional information is available on the use of the 1991 NHPI as a sampling frame (Sommers, 1993) and frame construction for the MEPS NHC (Sommers, 1995).

Sample Selection

A stratified two-stage systematic sample was adopted, where stage 1 reflected the selection of facilities (in two phases) and stage 2 reflected the selection of persons in these facilities. For complete technical details, see Bethel, Broene, and Sommers (1998), Sommers (1995), and Sommers, Bethel, and Broene (forthcoming).

First-Phase Facility Selection

Facilities were selected in the first phase with selection probabilities proportional to the number of nursing home beds in the facility. Allocation was proportional to the total number of beds in the stratum. The primary stratification was by method of Medicaid reimbursement and type of nursing facility. Within the primary strata, location variables of the NH and type of ownership were used for implicit stratification.

As part of this phase, a Keyfitz procedure was used to adjust the probabilities of selection to eliminate any overlap between the 1996 MEPS NHC facility sample and the sample for the 1995 NCHS National Nursing Home Survey. This adjustment was made to reduce the burden on nursing home respondents (Sommers, 1995). By this methodology, 1,651 facilities were selected in the first phase of facility selection.

Second-Phase Facility Selection

The initial sample of facilities was selected in order to achieve a second-phase sample of 1,150 facilities. Results from the 1987 survey (Cohen, Potter, and Flyer, 1993) and the 1991 feasibility study (Bethel, Ward, and Kalton, 1993) indicated that survey data collection costs could be reduced, while minimizing the effect on variance, by subsampling facilities in the higher cost strata at rates of selection lower than the rates for those in the less expensive strata.

To subsample the facilities, those sampled in the first phase were assigned to cost strata based on interviewer travel and workload costs using computerized mapping software. Table 2 shows the cost strata. Once the facilities were assigned, each cost stratum was subsampled using Cochran's (1977) optimal allocation technique.

Table 2 shows the distribution of the first-phase sample of facilities by cost strata. It also shows the results for the second phase of facility subsampling by cost strata, resulting in the final facility sample of 1,150.

Person-Level Sample Selection

To assure representation of all persons who resided in the nursing home during the study period, two types of person samples were selected in the sampled cooperating facilities:

- *Current residents*—Persons admitted to a sampled facility before January 1, 1996, who were not discharged as of January 1, 1996 (i.e., the cross-sectional sample of January 1st residents).
- *First admissions*—Persons admitted to the sampled facility on January 1 or later during 1996 who had no earlier 1996 admission to any eligible facility.

Sample of Residents. A fixed sample of four January 1st residents was selected in each cooperating sampled facility during Round 1. The January 1st sample of residents was selected by interviewers from a frame constructed by the interviewer or from a frame provided by the facility. Interviewers cleaned and numbered the list of residents and then selected a random sample of four residents by entering the number of eligible residents in the facility into the interviewer's laptop computer. (Residents were eligible if they resided

in an eligible long-term care unit of the sampled facility as of midnight December 31, 1995.) The computer then listed the line numbers for the random sample selected. The cross-sectional sample of all January 1st residents is expected to yield 3,344 residents at the end of Round 1 and 3,144 with expenditure data at the end of Round 3 (Table 3).

Sample of Admissions. To obtain a sample of eligible first admissions, a sample of two persons was selected from a list of first admissions at each of the sampled cooperating facilities in Rounds 2 and 3. In a few facilities with large admissions populations, the sample could be three persons per round, for a maximum of six 1996 admissions sampled per facility.

The Round 2 frame consisted of all persons whose first stay in the facility during 1996 resulted from an admission during the period January 1, 1996, through June 30, 1996. The Round 3 frame consisted of persons admitted to the sampled facility during the July 1-December 31, 1996, period who had no prior admissions to the sampled facility during 1996. The interviewer's procedures for selecting the admissions sample are analogous to those used for the January 1st sample.

To ensure that each person sampled as an admission had a single chance of selection, information about where the person resided between January 1, 1996, and the date of admission to the sampled facility was collected from facility and community respondents. All places identified by respondents as a long-term care place were searched on the sampling frame directory for determination as an eligible NH. Persons sampled as an admission who had a January 1, 1996, stay or 1996 admission to an eligible NH prior to their admission to the sampled NH were not eligible for the MEPS NHC, as they had a prior chance of selection. These procedures were first tested in the 1991 feasibility study (Bethel, Flyer, and Wolters, 1993). Subsequent data collection on these ineligible persons was terminated. This exclusion of ineligible admissions is expected to result in a final admissions sample of 2,344 persons with expenditure data at the end of Round 3.

Subsampling the Sample of Facilities and Persons

The response rate assumptions used to develop the projected sample sizes presented in Table 3 were designed to result in a final facility sample size of 787 cooperating facilities at the end of 3 rounds of data collection. At the end of Round 1 data collection, 1,127 of the 1,150 sampled facilities were determined to be eligible; 952 of these were eligible and responding (85 percent). To bring the sample size in line with the original design, the facility sample was subsampled at the end of Round 1. A total of 127 facilities (and all sampled persons in those facilities) were randomly deselected. Of these facilities, 108 cooperated in Round 1.

Instruments and Data Collection Procedures

The data collection methods of the MEPS NHC are products of those used for the 1987 NMES institutional expenditure survey (Edwards and Edwards, 1989), the 1991 institutional feasibility study (e.g., Anderson, Harper, Tourangeau, et al., 1993), and NHC pretest work. While the 1996 methods are similar to those used in 1987, several enhancements have been introduced for three principal reasons:

- The analytic desirability of quantifying recent changes in the NH industry—most importantly, the diversification of services provided and the debundling of payments for NH services.
- The change in mode of data collection from a paper-and-pencil mode to computer-assisted personal interviewing (CAPI).
- Improvement in data quality and/or reduction in data collection costs. (For example, see Anderson, Bethel, Tourangeau, et al., 1994; Potter, 1988; Potter and Braden, 1993.)

The MEPS NHC questionnaires are available on the MEPS home page at the AHCPR Web site <http://www.meps.ahcpr.gov/> or through the AHCPR Clearinghouse (call 301-594-1406 for ordering information).

Overview of Data Collection Methods

Table 4 presents an overview of the data collection plan for the MEPS NHC. The plan calls for a Screener/Recruitment Round and three rounds of data collection. The Screener/Recruitment Round is conducted by telephone to recruit the facility's participation in the study. Rounds 1-3 are conducted in the nursing home using CAPI technology. There is also a single telephone interview with a community respondent knowledgeable about the sampled person's situation prior to admission to the NH; this interview is conducted in Round 2 (or Round 3 if sampled in Round 3).

Round 1

Round 1 consists of a visit by an interviewer to the sampled nursing facility to collect facility and sampled person data. The interviewer administers the Facility Questionnaire, which collects information on the characteristics and structure of the facility, and determines the facility's final eligibility for the NHC. Once the Facility Questionnaire is completed and the facility (or any part of the facility) is determined to be eligible, the interviewer constructs a sampling list of January 1, 1996, residents in eligible parts of the facility, selects a random sample of four, and begins person-level data collection.

Round 1 data collection for the January 1st resident sample consists of residence history information (including hospital stays) from the date of last residence in the community until the date of the Round 1 interview; health status; demographics and background; insurance information; and prescription medicine use.

Round 2

In Round 2, interviewers return to the sampled facility and continue data collection on the facility by updating facility certification information and enumerating the services routinely provided by the facility. Interviewers also continue data collection on the January 1st sample of residents by updating their residence history and collecting information on health service use, prescribed medicine use, NH expenditures,

and incident health conditions (e.g., acute conditions occurring during NH stays). This information is collected for periods of NH residence during the period from January 1st to the date of interview. Interviewers also identified potential respondents for community data collection.

In Round 2, interviewers select a sample of residents who were admitted to the sampled nursing home between January 1 and June 30, 1996 (the first of two samples of admissions). Data collected include residence history information from January 1 (or date of last community residence if prior to January 1) until the date of the Round 2 interview; health status information, demographic background, and insurance coverage at the time of admission to the nursing home; and health service use, prescribed medicine use, and NH expenditures during periods of institutionalization. Potential community respondents are also identified.

Community data collection for persons sampled as January 1st residents and for the Round 2 sample of admissions is begun in Round 2. The same interviewers who conducted the facility interview generally conduct the community interview about each sampled person by telephone from the interviewer's home using computer-assisted interviewing (CAI) technology. The Community Questionnaire collects information for which the nursing home is not a good source of information, such as family relationships (Tourangeau and Blair, 1993). It also collects key information asked during the facility interview but not available from that source, as well as income, assets, and caregiving data.

New facility data collection is also initiated in Round 2. The design of the NHC is such that sampled persons are followed as they move from one eligible facility to another eligible facility. This provides a picture of an entire year's worth of use and expenditures in all nursing homes in which the person was a resident during 1996. For all persons discharged from the originally sampled nursing home during the Round 1 reference period and admitted to another potentially eligible nursing home, Round 2 data collection in the new (transfer) facility is initiated.

Data collection begins at the new facility with administration of the New Facility Questionnaire, which determines the facility's eligibility and mirrors the Round 1 sampled Facility Questionnaire. Person-level

data collection in a new facility is similar to Round 2 data collection in a sampled facility.

Round 3

Round 3 continues data collection on the sampled facility by gathering information on patient revenues and expenses in the facility and updating facility staffing information that was originally collected in Round 1. Resident information about residence history, health status, health services use, expenditures, and prescribed medicine use is updated. Health status information as of December 31 is collected for the January 1st sample still in a nursing home.

During Round 3, interviewers select a sample of admissions from residents who were admitted to the sampled facility between July 1 and December 31, 1996, and who were not admitted to the NH previously during 1996. The same data are collected on this sample as for the Round 2 sample of admissions.

New facility data collection continues in Round 3.

Instruments and Data Items

Data collection for the MEPS NHC was preceded by almost 2 years of instrument design work, including feasibility testing and usability testing. This work, in conjunction with previous research (e.g., Anderson, Bethel, Tourangeau, et al., 1994; Anderson, Harper, Tourangeau, et al., 1993; Northrup and Ward, 1993; Potter and Cunningham, 1994; Tourangeau and Johnson, 1993; Tourangeau, Vincent, Anderson, et al., 1993), led to an instrument that uses CAPI technology almost exclusively.

Aside from the intent of improving data quality, the NHC CAPI instrument was designed to take advantage of the CAPI computer environment in several ways, including:

- Determining the "best respondent" for the interviewer at the item level rather than at the questionnaire level or respondent level.
- Prompting the interviewer to retrieve missing data items from alternative respondents before leaving the NH.

- Prompting the interviewer to reconcile inconsistent data (as determined by mathematical formulas) with the respondent at the time of data collection.
- Providing the interviewer with preloaded directories of information (e.g., prescribed medicine data) to be used during data collection.
- Reducing respondent burden in the NH by organizing data collection around the respondent.

Conducting the NHC in CAPI can have other advantages as well, including shorter post-production processing time and subsequent data release to the public. However, using CAPI in a survey such as the NHC can have a downside in that the resulting instruments, with their numerous flow boxes, programmer specifications, and question word fills, can be difficult to comprehend. The purpose of this section of the report is to overcome the natural limitations of reading a complicated CAPI questionnaire by providing the reader with the analytic intent of each of the questionnaire sections. Also presented is an overview of key data collection methods. The section is in four parts:

- Facility-level data collection in the sampled NH.
- Person-level data collection in the sampled NH.
- Person-level data collection in the community.
- Data collection in the transfer (new) facilities.

Facility-Level Data, Sampled NH

Screener/Recruitment Materials. The telephone screener/recruitment round is conducted using scripted materials. The purpose is to verify the facility's name and address, screen out facilities that are clearly ineligible (e.g., facilities with no nursing staff), recruit the facility to participate in the survey, and make an appointment for the Round 1 interview.

Round 1 Facility-Level Data. The Round 1 facility-level data collection consists of administering the Round 1 Facility Questionnaire (FQ), distributing and collecting the Round 1 Self-Administered Questionnaire (SAQ), and collecting the facility's printed rate schedule. The Round 1 FQ is a CAPI instrument that is administered in person to the facility administrator (or designee). It must be administered before any person-level data collection can begin. The FQ is divided into five parts, each

uniquely identified in CAPI by letter identifiers. The letter identifiers and their descriptions are as follows:

FA   Facility structure and characteristics: This section maps how the sampled facility is structured (explained below), determines the facility's final eligibility for the survey, and collects data on facility characteristics.   A mechanism for collecting the Round 1 SAQ is included at the end.

FR   This section is a mechanism for collecting a copy of the facility's printed rate schedule.

FG   Facility records organization grid: This section includes prompts to identify the various records containing resident data that the facility maintains, and to obtain access to the records and to the facility staff members in charge of the records.

SS   Sampling section: This section is used for selecting a sample of four January 1st residents. The "Call Home Office" function, related to this section, is a mechanism for interviewers to alert NHC statisticians, in real time, to problems with the measure of size and dual probabilities of facility selection, among other functions. Once the sample of residents is selected, the sampling section collects person-level information—name, age, sex, date of admission, and date of death (if applicable)–necessary to set up the question word fills in the subsequent person-level instruments.

MD Missing data module: If certain critical facility items are missing (e.g., information needed to determine the facility's eligibility), this module presents the items for another respondent (in the same NH) to answer.

See Table 5 for a listing of the major data items in the Round 1 FQ.

The Round 1 Self-Administered Questionnaire is distributed to the facility administrator (or designee) during the administration of the Round 1 FQ. The SAQ collects information that the pretest showed could not be easily collected by in-person interviewing (mostly staffing information). See Table 5 for a description of the data items.

Facility Structure and Place Type. The structure of some institutions that provide resdental treatment continues to become increasingly complex. The Round 1 Facility Questionnaire was designed to elicit this complexity. Some nursing homes exist within a larger establishment (e.g., a retirement center or hospital). In such cases, the entity that appeared on our sampling frame might be the larger facility, the nursing home within a larger facility, or only one of several units within the larger facility. Therefore, the Round 1 FQ was designed to identify all parts of the larger facility, the nursing home within the larger establishment, and all units within the nursing home (including special care units such as Alzheimer's units), as well as enumerating all other nonhospital residential parts such as assisted living complexes, personal care units, and independent living facilities. All places where persons sleep overnight (and on the same campus as the NH) were enumerated by name, type, bed size, and survey eligibility. To make this workable within an interviewing environment, the CAPI application used specific name fills. For example, when a question referred to the larger entity, the question shown on the interviewer's laptop computer displayed the appropriate name of the larger establishment. When a question referred to only the eligible nursing home/unit within the larger configuration, then the name of each eligible nursing home/unit was displayed. Based on the enumerated information, the Round 1 CAPI application assigned a "place type" taxonomy to each and every part of the facility. Possible place types are:

- Eligible long-term care (e.g., nursing home).
- Ineligible long-term care (e.g., personal care unit).
- Hospital.
- Community.

An *eligible long-term care place* is defined as a facility or distinct part of a facility certified by Medicare or Medicaid or licensed as a nursing home with three or more beds that provides onsite supervision by an RN or LPN, 7 days a week, 24 hours a day. An *ineligible long-term care place* is a facility or distinct part of a facility that is not certified or licensed as an eligible nursing home but provides services for personal care assistance with bathing or dressing. These include residential care

places, board and care homes, personal care homes, assisted living facilities, and similar units of retirement centers or nursing homes. *Hospitals* could be acute or long-term care (LTC) hospitals. In the case of a hospital with a skilled nursing (SNF) unit or an eligible LTC unit, the SNF/LTC unit was classified as an *eligible LTC place* and the remaining hospital units classified as appropriate (e.g., hospital). *Community* places include all independent living units of retirement centers, as well as private homes or apartments.

The NH structure/place type information—known collectively as the Place Roster—is important for two reasons. First, analytically, it is the mechanism by which basic characteristics of the NH are enumerated. Second, operationally, it is used by the CAPI software to drive subsequent skip patterns and word fills in the Round 1 Facility Questionnaire and in all person-level instruments. (See section on person-level data below.) A fictitious example of how a Place Roster might look on the interviewer's laptop at the end of the Round 1 Facility Questionnaire is shown below.

In this case, the larger facility is the Jordan Senior Living Center, which has three parts: an independent

living building (Horizon House), an assisted living building (Naomi House), and a nursing home (Johnson Health Center). The nursing home (eligible LTC) contains three parts: an Alzheimer's unit and two general population nursing wings (the East and West Wings). In this example, NH expenditure data would be collected for sampled person stays in any part of the Johnson Health Center but would not be collected for sampled person stays that occurred in the Horizon House or Naomi House.

Round 2 Facility-Level Data. The Round 2 instruments on the sampled facility level consist of:

- Round 2 Facility Questionnaire.
- Round 2 Sampling Instrument.
- Facility Rate Schedule Form.

In addition, any Round 1 SAQs not collected previously are collected in Round 2.

The Round 2 FQ is a CAPI instrument administered to the facility administrator. The majority of the data items are on services routinely offered by the facility to residents and nonresidents (Table 5). The instrument

```
PLACE NAME                           PLACE TYPE

  Jordan Senior Living Center        INEL LTC

      Horizon House                  COMMUNITY

      Naomi House                    INEL LTC
  *       Johnson Health Center      ELIG LTC
  *       Alzheimer's Unit           ELIG LTC
  *       East Wing                  ELIG LTC
  *       West Wing                  ELIG LTC

   {* consider this place as part of the eligible case}
```

also collects information about physicians with NH staff privileges. This information has both analytic and operational relevance. Operationally, this information is used to differentiate physicians whose services are billed for through the NH, as part of the NH's basic room and board rate, from those physicians who bill the NH separately for their services (i.e., services that might subsequently result in Medicare Part B claims). Unlike the Round 1 FQ, the Round 2 FQ does not have to be administered prior to Round 2 person data collection.

The Round 2 Sampling Instrument is used to select the first sample of admissions (two persons on average, with a maximum of three). To eliminate persons with a dual probability of selection, persons residing in the NH on January 1st are not eligible for Round 2 admissions sampling. Otherwise, the instrument is similar to the Round 1 sampling instrument.

The Facility Rate Schedule Form is a paper instrument uniquely generated by the data collection contractor for each facility. It retrieves missing rate schedule information not collected in Round 1, as well as collecting billing rates for basic care provided in each special care unit within the facility and for HMO (health maintenance organization) contract care.

Round 3 Facility-Level Data. The Round 3 facility-level instruments consist of:

- Round 3 Facility Questionnaire.
- Round 3 Sampling Instrument.
- Round 3 Self-Administered Questionnaire.

The Round 3 FQ is a CAPI and/or paper instrument, depending on the availability of the respondent and applicable records. Known as the Cost-of-Patient-Care Questionnaire (CPCQ), its main purpose is to collect patient revenue and expense data on the NH. (See Table 5 for details.) NH administrators are the most likely respondents. They are urged to consult the facility's Medicaid Cost Reports and/or annual report when answering the questions.

The Round 3 Sampling Instrument is similar to the one used in Round 2 (two admissions sampled on average), except that the sampling frame is constructed from a list of persons admitted to the NH from July 1 to December 31, 1996. Persons residing in the sampled NH on January 1 or admitted to the facility between January 1 and June 30, 1996, are not eligible for Round 3 admissions sampling, as they had a prior chance of selection.

The Round 3 SAQ is also known as the Round 3 NH Staffing Questionnaire. It is similar in design to the Round 1 SAQ, except that data are collected as of the end of the year and items on NH staff turnover and physicians' privileges in the NH have been added (Table 5).

Person-Level Data, Sampled NH

Previous research showed that multiple respondents within a single NH would be needed for sampled person data collection (Anderson, Bethel, Tourangeau, et al., 1994). This need arose partly because of the wide variety of organizational structures and medical record storage locations among NHs and partly because of the demanding schedules of nursing home staff. Therefore, the NH CAPI application was designed with seven topical modules to accommodate multiple respondents, NH staff, and records availability. These topical sections are:

- Residence History.
- Health Status.
- Background.
- Insurance.
- Prescribed Medicines.
- NH Expenditures.
- Health Services Use.

At the time of data collection, the interviewer determines the order in which the topical sections are administered, based on availability of staff and medical records. The one exception is the Residence History section, which sets up a person's reference dates; it must be administered prior to other sections for each person.

Interviewers select a sampled person and associated topical section with the use of a specially designed CAPI person-level screen used for navigation, which displays a grid with the names of the sampled persons

Figure 1. Example of CAPI person-level navigation screen used in sampled facilities during Round 1: 1996 Medical Expenditure Panel Survey Nursing Home Component

```
NAVIGATE                  90401                          Mountainside Nursing Home


               SELECT THE SP AND SECTION YOU WOULD LIKE TO DO NEXT.

    TYPE    NAME                   RH      HS      PM      BQ      IN

    CR      ELAINE BRAZIL          C       RDY     C       RDY     RDY
    CR      JACKIE CALDRON         C       RDY     C       RDY     RDY
    CR      DONALD FREUD           C       RDY     C       RDY     RDY
    CR      PEGGY LACEY            C       RDY     C       RDY     RDY



 SAMPLED ADMISSION DATE: 09/11/93           AVAILABLE RESULT CODES:
                                               1.    CONSENT REQUIRED
                                               4.    INITIAL REFUSAL

          VITAL STATUS:    DECEASED ON 03/03/96
     BACKGROUND STATUS:    READY TO INTRVW



 USE ARROW KEYS.  TO SELECT, PRESS ENTER.  TO EXIT, PRESS ESC.
```

Note: The names of the persons and facility shown are fictitious.   CAPI is computer-assisted personal interview.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

for a particular NH down the left side, defining rows, and displays abbreviated topical section names across the top, as column heads (Figure 1). When using the navigation screen, interviewers use the arrow keys of the laptop to move the cursor around the cells of the grid, pressing the enter key to bring up a program section for a sampled person. (For more details, see Sperry, Edwards, Dulaney, et al., forthcoming.) Whether a topical section needs to be administered during a round is determined by numerous MEPS NHC design criteria, including when the sampled person was sampled, the round of data collection, where the sampled person moved to during the round (and in some cases the previous round), the sampled person's vital status and date of death, and, in some instances, the availability of key data items. These specifications are programmed as

part of the CAPI application. (See MEPS NHC Navigation Specifications for details. The Navigation Specifications are part of the MEPS NHC questionnaires and are available on the MEPS home page at the AHCPR Web site, <http://www.meps.ahcpr.gov/>.) An overview of the design by topical section and round is shown in Table 4.

The NHC CAPI questionnaire makes numerous references to four types of sampled persons.   These person types (Figure 2) are defined each round, using information collected with the Residence History questionnaire section. They are used to define question skip patterns in the subsequent person-level questionnaire sections.

The following sections detail the data collection methodology and the major data elements contained in

Figure 2. Types of sampled persons referred to in the CAPI questionnaire: 1996 Medical Expenditure Panel Survey Nursing Home Component

1. "SP sampled in this facility (NH) this round." This can refer to persons sampled as January 1st residents or sampled as an admission in the second round (F2) or the third round (F3).

2. "Continuing resident still in the facility (NH) at the end of the previous round reference period." This can refer to persons sampled as January 1st residents or sampled as an admission in the second round (F2) and still in the facility at the end of the previous round, or to a transfer SP in either a sampled or new facility at the end of the previous round.

3. "Continuing resident discharged alive from the facility (NH) at the end of the previous round reference period." This can refer to a January 1st resident, to an admission sampled in the second round of data collection in the current facility, or to a transfer SP who was in the current facility last round.

4. "First residence history for this SP in this facility, and SP was not sampled in this facility." This would also apply to transfer sampled persons.

Note: CAPI is computer-assisted personal interview. NH is nursing home. SP is sampled person.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

the seven person-level topical sections of the NH CAPI application.

Residence History. The Residence History (RH) section is administered in the sampled facility during the round in which the sampled person was first sampled and in every round thereafter. Data are typically collected from respondents using medical records and admissions and discharge documents. The RH section has three major purposes:

- To determine the whereabouts of the sampled person each day of the 1996 reference period. This includes identifying such things as NH admission/discharge dates, place of residence prior to NH admission (or after discharge), date of last community residence, and date of death.
- To drive data collection for all the other person-level sections. For example, NH admission and discharge dates (during 1996) determine the reference periods for prescribed medicine use data collection.
- To determine the survey eligibility of persons sampled for inclusion in the survey. (For example, persons with a prior probability of selection are ineligible.)

As noted previously, the RH instrument must be administered before any other person-level questionnaire section in order to establish each person's reference dates. The section collects information about all stays of one or more nights. These include, for example, inpatient hospital stays; stays in the community, in the sampled person's own residence, personal care places, or in other nursing homes; and stays in the sampled NH. Other RH data items include dates of the stay and stay type. Also identified is the specific unit in which the NH stay occurred, in situations where the NH (or the larger configuration of the NH) has multiple units. Table 6 provides an overview of the RH data items.

All stays identified as part of RH data collection are classified into one of four stay types. The criteria for stay type determination are programmed into the CAPI RH application and are used to define stays in eligible nursing units. Since a place can have multiple units with distinctly different place types, the RH questionnaire classifies both places and stays, as follows:

11

- Eligible long-term care.
- Ineligible long-term care.
- Hospital.
- Community.

The definitions of these place/stay types match those described earlier. (See Facility Structure and Place Type.) Depending on the place type, additional information about the stay and the place where the stay occurred can be collected. For example, for stays in the community, information is collected about the person(s) with whom the sampled person lived (Table 6).

Several key dates are determined by the RH CAPI application and then used to steer person-level data collection within a round and across rounds. In addition to such information as NH admission and discharge dates and date of death, these key analytic dates include:

- *Sampled Admission Date (SAD)*—For January 1st residents (current residents), the date of the most recent admission to the sampled facility prior to January 1, 1996. For persons sampled as first admissions, the date of the first admission to the sampled facility during the reference year (January 1-December 31, 1996).
- *Key Admission Date (KAD)*—The beginning of the episode of sampled nursing home care. The date of the first admission to the sampled facility, excluding readmissions following an acute care hospital stay.
- *Inscope Admission Date (IAD)*–The beginning of the episode of eligible nursing home care. The date of the first admission to an eligible nursing facility, excluding readmissions following an acute care hospital stay.
- *Transfer Admission Date (TAD)*—The date of admission to an eligible facility, either sampled or new, by a sampled person who transfers out of the originally sampled NH to another NH during the reference year, as reported by the transfer facility.
- *End Date for Earliest Community Stay (CED)*—The date of the beginning of the episode of institutionalization (regardless of whether the stay was in an eligible nursing home or an ineligible long-term care place), excluding readmissions following an acute care hospital stay. The end date

of the most recent time the sampled person lived in the community.

One other key date is used for person-level data collection. This date is not established in the RH but in the Background Questionnaire section. It is defined here for completeness:

- *First Long-Term Care Use (FLU)*—The date of first ever long-term care use in a person's lifetime.

Examples of these key dates for a few fictitious sampled persons are illustrated in Figure 3. It is possible for all these dates to be the same for a person, for all the dates to be different, or something in between.

The RH section is also used to determine person-level eligibility. Persons sampled as an admission who have a prior 1996 admission to an eligible NH, or who were resident in an NH on January 1, 1996, are ineligible for the survey. Determination of eligibility is made by CAPI using RH data and a preloaded directory of the sampling frame. This methodology was first tested in the 1991 feasibility study (Anderson, Bethel, Tourangeau, et al., 1994; Bethel, Flyer, and Wolters, 1993). Persons classified as an ineligible first admission are ineligible for subsequent data collection. Sampled admissions can also be classified as ineligible using residence history data collected from community respondents. (See Person-Level Data, Community.)

Health Status. Health status data collected in the facility are measured at multiple time points, depending on the data item and whether the person was sampled as a January 1st resident or as an admission. The following time points are possible:

- *January 1, 1996*—Used to collect baseline health status information for persons sampled as January 1st residents. These data are collected during Round 1.
- *December 31, 1996*—Used to collect end-of-year health status information for persons sampled as January 1st residents and still in an eligible nursing facility on December 31. These data are collected during Round 3.
- *Key Admission Date (KAD)*—Used to collect baseline health status information for persons

Figure 3. Examples of residence history timelines and key date items: 1996 Medical Expenditure Panel Survey Nursing Home Component

Note: LTC is long-term care. NH is nursing home. Key dates are as follows—CED is End Date for Earliest Community Stay. IAD is Inscope Admission Date. KAD is Key Admission Date. SAD is Sampled Admission Date.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

sampled as an admission. For most admissions, the KAD is the first admission in 1996 to the sampled NH. (However, if a person were admitted to the sampled NH from the hospital following a stay that began before 1996 and had been a resident of the sampled NH immediately prior to the hospital stay, the KAD would be the date the person was first admitted to the sampled NH, which would be prior to 1996.) For the Round 2 sample of admissions, these health status data are collected during Round 2; for the Round 3 sample of admissions, these data are collected during Round 3.

- *KAD plus 90 days*—Used to collect health status data a second time for persons sampled as an admission (provided that the person is still in an eligible nursing home). These data can be collected in either Round 2 or 3, depending on when the 90-

day point occurs. When the 90-day point occurs during 1997, data collection is still attempted, provided the person is in an eligible NH unit.

- *All of 1996*—Used to ascertain incident infections during periods of NH residence. These data are collected each round that a sampled person resided in an eligible NH unit.

The facility Health Status section is designed to accommodate all of these time points. (See Table 7.)

Most of the health status items collected in the NH are based on the Resident Assessment Form of the Health Care Financing Administration (HCFA), known as the minimum data set (MDS). (The address of the MDS 2.0 information site on the World Wide Web is <http://www.hcfa.gov/Medicare/MdS204/default.ntm>.) The CAPI application collects the MDS information in

Figure 4. Example of a CAPI screen and its associated online help screen, used to collect health status data typically obtained from MDS records: 1996 Medical Expenditure Panel Survey Nursing Home Component

```
125.16  HA16                    03/12/96                      ELAINE BRAZIL
                        Hearing/Communication       Mountainside Nursing Home
                              M SEC. C

 What was the condition of ELAINE BRAZIL's hearing, with a hearing
 appliance, if used, on or around January 1, 1996?  Did she hear adequately,
 did she have minimal difficulty, did she hear only in special situations, or was her
 hearing highly impaired?

                                    (1)
                        0.   HEARS ADEQUATELY
                        1.   HEARS WITH MINIMAL DIFFICULTY
                        2.   HEARS IN SPECIAL SITUATIONS ONLY
                        3.   HEARING HIGHLY IMPAIRED

                   PRESS F1 KEY FOR COMPLETE DEFINITIONS
```

```
HA16
 O HEARS ADEQUATELY - normal conversational speech, including telephone or watching TV
 1 MINIMAL DIFFICULTY - when not in a quiet setting
 2 HEARS IN SPECIAL SITUATIONS ONLY - speaker has to adjust tonal quality and speak distinctly
 3 HIGHLY IMPAIRED - absence of useful hearing
```

Note: The names of the person and facility shown are fictitious. CAPI is computer-assisted personal interview. MDS is minimum data set.
Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

a question format (Figure 4, top screen), with question wording, response categories, and definitions of concepts derived directly from the MDS. This design permits the interviewer to abstract health status data directly from MDS forms, and also provides a questionnaire mechnism to collect data for persons with no MDS forms. Definitions of the possible response categories (e.g., what does "occasionally incontinent" mean?) were derived from the MDS and were provided to interviewers as part of the CAPI online help system, which the interviewer could access with a laptop function key (Figure 4, bottom screen).

There are multiple versions of the MDS. MEPS health status questions (to be obtained in the NH) were based on question wording in Version 2 of the MDS. Version 2 has more detail than Version 1 and was the HCFA standard for 1996.

There are also multiple reasons for an MDS assessment (e.g., annual review, quarterly review), and different MDS forms are used for different assessment reasons. MDS forms can also vary by State (e.g., because of waivers). As a result, not all MDS health status items are located on all MDS forms. In order to accommodate this variation in the MDS, Westat, the data collection contractor, surveyed all States as to their use of MDS forms (Hallman, 1995). Copies of all the State forms were collected and reviewed, and this variation was built into the health status CAPI programming. CAPI determines for the interviewer

which MDS forms (e.g., annual, quarterly) and which section of the MDS the respondent (and interviewer) should be using to obtain the correct information (Figure 4). Health status items not based on the MDS are labeled as such so that interviewers can cue the respondent to check medical records to obtain the information (Figure 5). Table 7 indicates the NHC health status items and whether the MDS question wording is the basis of the item.

Health status data are collected each round. These data are abstracted from NH medical records and MDS forms, or collected by interviewing respondents (typically nursing staff), who refer to records during the interview.

Background and Insurance. The design of the 1987 institutional survey was such that many of the demographic data items for sampled persons were collected from both next-of-kin residing in the community and from NH respondents. This resulted in some redundancy and inconsistency in the data and increased the data collection costs. Because of these problems, as well as the questionnaire and item nonresponse associated with community data collection in 1987, AHCPR undertook a series of analyses to investigate alternative data collection methodologies for background data items (Anderson, Bethel, Tourangeau, et al., 1994; Tourangeau and Blair, 1993; Tourangeau and Johnson, 1993). The design for the MEPS NHC Background and Insurance sections is a direct

Figure 5. Example of a CAPI screen used to collect health status data not tied directly to an MDS item: 1996 Medical Expenditure Panel Survey Nursing Home Component

```
   125.17 HA17                          03/12/96                          ELAINE BRAZIL
                            HEARING/COMMUNICATION              Mountainside Nursing Home

                                      NOT ON MDS


                              Did she have a hearing aid?


                                         (0)


                                      1. YES
                                      2. NO
```

Note: The names of the person and facility shown are fictitious. CAPI is computer-assisted personal interview. MDS is minimum data set.
Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

outgrowth of those analyses. The analyses indicated, in part, that:

- Some demographic data items could be collected from either facility respondents or community respondents with no loss in the reliability of the data.
- Some data items were best collected from community respondents.
- Background item nonresponse could be reduced, with no sacrifice in reliability, by collecting some items from the facility rather than from the community.

This led to an NHC design based on the premise that a "best" respondent could be identified for a data item, considering simultaneously data quality issues, respondent burden, and data collection costs. Thus, *each* demographic item is collected by one of the following five methodologies:

- Facility is the only data source for the item.
- Facility is considered the primary data source for the item. If the facility is unable to provide the information for a person, it is subsequently collected from the person's next-of-kin residing in the community.
- Community is the only data source for the item.
- Community is considered the primary data source for the item. For operational reasons, the data are collected from both the community and facility.
- Item is collected from both community and facility. The NHC design assumes no primary data source for the item.

Since the methodology is driven, in part, by the completeness of the data provided, it may vary across persons. Table 8 shows the data items by the methodology used. Excluded from this table are community-respondent-reported items on potential caregiver network, caregiver services, and health status data for the period prior to admission; these data are collected only from community respondents. See Person-Level Data, Community, for additional information on these items.

The facility Background (BQ) and facility Insurance (IN) sections are used to collect demographic items from respondents and records within the sampled NH. The Background section collects demographic information, typically from nursing staff who use medical records. The Insurance section collects data on a person's insurance coverage at baseline. For January 1st residents, this is January 1, 1996. For persons sampled as admissions, this is the time of admission to the sampled NH (KAD). For January 1st residents, a few items on insurance coverage are also collected for the time of first admission to the NH (KAD). These data may be collected from respondents who use medical records (including MDS forms) but may also be collected from sources in the NH's billing office. The Background and Insurance sections are administered just once per person during the round in which the person is sampled and always prior to any community data collection. At the interviewer's discretion or the NH's direction, the interviewer might abstract these data from NH records or collect them from an NH respondent.

Prescribed Medicines. The Prescribed Medicines (PM) section of the facility CAPI collects data on a person's use of prescribed medicines while a resident of an NH for calendar year 1996. The data collected include the name of the medicine; the form, strength, and dosage in which it was prescribed; and the number of times it was prescribed each month (Table 9). Information on medicines that were given only as needed (PRN) is also captured.

The feasibility of collecting prescribed medicine data was first evaluated in the 1991 feasibility study (Tourangeau and Kuby, 1993). The feasibility study showed that:

- PM data can be collected with sufficient detail to code the data and subsequently link it to general drug information, such as wholesale cost.
- Abstracting the data was "relatively easy" and "substantially reduced" the burden on the facility to provide these data (Anderson, Bethel, Tourangeau, et al., 1994).

The design of the MEPS PM section built on that experience. Since results showed that data could be abstracted, the PM section was designed so that interviewers can either input data abstracted from the forms used in NHs to track the administration of medicines or administer the PM questions to respondents (typically nursing staff) while they review

the standardized administration forms. PM data are collected in each round in which the person was in an eligible NH.

To improve the quality of the data, and to reduce the burden of data collection and coding, a directory of over 2,000 prescribed medicines known to be frequently used by the elderly was built into the application. The source of information for the directory was the 1995 Red Book file (Medical Economics Company, Inc., 1995), which contains detailed information on all prescribed medicines sold in the United States. As a result, interviewers do not have to key the name, form, and strength of drugs on the preloaded list. Examples of CAPI screens containing the preloaded Red Book

Figure 6. Example of two CAPI screens used to collect prescribed medicine data (name, form, and strength): 1996 Medical Expenditure Panel Survey Nursing Home Component

```
123.002 PM2                        03/13/96                 ROXANNE BACHUS
                                                            SISTERS OF CHARITY


IN JANUARY 1996:


What was the name of the prescribed medicine administered to
ROXANNE BACHUS?


                    ┌─────────────────────────────────┐
                    │       ACETAZOLAMIDE              │
                    │       ADALAT                     │
                    │       ADVIL                      │
                    │       ALBUTEROL                  │
                    │       ALBUTEROL SULFATE          │
                    │       ALDACTONE                  │
                    │       ALLBEE C-800               │
                    │  ✓    ALLOPURINOL                │
                    │       ALPRAZOLAM                 │
                    │       More Above/Below           │
                    └─────────────────────────────────┘

              PRESS F1 FOR EXPLANATION OF ADMINISTERED.

TO SELECT/DESELECT, PRESS ENTER.   IF MEDICINE NOT ON LIST OR TO EXIT, PRESS ESC.
```

```
123.0022 PM2B            03/13/96                           ROXANNE BACHUS
                                                            SISTERS OF CHARITY


         In what form and strength was ALLOPURINOL?

    ┌──────────────────────────────────────────┐
    │ ✓   Tablet            100 MG              │
    │     Tablet            300 MG              │
    │     ADD FORM AND STRENGTH                 │
    └──────────────────────────────────────────┘

USE ARROW KEYS.   TO SELECT/DESELECT PRESS ENTER.   TO EXIT PRESS ESC.
```

Note: The names of the person and facility shown are fictitious. CAPI is computer-assisted personal interview.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

information are shown in Figure 6. As an illustration, to enter information on "allopurinol," the interviewer would proceed as follows:

In response to the question "What was the name of the prescribed medicine...?" the interviewer simply types "all," the first three letters of allopurinol. This searches the directory and moves the on-screen cursor to within one entry of the desired medication. The interviewer then moves the cursor down one entry and hits the Enter key for the desired medication. For the next question—"In what form and strength was ALLOPURINOL?"—the directory shows all the known forms and strengths in which allopurinol is available. The interviewer again moves the cursor to the desired location and hits the Enter key to select, for example, "Tablet 100 MG." Eventually, the interviewer is prompted to collect the monthly frequency of administration information.

In situations where the form and strength of the administered medication are not contained on the list, the interviewer must key in the information in response to various questions posed by CAPI on the form and strength of the drug. The PM section also collects information on medications not contained in the directory. For these medications, the interviewer must also key in the name of the drug.

Expenditures. The Expenditures section of the person-level facility questionnaire collects data on the costs of health care services provided by nursing homes during 1996. The data collected include information about the facility's billing practices such as the length of the billing period, start and end date of each billing period, number of days billed for in each period, and the rate or rates billed for a person's room, board, and basic care in each billing period, as well as charges for ancillary care. The section also includes information on all payments received by the facility (for both basic and ancillary services), the sources of payments for those services, and the amounts paid by each source, by billing period. Table 10 lists possible sources of payments, as well as all the major expenditure data items.

In situations where the nursing home/eligible unit is part of a larger facility (e.g., retirement complex), billing and payment data are collected only for the services provided in the eligible part of the facility. For example, if a person was in a board and care unit of a retirement center early in the year and then transferred to a nursing unit midway through the year, billing and payment data are collected only for the care provided in the nursing unit of the facility.

This is operationalized with the use of CAPI technology. Figure 7 shows an example of the introductory screen for an interviewer to read to the expenditure respondent. When reading, the interviewer replaces the capitalized text shown within the brackets with the name(s) of the eligible NH unit(s) in which the sampled person resided during the reference period. The names of the eligible unit(s) are provided to the interviewer in the upper righthand corner of the same screen–in this example, the New Wing and the Alzheimer's unit. If a person had resided in a personal care unit for part of the year, the name of the personal care unit would not be displayed on screen. This word fill information is specific to a sampled person and is initially collected as part of the Residence History data. Figure 8 shows an example of the subsequent expenditure screen. The CAPI program inserts the sampled person's reference dates into the expenditure questions, bounding the periods of expenditure data collection to periods of residence in an eligible NH unit.

Analysis of data from the 1987 NH expenditure study revealed that data inconsistencies and anomalies occurred during data collection (Northrup and Anderson, 1993). While these anomalies did not compromise the quality of the data, they added considerably to the cost and time of the post-data collection efforts, delaying the availability of expenditure estimates. To this end, the Expenditures section was redesigned during the feasibility study and field tested (Anderson, Bethel, Tourangeau, et al., 1994; Northrup and Ward, 1993). Results from those efforts showed that edits could be built into the questionnaire to greatly reduce the number of data anomalies. The NHC Expenditures section incorporates several data edits into the programming logic of the CAPI. They range from simple numeric comparisons (e.g., "Why does the total amount billed not equal the sum of the sources of payments?") to complex logical edits across several questionnaire sections (e.g., "Why was Medicare Part A a source of payment when the NH stay was not preceded by a hospital stay?"). See Table 10 for an overview of the major edits used.

Figure 7. Example of a CAPI screen used to begin expenditure data collection with information on eligible facility/unit(s) for the sampled person inserted into question text: 1996 Medical Expenditure Panel Survey Nursing Home Component

```
129.01  EX1PRE                07/25/96                    MAUDE WICKLEFFE
                                                               NEW WING
                                                             ALZHEIMER'S


        This series of questions asks about MAUDE WICKLEFFE'S
        expenditures for room and board and ancillary charges while a
        resident of [READ FACILITY/UNITS ABOVE] this year, 1996.


                        PRESS ENTER TO CONTINUE
```

Note: The names of the persons and facility shown are fictitious. CAPI is computer-assisted personal interview.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

Figure 8. Example of a CAPI screen used to collect expenditure data with appropriate reference dates inserted into question text: 1996 Medical Expenditure Panel Survey Nursing Home Component

```
129.02  EX2                   07/25/96                    MAUDE WICKLEFFE
                                                               NEW WING
                                                             ALZHEIMER'S

           (The following questions are about MAUDE WICKLEFFE's basic
           care between January 5, 1996 and July 25, 1996.)  Was there
           a charge for her room and board and basic care between
           January 5, 1996 and July 25, 1996?  Please include any charges
           to MAUDE WICKLEFFE, her family, or a third party, such
           as Medicaid, Medicare, or a legal guardian.

                                   (1)
                             1. YES
                             0. NO
```

Note: The names of the persons and facility shown are fictitious. CAPI is computer-assisted personal interview.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

Expenditure data are first collected in eligible NHs during Round 2. (However, the reference period begins on January 1, 1996, for January 1st residents and on the date of admission (SAD) for the admissions sample.) These data are collected again during Round 3. Typical respondents are facility billing office personnel, who refer to billing and payment records. NH financing is sufficiently complex that interviewers are trained to collect the expenditure data from a respondent and to abstract data only when the facility refuses to provide a respondent.

Health Services Use. The CAPI Health Services Use section collects information for the periods of time during 1996 that the sampled person was an NH resident. Like the Expenditures section, it is administered in Rounds 2 and 3 and covers the entire 1996 reference period. Typical respondents are nursing staff, who refer to medical records during the interview. These data may also be abstracted from medical records by the interviewer. Data items include frequency of physician use, physical therapy use, hospital emergency room visits, and hospital outpatient visits (Table 11). Data on inpatient hospital use (stays of one or more nights) are collected in the Residence History section of the application rather than here.

Like the Round 2 FQ, the Health Services Use section contains facility-level questions on physicians who practice in the nursing home. These questions are asked only once per facility, in either the Health Services Use section or in the Round 2 FQ. They are asked as part of the Health Services Use section if it is administered before the Round 2 FQ. These questions are used to create a Physician Roster, a list of physicians whose services are billed for through the facility as part of the facility's basic room and board rate. This information makes it possible to distinguish physician services that are billed separately from those that are billed for as part of the basic (or ancillary) NH charges.

Community Respondent Roster. The last sampled facility instrument is a paper-and-pencil instrument. The Community Respondent Roster (CRR) is used to collect information from NH sources on potential community respondents. It is administered to each NH respondent who provides data about the sampled person. For each potential community respondent identified, the CRR collects locating information, attributes of the

potential respondent, and the potential respondent's relationship to the sampled person. Once all CRRs are completed for a sampled person, the interviewer enters the data into the laptop for transmission to the home office, where an algorithm (based on the work of Tourangeau and Johnson, 1993) is used to determine the best community respondent for the sampled person.

Person-Level Data, Community

Community data collection generally takes place once for each sampled person for whom a community respondent was identified. For persons sampled as January 1st residents or Round 2 admissions, it occurs during Round 2 after facility data collection is completed for the person. Similarly, for persons sampled as admissions in Round 3, community data are collected in Round 3. Field interviewers, typically those who collected the sampled person's NH data, collect community data by telephone from the interviewer's home. Computer-assisted interviewing technology is used. Community respondents usually are next-of-kin living in the community but could also be friends, guardians, and others who are knowledgeable about the sampled person's condition prior to admission to the NH. When no other respondent is available, community data could be collected from facility staff or, in the case of a sampled person who was discharged from the NH, the sampled person.

In addition to collecting information about the sampled person's situation prior to admission to the NH, the Community Questionnaire collects information that the facility is known to have a difficult time providing, such as living kin (Tourangeau and Blair, 1993), income, assets, and caregiving information. The caregiving data are collected only for persons sampled as an admission and entering the NH from the community or from the hospital with a community stay immediately before.

The Community Questionnaire is also used to update residence history data for all persons sampled as an admission (i.e., it collects residence history data for the period prior to NH admission). These data are used to make a final determination of a person's survey eligibility. Sampled admissions who had a prior 1996 admission to an NH or who were resident in an NH on

January 1, 1996, are ineligible for the survey. Once a sampled person is identified as ineligible, all future data collection for the person is suspended.

For all sampled persons discharged from the NH, residence history data are collected from a community respondent for the period after discharge from the NH. For some persons, this results in a second Community Questionnaire being conducted to update missing residence history information. See Tables 8 and 12 for an overview of the community data items.

Data Collection in New Facilities

The MEPS NHC follows persons throughout 1996 as they move from nursing home to nursing home; thus, estimates for all of 1996 are possible. Each sampled person's residence history data are reviewed by the Westat home office staff on an ongoing basis to identify persons who transfer into new facilities. Whenever a sampled person moves into a potentially eligible new facility, new facility data collection procedures are initiated. They consist of:

- Determination of facility eligibility as a nursing home.
- Collection of facility-level data on the new facility.
- Collection of person-level data on the transfer person while the person is a resident in the new facility.

Data collection instruments and procedures in the new facilities are similar to those used in the sampled facilities except that no information is collected on background, insurance, baseline health status, or potential community respondents. In most cases, potential new facilities identified during Round 1 are fielded in Round 2; those identified during Round 2 are fielded at the beginning of Round 3; and those identified during Round 3 are fielded later in Round 3. Potential new facilities are defined as:

- Nursing homes.
- Any place listed on the NHC sampling frame of facilities.
- Board and care homes, personal care homes, assisted living facilities, or similar places.
- SNF and LTC units of hospitals.

Final determination of the new facility's eligibility as an NH is made with the New Facility Questionnaire. This instrument mirrors the Round 1 Sampled Facility Questionnaire in determining eligibility and in collecting facility-level information on the new facility (Table 5), but also includes Round 2 sampled facility questions on physicians. Person-level sampling does not occur in new facilities.

In facilities found to be an eligible NH, person-level data are collected on use of health care services, prescribed medicines, expenditures, and incident health conditions. Each of these data items is collected by round for the time period the sampled person was in the transfer NH during 1996. Some cross-sectional health status data for Time 2 (for the January 1st sample, as of December 31; for the admissions sample, as of KAD plus 90 days) are also collected if the person resided in the transfer NH on the reference date for the item. (See the health status section under Person-Level Data, Sampled NH, for details). Residence history data, measured from the time of discharge from the previous nursing home to the end of the reference period, are also collected in new facilities.

If the new facility is not an eligible nursing home, the only person-level data collected are residence history data.

Medicare Claims Data

In addition to primary data collection activities, MEPS NHC plans to acquire claims data (including billing and payment information) from HCFA for the Medicare beneficiary population in the NHC sample. Both Part A and Part B claims data are targeted for collection.

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Note: Reports with PB numbers are available from the National Technical Information Service (NTIS), Springfield, VA 22161, 800-553-6847.

Table 1. Number of nursing facilities and beds in sampling frame, by source from which facilities were added to frame: 1996 Medical Expenditure Panel Survey Nursing Home Component (MEPS NHC)

| Item | Unduplicated 1991 NHPI[1] | Source of facilities | | Total on updated frame |
		New facilities added from State licensing lists and lists of HCFA-certified facilities	Hospital-based LTC units added from AHA list	
Facilities	15,811	2,391	275	17,572
Beds	1,615,686	146,231	29,979	1,789,772

[1]Eventually 205 of these facilities (representing 2,124 beds) were dropped from the MEPS NHC sampling frame because they did not meet the MEPS NHC eligibility criteria.

Note: AHA is American Hospital Association. HCFA is Health Care Financing Administration. LTC is long-term care. NHPI is National Health Provider Inventory.

Source: Sommers J. Survey design of the National Nursing Home Expenditure Survey. Presented at the annual meeting of the American Public Health Association, San Diego, CA, October 29-November 2, 1995.

Table 2. Number of nursing facilities selected during first- and second-phase sample of facilities, by cost stratum: 1996 Medical Expenditure Panel Survey Nursing Home Component

Cost stratum	Interviewer workload and travel	Facilities selected during first-phase sample of facilities		Facilities selected during second-phase sample of facilities	
		Number	Percent distribution	Number	Percent of first-phase sample selected
Total		1,651	100.0	1,150	69.7
1	Full interviewer workload, located in a single contiguous geographic area	855	51.8	616	72.0
2	Partial workload, considerable distance	439	26.6	292	66.5
3	Single facility in area, considerable distance	255	15.4	178	70.1
4	Single facility, air travel	102	6.2	64	62.4

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

Table 3. Projected sample yield of nursing homes and sampled persons: numbers sampled and responding, by round: 1996 Medical Expenditure Panel Survey Nursing Home Component

Sampled unit	Round 1	Round 2	Round 3	Total
Facilities				
Selected at first phase	1,651	—	—	—
Selected at second phase	1,150	—	—	—
Eligible	1,127	—	—	—
Completed Facility Questionnaire in round	862	—	—	—
Cooperated with sampling in round	836	811	787	—
Cooperated in all rounds	—	—	—	787
January 1st residents				
Selected and eligible	3,344	—	—	—
Baseline health status data provided	3,210	—	—	—
Expenditure data provided[1]	—	3,243	3,144	3,144
Admissions				
Selected	—	1,622	1,574	3,196
Not first admissions	—	357	346	703
Eligible first admissions	—	1,265	1,228	2,493
Baseline health status data provided	—	1,163	1,130	2,293
Expenditure data provided[1]	—	1,622	1,155	2,344

[1] Defined as at least one-third of expenditure data completed.

Note: For final sample yield, see Sommers J, Bethel J, Broene P. Construction of sampling weights for the Medical Expenditure Panel Survey Nursing Home Component. Rockville (MD): Agency for Health Care Policy and Research; forthcoming. *MEPS Methodology Report.*

Source: Bethel J, Broene P, Sommers JP. Sample design report of the 1996 Medical Expenditure Panel Survey Nursing Home Component. Rockville (MD): Agency for Health Care Policy and Research; 1998. *MEPS Methodology Report No. 4.* AHCPR Pub. No. 98-0042.

Table 4. Overview of data collection activities for the 1996 Medical Expenditure Panel Survey Nursing Home Component

Data Subject	Screener/ Recruitment Round[1]	Round 1[2]	Round 2[3]	Round 3[4]
Nursing home	• Verify address • Administrator's name • Recruit facility	• Structure/eligibility • Staffing • Rate schedule • Sample current residents	• Services • Update facility rate schedule • Sample first admissions • Characteristics of transfer NH	• Revenue and expenses • Update staffing • Sample first admissions • Characteristics of transfer NH
January 1st residents[5]	No data collection	• Residence history • Health status at baseline • Incident health conditions • Demographic background • Insurance • P-Meds use	• Update residence history • NH expenditures • P-Meds use • Use of health services • Incident health conditions • Identify community respondents • Community data collection[6]	• Update residence history • NH expenditures • Incident health conditions • Health status at end of year • P-Meds use • Use of health services
Residents admitted 1/1/96 - 6/30/96	No data collection	No data collection	• Residence history • Health status at baseline • Health status 90 days after baseline • Incident health conditions • Demographic background • Insurance • NH expenditures • P-Meds use • Use of health services • Identify community respondents • Community data collection[6]	• Update residence history • Health status 90 days after baseline • Incident health conditions • NH expenditure data • P-Meds use • Use of health services
Residents admitted 7/1/96 - 12/31/96	No data collection	No data collection	No data collection	• Residence history • Health status at baseline • Health status 90 days after baseline • Incident health conditions • Demographic background • Insurance • NH expenditures • P-Meds use • Use of health services • Identify community respondents • Community data collection[6]

Notes:

[1] Conducted 1/96-2/96 by telephone.

[2] Conducted 3/96-6/96 in person.

[3] Conducted 8/96-1/97 in person.

[4] Conducted 4/97-8/97 in person.

[5] Current residents as of 1/1/96.

[6] Conducted by telephone.

Note: NH is nursing home. P-Meds are prescribed medicines.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

MEPS

Table 5. Major sampled facility-level data items, by round of data collection: 1996 Medical Expenditure Panel Survey Nursing Home Component

Round 1

  Facility Questionnaire (FQ)

  Whether the sampled facility/unit(s) is freestanding or part of a larger facility or campus (e.g., part of a retirement center, hospital). All parts of the larger facility (e.g., nursing unit, assisted living, independent living) are enumerated as to:
    Place type (e.g., nursing, assisted living)
    Name of place
    Number of beds/units

Characteristics of eligible facility/unit:
    Whether it has any unlicensed beds (e.g., personal care unit)
    All unlicensed (non-nursing) units are enumerated as to:
        Place type   Name of place
        Number of beds/units   Year unit began operation

    Whether it has any special care units (e.g., Alzheimer's unit)
    All special care units are enumerated as to:
        Unit type   Unit name
        Number of beds/units   Number of residents
        Year unit began operation
        Whether unit has any Medicare residents
        Whether unit has any Medicaid residents
        Whether unit has direct care staff dedicated to it

    Certification status by Medicare and Medicaid
        Number of Medicare beds
        Number of Medicaid beds
        Number of dually certified beds
        Number of noncertified beds in sampled facility/unit

    Number of residents:
        In eligible facility/unit
        With Medicare as primary source of payment
        With Medicaid as a source of payment
        With private pay as only source of payment

    Size, ownership type, and chain membership

Sampling Section of FQ directs interviewer in sampling 4 January 1st residents from eligible facility/unit and sets up person-level data collection (name of sampled person, etc.)

Table 5. Major sampled facility-level data items, by round of data collection: 1996 Medical Expenditure Panel Survey Nursing Home Component (continued)

Self-Administered Questionnaire (SAQ)

Medicare and Medicaid provider numbers

Number of admissions to eligible LTC place in 1995

Number of nursing staff employees, by type (RN, LPN, aide), for 1st full week in January

Number of nursing staff hired by facility from agencies as registry or pool staff, by type

Wage rate for entry-level nursing aide at facility

Nursing wage rates for RNs and LPNs for both employee and agency staff

Hard Copy of Sampled Facility's Rate Schedule

Round 2

Facility Questionnaire

Updated Medicare/Medicaid certification status
        For newly certified facilities, information on:
                Number of beds certified by Medicare, Medicaid, and dually certified
                Number of residents with Medicare, Medicaid, and private pay as a source of payment

Characteristics of sampled facility/unit
        Accreditation by JCAHO
        Population group primarily served

        Availability of specially trained providers at the facility routinely providing services to residents:
                Physical therapist   Speech therapist
                Occupational therapist   Respiratory therapist
                Audiologist   Podiatrist
                Dentist   Dental hygienist
                Nutritionist/dietitian   Psychiatrist
                Psychologist   Psychiatric social worker
                Psychiatric nurse   Optometrist
                Pharmacist   Other mental health professional
                Special education provider/teacher

Table 5. Major sampled facility-level data items, by round of data collection: 1996 Medical Expenditure Panel Survey Nursing Home Component *(continued)*

Services provided routinely onsite to residents:
- Ventilator care
- Dialysis
- Isolation (for highly contagious conditions or compromised immune system)
- Intravenous therapy
- Tube feeding

Other services provided to residents:
- Hearing tests
- Transportation services for health care

Whether facility vaccinated residents and proportion of residents vaccinated for:
- Influenza
- Pneumonia

Services routinely provided onsite to nonresidents:
- Adult day care
- Dialysis
- Family support service
- Rehabilitation therapy (physical, occupational, or speech therapy)
- Case-management services

Services routinely provided to nonresidents off-site:
- Home-delivered meals
- Infusion therapy
- Hospice services
- Wound care or other post-acute skilled nursing care
- Homemaker/chore services
- Rehabilitation therapy
- Case-management services

Admission and discharge policies
Whether facility provided respite care and number of respite beds

Characteristics of larger facility (if sampled facility/unit is part of larger facility)

Population groups served

Availability of services routinely provided by larger facility to residents:
- Physical therapy
- Occupational therapy
- Hearing therapy
- Dental services
- Mental health services
- Intravenous therapy
- Tube feeding
- Speech therapy
- Respiratory therapy
- Podiatry
- Nutritional services
- Ventilator care
- Dialysis

Table 5. Major sampled facility-level data items, by round of data collection: 1996 Medical Expenditure Panel Survey Nursing Home Component *(continued)*

Services routinely provided by larger facility to nonresidents:

Adult day care	Home-delivered meals
Homemaker services	Home health care
Hospice care	Case-management services

Characteristics of physicians who provide services in sampled facility/unit:

Whether facility had contract with a group of physicians
Whether facility billed for physician care through the facility basic or ancillary rate
Names of all physicians who bill through facility
Whether group billed through facility entirely or sometimes

Whether there are other physicians for whom the facility bills for care through the basic or ancillary rate
Names of all physicians who bill through facility
Whether physician bills through facility entirely or sometimes

Round 2 Sampling Questionnaire

Directs interviewer on sampling 2-3 persons who were admitted to the facility 1/1-6/30/96 and sets up person-level data collection

Missing Round 1 Self-Administered Questionnaire

Facility Rate Schedule Form

Retrieves missing rate schedule information

Obtains billing rate for each special care unit facility is known to have

Whether the facility has special private-pay billing rates with health maintenance organizations

Billing rate amounts

Table 5. Major sampled facility-level data items, by round of data collection: 1996 Medical Expenditure Panel Survey Nursing Home Component *(continued)*

Round 3

Round 3 Facility Questionnaire (Cost-of-Patient-Care Questionnaire)

Number of residents in sampled facility/unit last night (late spring 1997)

Whether the facility filed a Medicaid cost report annual financial report; date of report

Revenue and expense data for the facility:

Total patient revenues	Total patient days
Total patient expenses	Total nonpatient revenues

Total revenues and patient days from following sources:

Medicaid	Medicare
Private pay	Veterans Affairs
Other sources	

Round 3 Sampling Questionnaire

Directs interviewer on sampling 2-3 persons who were admitted to the facility 7/1-12/31/96 and sets up person-level data collection

Round 3 Self-Administered Questionnaire

Number of nursing staff employees, by type (RN, LPN, aide), for last full week in December

Number of nursing staff hired by facility from agencies as registry or pool staff, by type

Wage rate for entry-level nursing aide at facility

Nursing wage rates for RNs and LPNs for both employee and agency staff

Number of nursing staff hired, by type, during 1996

Number of physicians caring for eligible LTC place/unit residents

Criteria used for a physician to obtain practice privileges at facility

Number of physicians who are salaried employees of the facility

Note: JCAHO is Joint Commission on Accreditation of Healthcare Organizations. LPN is licensed practical nurse. LTC is long-term care. RN is registered nurse.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

Table 6. Major data items collected in facility Residence History (RH) section of person-level questionnaire: 1996 Medical Expenditure Panel Survey Nursing Home Component

Reference period for RH data for sampled persons:

    January 1st sample:
        Start—date of most recent community stay prior to 1/1/96
        End—12/31/96

    Sample of admissions:
        Start—1/1/96 or date of most recent community stay prior to 1/1, whichever occurs first
        End—12/31/96[1]

Place types for which RH data are collected:

    Eligible LTC[2] —such places as freestanding nursing homes and LTC nursing units of retirement centers, CCRCs, hospitals, and VA centers

    Ineligible long-term care[3]—such places as residential care facilities, board and care homes, assisted living facilities, and group homes

    Hospitals—all hospital types

    Community—includes independent living units in retirement centers as well as private homes and apartments

Information collected about all stays:

    Beginning and end dates of stay

    Place type

    Place type typology

Information collected about stays in a nursing home/unit (eligible LTC):[2]

    Name and address of place/unit where stay occurred

    Whether a formal discharge occurred

    If facility has multiple units:[4]

        Which unit the stay occurred in

        Whether stay was in an LTC nursing unit

    Whether facility was on the sampling frame

Table 6. Major data items collected in facility Residence History (RH) section of person-level questionnaire: 1996 Medical Expenditure Panel Survey Nursing Home Component (continued)

Information collected about hospital stays:[5]

> Name and address of place/unit where stay occurred

> Whether stay was in an LTC nursing unit (e.g., skilled nursing facility unit)

> Type of hospital (if not already available)

> Main diagnosis that caused the hospitalization[6,7]

Information collected about ineligible LTC stays:[3]

> Name and address of place/unit where stay occurred

> Whether stay was in an LTC nursing unit

> Whether place provided help with bathing or dressing[8]

Information collected about stays in the community:

> Who lived with person

> Whether person received formal home health services

> City, State, and ZIP Code of the community stay immediately prior to start of institutionalization episode

[1] For persons admitted during last quarter of 1996, the Health Status questionnaire collects some residence history information for the period 1/1/97 to 90 days after admission.

[2] An eligible LTC place is defined as a place/unit certified by Medicare or Medicaid, or licensed as a nursing home with 3 or more beds and providing 24-hour onsite supervision by an RN or LPN 7 days a week, 24 hours a day.

[3] An ineligible LTC place is defined as a place/unit not licensed or certified (i.e., not a nursing home), with services provided for personal care such as assistance with bathing or dressing.

[4] For example, nursing facilities that are part of a retirement center or hospital, or nursing facilities that contain special care units such as Alzheimer's or rehabilitation units; this information is initially collected in the Facility Questionnaire (see Table 5).

[5] To reduce the burden on facility respondents, for most hospital stays, details about the hospital were obtained from American Hospital Association data.

[6] Collected only for hospital stays that occurred during 1996.

[7] The main diagnosis of a hospital stay could be collected with the RH or Health Status section of the questionnaire, depending on where the interviewer finds the information.

[8] Information is not collected if the ineligible LTC unit/place is part of the sampled facility. (Sampled facility structure is collected with the Round 1 Facility Questionnaire.)

Note: CCRC is continuing care retirement center. LTC is long-term care. VA is Department of Veterans Affairs.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

Table 7. Overview of health status data items collected in nursing home, by sample type, time points of measurement, and whether question wording based on minimum data set (MDS): 1996 Medical Expenditure Panel Survey Nursing Home Component

Health status data item	Collected for the January 1st sample, measured at:		Collected for sample of admissions, measured at:		Collected for both samples, measured for:	Question wording based on Version 2 of MDS
	Baseline, 1/1/96	Time 2, 12/31/96[1]	Baseline, key admission date [2]	Time 2, key admission date plus 90 days[1,3]	All of 1996[1]	
History of mental retardation, mental illness, or developmental disability	[4]X		[4]X			X
Advance directives:						
Living will	X		X			X
Do not resuscitate	X		X			X
Do not hospitalize	X		X			X
Feeding/medication restriction	X		X			X
Person comatose	X	X	X	X		
Memory/cognitive skills:						
Short-term memory	X	X	X	X		X
Long-term memory	X	X	X	X		X
Recall ability (4 items)	X	X	X	X		X
Independence in daily decisions	X	X	X	X		X
Hearing/communication:						
Condition of hearing	X		X			X
Hearing aid use	X		X			
Ability to communicate	X		X			X
Ability to see	X		X			X
Behavioral symptoms:						
Wandering	X	X	X	X		X
Verbally abusive	X	X	X	X		X
Physically abusive	X	X	X	X		X
Disruptive behavior	X	X	X	X		X
Resistance to care	X	X	X	X		X

Table 7. Overview of health status data items collected in nursing home, by sample type, time points of measurement, and whether question wording based on minimum data set (MDS): 1996 Medical Expenditure Panel Survey Nursing Home Component *(continued)*

Health status data item	Collected for the January 1st sample, measured at:		Collected for sample of admissions, measured at:		Collected for both samples, measured for:	Question wording based on Version 2 of MDS
	Baseline, 1/1/96	Time 2, 12/31/96[1]	Baseline, key admission date [2]	Time 2, key admission date plus 90 days[1,3]	All of 1996[1]	
Self-performance in:						
Transferring	X	X	X	X		X
Locomotion on unit	X	X	X	X		X
Dressing	X	X	X	X		X
Eating	X	X	X	X		X
Toilet use	X	X	X	X		X
Modes of locomotion:						
Cane/walker	X	X	X	X		X
Wheeled, self	X	X	X	X		X
Wheeled, other person	X	X	X	X		X
Continence						
Bowel control	X		X			X
Bladder control	X		X			X
Psychosocial well-being:						
Interacts with others	X		X			X
Plans or structures activities	X		X			X
Establishes own goals	X		X			X
Pursues involvement	X		X			X
Accepts invitations	X		X			X
Has absence of contact	X		X			X
Active diagnoses and conditions on MDS assessment	X		X			X

Table 7. Overview of health status data items collected in nursing home, by sample type, time points of measurement, and whether question wording based on minimum data set (MDS): 1996 Medical Expenditure Panel Survey Nursing Home Component *(continued)*

Health status data item	Collected for the January 1st sample, measured at:		Collected for sample of admissions, measured at:		Collected for both samples, measured for:	Question wording based on Version 2 of MDS
	Baseline, 1/1/96	Time 2, 12/31/96[1]	Baseline, key admission date [2]	Time 2, key admission date plus 90 days[1,3]	All of 1996[1]	
Active infections at date:						
Clostridium difficulty	X		X			X
HIV	X		X			X
Conjunctivitis	X		X			X
Methicillin resistant staph	X		X			X
Pneumonia	X		X		X	X
Respiratory infection	X		X			X
Septicemia	X		X		X	X
Sexually transmitted diseases			X			X
Tuberculosis	X		X			X
Urinary tract infection	X		X		X	X
Viral hepatitis	X		X			X
Wound infection	X		X			X
Any other active diagnoses or conditions in medical record	X		X			
Fractures, by site	X		X		X	X
Did person experience:						
Dehydration	X		X			X
Delusions	X		X			X
Hallucinations	X		X			X
Oral/nutritional status						
Chewing problem	X		X			X
Swallowing problem	X		X			X
Mouth pain	X		X			X

Table 7. Overview of health status data items collected in nursing home, by sample type, time points of measurement, and whether question wording based on minimum data set (MDS): 1996 Medical Expenditure Panel Survey Nursing Home Component *(continued)*

Health status data item	Collected for the January 1st sample, measured at:		Collected for sample of admissions, measured at:		Collected for both samples, measured for:	Question wording based on Version 2 of MDS
	Baseline, 1/1/96	Time 2, 12/31/96[1]	Baseline, key admission date [2]	Time 2, key admission date plus 90 days[1,3]	All of 1996[1]	
Height	X		X			X
Weight	X	X	X	X		X
Dental health:						
Debris in mouth	X		X			X
Dentures	X		X			X
Tooth loss	X		X			X
Broken/carious teeth	X		X			X
Inflamed gums	X		X			X
Pressure sores	X		X		X	X
Active	X		X			X
Stage	X		X			X
Restraint devices:						
Bed rails	X	X	X	X		X
Trunk restraint	X	X	X	X		X
Limb restraint	X	X	X	X		X
Chair prevents rising	X	X	X	X		X
Main reason/diagnosis for hospitalization(s)					[5,6]X	
Items specific to MDS record identification:						
Date of form	X	X	X	X		X
Type of MDS form	X	X	X	X		X
Version of MDS	X	X	X	X		X

Table 7. Overview of health status data items collected in nursing home, by sample type, time points of measurement, and whether question wording based on minimum data set (MDS): 1996 Medical Expenditure Panel Survey Nursing Home Component *(continued)*

| Health status data item | Collected for the January 1st sample, measured at: | | Collected for sample of admissions, measured at: | | Collected for both samples, measured for: | Question wording based on Version 2 of MDS |
	Baseline, 1/1/96	Time 2, 12/31/96[1]	Baseline, key admission date [2]	Time 2, key admission date plus 90 days[1,3]	All of 1996[1]	
Miscellaneous items on MDS form:						
Medicaid ID number	X		X			X
Medicare ID number	X		X			X
Social Security number	X		X			X
Level of education	X		X			X

[1] Collected only if person is still in an eligible facility/unit on reference date.

[2] Collected at time of first admission to the facility excluding any readmissions from a hospital.

[3] Collected if key admission date plus 90 days occurs during 1996 or 1997 and person is still in an eligible facility/unit on the reference date.

[4] Collected at time of first admisssion as part of the pre-admission screening.

[5] If reason for hospitalization(s) was not collected in the Residence History section, it is collected here. If the person is admitted to an emergency room (ER) during the course of the 1996 nursing home stay, the main reason/diagnosis for the ER visit is collected in the Health Services Use section rather than the Health Status section.

[6] Health Status section also collects dates of hospitalization in 1997 and reason for hospitalization if key admission date plus 90 days occurs during 1997.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

Table 8. Overview of demographic data items collected in nursing home and community questionnaires, by primary and secondary data source for item: 1996 Medical Expenditure Panel Survey Nursing Home Component

Demographic data items	Facility is primary source		No primary source; collected in both facility and community	Community is primary source	
	Collected in facility only	Collected in facility; missing data collected in community		Collected in both community and facility	Collected in community only
Background					
Age [1,2]		X			
Sex [1,2]		X			
Race				X	
Hispanic descent		X			
Prior lifetime use of LTC			X		
Type of facility			X		
When			X		
Education[3]				X	
Veterans' status		X			
Marital status[2,4]		X			
Spouse's residence		X			
Ownership of spouse's home		X			
Spouse's health status				X	
Numbers of living daughters, sons, sisters, and brothers (4 items)				X	
Vital status of parents (2 items)[5]				X	
Reason for entry to facility (8 items)					X
Insurance coverage					
Ever Medicaid covered		X			
Medicaid coverage at baseline[2,6]		X			
Date of first coverage		X			
Place of first coverage[6]		X			
Medicaid coverage at admission		X			
Medicare Part A coverage[2,6]	X				
Medicare Part B coverage[2,6]	X				
Private health insurance (e.g., Medigap) coverage[6]			X		

Table 8. Overview of demographic data items collected in nursing home and community questionnaires, by primary and secondary data source for item: 1996 Medical Expenditure Panel Survey Nursing Home Component *(continued)*

Demographic data items	Facility is primary source		No primary source; collected in both facility and community	Community is primary source	
	Collected in facility only	Collected in facility; missing data collected in community		Collected in both community and facility	Collected in community only
Private LTC coverage[6]			X		
Did policy pay for nursing home costs?					X
Did policy pay family directly?					X
Amount paid to family					X
Did family members other than sampled person/spouse pay any NH costs?					X
CHAMPUS/CHAMPVA coverage[6]	X				
Other VA contract coverage[6]	X				
Other public assistance health insurance coverage[6]	X				
Income and assets					
Any Social Security income				[7]X	
Amount last month				[7]X	
Any pension income				[7]X	
Amount last month					X
Any income from other sources					X
Total 1995 income					X
Home ownership by person				[7]X	
Worth of home					X
Any financial assets at admission					X
Worth of assets					X

[1] Actually asked in the Residence History rather than Background section of questionnaire in order to set up question word fills for all subsequent questionnaire sections.

[2] If the first facility respondent fails to provide this information, it is retrieved from other facility respondents during the current round.

[3] In the facility, this information can be collected as part of the Background or Health Status section, depending on where the interviewer finds the information first.

[4] For January 1st residents, measured at January 1 and the key admission date; for admissions, measured at the key admission date.

[5] Only asked of persons under 65 years of age.

[6] For January 1st residents, measured at January 1; for admissions, measured at the key admission date.

[7] Facility-reported data were collected in the Expenditure section of the questionnaire for all persons in an NH any time during Round 3.

Note: CHAMPUS and CHAMPVA are the Civilian Health and Medical Programs of the Uniformed Services and Department of Veterans Affairs, respectively. LTC is long-term care. NH is nursing home.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

Table 9. Major data items collected in facility Prescribed Medicines section of the person-level questionnaire: 1996 Medical Expenditure Panel Survey Nursing Home Component

Prescribed medicine data are collected for each person for each month during 1996 that the person was a resident of an eligible facility/unit:

Whether any prescribed medicines were administered that month

Name of each prescribed medicine, including any given PRN (when needed)

Form, strength, and dosage of the prescribed medicine[1]

Frequency of administration during the month

Whether the prescribed medicine was discontinued during the month

[1] These data are not collected for over-the-counter medicines prescribed by a physician.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996

Table 10.   Major data items collected in the facility Expenditures section of the person-level questionnaire: 1996 Medical Expenditure Panel Survey Nursing Home Component

This information is collected for persons admitted to the sampled facility/unit prior to January 1, 1996 (January 1st residents):
　　　Primary source of payment at the time of admission (key admission date)

Collected for each person for the time during 1996 that the person used an eligible facility/unit:
　　　Whether there was a charge for basic care
　　　　　　　Reason for no charge
　　　Whether the person was billed separately for health-related ancillary charges
　　　Length of facility billing period (BP)

Collected for each person, for each BP, for the time during 1996 that the person used an eligible facility/unit:
　　　Number of days billed for care
　　　　　　　Why number of days in the BP is different from number of days care was billed for
　　　Rates billed for basic care
　　　　　　　Number of days at each rate
　　　Sources of payments for BP and amount of payments from each source; possible sources:
　　　　　　　Medicaid　　　　　　　　　　　Private pay
　　　　　　　Sampled person's/family's income　　Social Security
　　　　　　　Private health insurance　　　　　Pension
　　　　　　　VA contract　　　　　　　　　　HMO contract
　　　　　　　Medicare Part A　　　　　　　　Other
　　　Whether ancillary charges were billed:
　　　　　　　Total ancillary charges
　　　　　　　Sources of payments and amount of payments from each source

Items used to reconcile inconsistent billing amounts with payment amounts, collected when necessary:
　　　Why Medicare paid for care but stay in the eligible facility was not preceded by a hospital stay
　　　Why total amount billed is not equal to the sum of the sources of payments
　　　Why Medicare/Medicaid is a source of payment in a facility that is not certified by Medicare/Medicaid
　　　Why Medicare/Medicaid is a source of payment when person's insurance coverage data indicates person was not covered by Medicare/Medicaid
　　　Why Medicaid is not a source of payment in the BP when it was a source of payment in previous billing periods
　　　When Medicare is a source of payment and Medicare payments in the BP are < 10 percent of the total BP payment, verify that Medicare is not Medicare Part B rather than Medicare Part A
　　　For persons with LTC insurance, determine why the LTC insurance is not a source of payment

Note: HMO is health maintenance organization. LTC is long-term care. VA is Department of Veterans Affairs.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

Table 11.   Major data items collected in the facility Health Services Use section of the person-level questionnaire: 1996 Medical Expenditure Panel Survey Nursing Home Component

Health services use information is collected for each sampled person for the time during 1996 that the person was resident in an eligible facility/unit:

While a resident of the facility, did person see a:
        Physician outside of the facility
                Number of visits

        Physician within the facility
                Name of doctor who provided care
                Number of visits

        Dental provider
                Number of visits

        Psychiatrist or other mental health provider
                Type of provider
                Number of visits
                Whether therapy was individual, group, or both

        Podiatrist

While a resident of the facility, did person receive any:
        Physical therapy
                Frequency of therapy
                Time period over which therapy was provided

        Occupational therapy
                Frequency of therapy
                Time period over which therapy was provided

Table 11. Major data items collected in the facility Health Services Use section of the person-level questionnaire: 1996 Medical Expenditure Panel Survey Nursing Home Component *(continued)*

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       Speech and hearing therapy
              Frequency of therapy
       Respiratory therapy
       Intravenous therapy

       Educational or habilitation services
              Frequency of therapy, by type
              Time period over which service was provided

While a resident, did person have any:
       Hospital emergency room visits
              Date of each emergency room visit
              Main reason or diagnosis
       Visits to the hospital without an overnight stay[1]
              Number of visits

Characteristics of physicians who provide services in the eligible facility/unit (if not previously collected with Round 2 Facility Questionnaire):
       Whether facility had contract with a group of physicians
              Whether facility billed for physician care through the facility basic or ancillary rate
              Names of all physicians who bill through facility
              Whether group billed through facility entirely or sometimes
       Whether there are other physicians for whom the facility bills for care through the basic or ancillary rate
              Names of all physicians who bill through facility
              Whether physician bills through facility entirely or sometimes

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[1] Visits to the hospital with an overnight stay are collected in the Residence History section. See Table 6.
Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

Table 12. Overview of data items collected in the Community Questionnaire: 1996 Medical Expenditure Panel Survey Nursing Home Component

This information is collected for each sampled person for whom a cooperating community respondent was identified:

    Residence history information [1]
        Whereabouts of the person prior to admission [2]
        Whereabouts of the person after discharge from sampled facility or a transfer facility [3]
    Background and insurance information [4]
    Reason for admission to the eligible facility/unit (8 items)
    Health status of person immediately prior to admission:

Physical health status	Mental health status
ADL supervision required	IADL supervision required
Use of walker/grab bars	Difficulty in locomotion
Memory loss	

    Income and assets of sampled person[4]

This information is collected for persons sampled as an admission if they were admitted to the sampled facility/unit either directly from the community or from a hospital stay that was immediately preceded by a stay in the community (and if a cooperating community respondent could be identified for the sampled person):

    Potential caregiver network (limited to the person's children and all members of the sampled person's household prior to admission), including information on:
        Age of potential caregiver
        Sex of potential caregiver
        Potential caregiver's relationship to person

    Characteristics of persons who provided caregiving assistance[5] to the sampled person or who arranged for the sampled person to receive paid care:

        Data items collected for those who provided caregiving assistance[5] and were immediate family members of the sampled person (limited to the person's spouse, children, parents, siblings, and the wives of married sons) who provided caregiving assistance:

Age	Caregiver's relationship to person
Sex	Marital status
Place of residence[6]	Whether minor children lived in home of caregiver[8]
Health status[7]	Whether caregiver had a job and whether the job was
Level of education[7]	full time
Whether the caregiver lived with the person	Whether caregiver also arranged for paid care

Table 12. Overview of data items collected in the Community Questionnaire: 1996 Medical Expenditure Panel Survey Nursing Home Component *(continued)*

Items collected for all persons who provided caregiving assistance[5] but were not immediate family members (i.e., not a spouse, child, parent, sibling, or the wife of a married son who provided care), including paid and unpaid caregivers:

Age of caregiver	Caregiver's relationship to person
Sex of caregiver	Whether caregiver also arranged for paid care
Whether caregiver lived with the person	

Items collected for persons who did not provide caregiving assistance[5] but who arranged for the sampled person to receive paid care:

Age of arranger	Arranger's relationship to person
Sex of arranger	Whether the arranger lived with the person

Information, by caregiver, on the type of care provided (enumerated for all unpaid and paid caregivers), including:

Whether the caregiver provided skilled care
Whether the caregiver provided ADL assistance
Whether the caregiver provided IADL assistance
Frequency of care provided
Who arranged for the care to be provided
Whether the care provided was paid or unpaid care
Which caregiver helped the most

Characteristics of the sampled person's children who did not provide caregiving assistance[5] (limited to a maximum of 4 children and the wives of those children),[9] including:

Age	Marital status
Sex	Whether minor children lived in the home
Place of residence[6]	of the non-caregiver[8]
Health status[7]	Whether the non-caregiver had a job and whether
Level of education[7]	the job was full time
Non-caregiver's relationship to person	Whether the non-caregiver lived with the sampled person

[1] Data items collected from community respondents on the preadmission and post-discharge nursing home stays are comparable to items in the facility Residence History section (see Table 6 for details), although not collected for all sampled persons.

[2] Collected for all persons sampled as an admission. For January 1st residents admitted to the eligible facility in 1995 or 1996, preadmission data from the community respondent are obtained only when the sampled facility cannot provide the information, and are limited to retrieving the key admission date and the place type of the stay immediately prior to admission. Otherwise, community Residence History data were not collected for persons sampled as January 1st residents.

Table notes continued on next page.

Table 12. Overview of data items collected in the Community Questionnaire: 1996 Medical Expenditure Panel Survey Nursing Home Component *(continued)*

[3] Collected for all sampled persons discharged from the eligible facility. For persons sampled during Round 1 (January 1st residents) or Round 2 (half of the admissions sample) who did not reside in an eligible facility at the end of Round 2, a Round 3 Community Questionnaire is conducted to update residence history data.

[4] See Table 8 for details on these data items.

[5] Care was defined as assistance with any one of the following activities: bathing, dressing, getting around the house, taking medications, paying bills, preparing light meals, doing laundry, going shopping, getting to places outside of walking distance, shots or injections, catheter or ostomy care, intravenous or oxygen therapy, or wound care.

[6] Limited to city, State, and ZIP Code.

[7] These items were not collected on daughters in law.

[8] This item was not asked for the wives of the married sons but was asked for the married sons.

[9]   In situations where the sampled person had more than 4 children who did not provide care, these data were collected on a random sample of 4 children; this process was built into the computer-assisted personal interview (CAPI) program. If a married son was selected as one of the 4, similar data were collected for the son's wife. If the sampled person had 4 or fewer children who did not provide care, these data were collected on all children and associated daughters in law.

Note: ADLs are activities of daily living. IADLs are instrumental activities of daily living.

Source: Agency for Health Care Policy and Research, Medical Expenditure Panel Survey Nursing Home Component, 1996.

Appendix. List of Acronyms and Terms Used in This Report and in the MEPS Nursing Home Component Questionnaires

ADLs   Activities of daily living.

AHA   American Hospital Association. The NHC CAPI application contained a preloaded Hospital Provider Directory that interviewers used during data collection to obtain address information on hospitals. The AHA file of hospitals was used as the source data for the directory.

AHCPR   Agency for Health Care Policy and Research.

APHA   American Public Health Association.

B   Baseline, initial assessment date for the health status and insurance coverage questions. B was measured at January 1, 1996, for the January 1st sample and at the key admission date for persons sampled as an admission.

BCAVD   Closest valid assessment date for baseline health status data.

BP   Billing period.

BQ   1. Background Questionnaire, also known as the Facility Background Questionnaire.
                2. Used to denote the background history and demographic questions.

BRK   Break-off, a partially completed interview.

C   A questionnaire disposition code indicating a completed questionnaire.

CADE   Computer-assisted data entry.

CAI   Computer-assisted interview.

CAPI   Computer-assisted personal interview.

CCRC   Continuing care retirement center.

CED   Community end date, the end date of the most recent time the sampled person lived in the community.

CHAMPUS   Civilian Health and Medical Program of the Uniformed Services, a health insurance program that covers both active-duty and retired military personnel, their dependents, and survivors.

CHAMPVA   Civilian Health and Medical Program of the Department of Veterans Affairs, a health insurance program that covers disabled veterans, their dependents, and survivors.

COMM   Community places of residence, one of the four place type designators used in the MEPS NHC. It includes all independent living units of retirement centers as well as private homes or apartments.

CPCQ   Cost-of-Patient-Care Questionnaire, the Round 3 Sampled Facility Questionnaire.

CQ   1. Community Questionnaire. 2. Used to denote questions that are asked only of community respondents (e.g., caregiving data).

CR   Current residents, sampled persons who were resident in a sampled NH on January 1, 1996. These persons were all sampled during Round 1.

CRQ   Consent required, a questionnaire disposition code indicating that consent of the sampled person's next of kin was required prior to data collection.

CRR   Community Respondent Roster, a paper questionnaire used to obtain names and locating information on persons nominated as potential community respondents for the sampled person.

CTRL/A   A preprogrammed CAPI function key that the interviewer used to add a new text line to a list of items (e.g., a roster) displayed by CAPI.

CTRL/B   A preprogrammed CAPI function key that the interviewer used to navigate the CAPI application backward one screen at a time.

CTRL/D   A preprogrammed CAPI function key that the interviewer used to delete a text item from a list of items displayed by CAPI; typically used to correct an entry.

CTRL/E   A preprogrammed CAPI function key that the interviewer used to break off an interview for resumption later.

CTRL/F   A preprogrammed CAPI function key that the interviewer used to navigate the CAPI application forward one screen at a time within an episode of backward movement.

CTRL/G   A preprogrammed CAPI function key that the interviewer used to "fast forward" the CAPI application to the next field with no data entry.

CTRL/J   A preprogrammed CAPI function key that the interviewer used to open a "jumpback" menu window; used to navigate the application backward across multiple screens simultaneously.

CTRL/K   A preprogrammed CAPI function key that the interviewer used to open a comment window.

CVAD   Closest valid assessment date for health status items. For January 1st residents, measured at January 1 and December 31, 1996. For persons sampled as admissions, measured at the key admission date and 90 days after the key admission date. Some health status items are also measured across all of 1996.

DE   Data entry.

DHHS   Department of Health and Human Services.

DK   Don't know, indicated in the public use database as a " − 8".

DOA	Dead on arrival.
DOB	Date of birth.
DOD	Date of death.
DOI	Date of interview.
DON	Director of Nursing.
Dx	Diagnosis.
EF	Eligibility code used to identify an eligible first admission.
ELIG LTC	Eligible long-term care place, one of the four place type designators used in the MEPS NHC. It is defined as a facility or distinct part of a facility certified by Medicare as a skilled nursing facility or by Medicaid as a nursing facility, or licensed as a nursing home with three or more beds that provides onsite supervision by an RN or LPN 7 days a week, 24 hours a day.
ER	Emergency room.
EX	1. Expenditure Questionnaire. 2. Used to denote questions on NH expenditures and sources of payment.
F2	A sampled person whose first admission to the sampled nursing home in 1996 was on or between 1/1/96 and 6/30/96; a person sampled as a first admission during Round 2.
F3	A sampled person whose first admission to the sampled nursing home in 1996 was on or between 7/1/96 and 12/31/96; a person sampled as a first admission during Round 3.
FA	1. First admission, sampled person admitted to the sampled nursing home during 1996 on January 1 or later who had no earlier admission to any eligible nursing home (F2 and F3). 2. Denotes questions in the Round 1 Facility Questionnaire on the structure and basic characteristics of the NH.
Face sheet	Document used by the interviewing staff to manage their interviewing assignments.
FACILITY	A nursing home, used to denote the NH where data collection is occurring or to indicate data collected from NH sources.
FB	Identifies facility-level questions on the services provided by the nursing home.
FC	1. Identifies questions in the Round 3 Sampled Facility Questionnaires on cost of patient care and NH revenues. 2. Facility complete, a questionnaire disposition code.
FCD	Final consent denied, a questionnaire disposition code.
FG	Facility Records Organizational Grid, a form used by the interviewers to determine the best NH respondents, by type of information to be collected. Also know as the FROG.

FLU	Year of first (lifetime) long-term care use.
FQ	Facility Questionnaire. An FQ is administered within sampled and transfer nursing homes each round and is used to collect facility-level information about the nursing home.
FR	1. Facility Rate Schedule, information obtained from the NH (usually as a printed document) on the rates charged NH residents. Also known as FRS. 2. Used to denote items associated with the retrieval of the NH's rate schedule. 3. Final refusal, a questionnaire disposition code.
FROG	Facility Records Organizational Grid; see FG.
FRS	Facility Rate Schedule; see FR.
FTE	Full-time equivalent (employee).
HA	Used to denote the Health Status questions that measure health status at a point in time (e.g., Baseline and Time 2).
HB	Used to denote the Health Status questions that measure health status across time (e.g., all of 1996 while an NH resident).
HC	Used to denote questions concerning the data collection method used to collect health status data in the NH.
HCFA	Health Care Financing Administration.
HMO	Health maintenance organization.
HOSP	Hospital, one of the four place type designators used in the MEPS NHC, included acute or long-term care hospitals. In the case of a hospital with a skilled nursing unit or an eligible long-term care unit, the SNF/LTC unit was classified as an eligible LTC place and the remaining hospital units were classified as appropriate (e.g., hospital).
HS	Health Status Questionnaire administered in the NH.
IA	1. Income and Assets Questionnaire. 2. Used to denote questions on income and assets.
IAD	Inscope admission date, the beginning of the episode of eligible nursing home care; the date of the first admission to the sampled facility, excluding re-admissions following an acute hospital stay.
IADLs	Instrumental activities of daily living.
ICD	Initial consent denied, a questionnaire disposition code.
ICF	Intermediate care facility.
IF	First-admission eligibility code used to denote an ineligible first admission.

IN	1. Insurance Questionnaire, also known as the Facility Health Insurance Questionnaire. 2. Used to denote the health insurance coverage questions.
INEL LTC	Ineligible long-term care place, one of the four place type designators used in the MEPS NHC. It is defined as a facility or distinct part of a facility that is not certified or licensed as an eligible nursing home but provides services for personal care assistance with dressing or bathing.
INMD	Insurance Questionnaire Missing Data Module. If the initial NH respondent was unable to provide the interviewer with data on a sampled person's Medicare and Medicaid coverage, these questions were re-asked of alternative NH respondents in an attempt to acquire complete information on Medicare and Medicaid coverage.
IPC	Institutional Population Component of the 1987 National Medical Expenditure Survey.
January 1st residents	The cross-sectional sample of persons who were resident in the NH on January 1, 1996; also known as "current residents."
JCAHO	Joint Commission on Accreditation of Healthcare Organizations.
KAD	Key admission date, the beginning of the episode of sampled nursing home care; the date of the first admission to the sampled facility, excluding readmission following an acute hospital stay.
KAD unit	The unit within the sampled NH where the sampled person resided at the key admission date.
Keyfitz procedure	A statistical method for improving the efficiency of sample selection.
Larger facility	Some nursing homes are part of a larger organizational or physical structure, such as a continuing care retirement center or a hospital. In these cases, the larger structure (provided it is on the same campus as the NH) is referred to as the "larger facility."
LPN	Licensed practical nurse.
LTC	Long-term care. An LTC place is defined as a place or distinct unit that provides a residence and some surveillance and has assistance available for persons no longer willing or able to live on their own. This includes the following types of places: nursing home, SNF unit of a hospital or retirement center, residential care facility, assisted living facility, board and care home, domiciliary care home, personal care home, rest home, shelter care facility, community living facility, community residential alternative group home for the mentally disabled, group senior assisted housing for the elderly, group care home, adult group home, foster care home, VA home for adults, hospital for the mentally ill or mentally retarded. Long-term care places/units in the MEPS NHC are further classified as either "eligible LTC" (e.g., a nursing home) or "ineligible LTC" (e.g., a personal care unit).
MD	Missing data or Missing Data Module. If the initial NH respondent was unable to provide the interviewer with a key data item (e.g., sex, age, Medicaid insurance coverage, sources of payment), the question (i.e., the missing data item) was re-asked of alternative NH respondents in an attempt to

acquire complete information. The key items for which missing data activities were conducted are specified as part of the various CAPI questionnaires in the Missing Data Module section of each questionnaire. Not all questionnaires have a Missing Data Module.

MDS	Minimum data set.
MEPS	Medical Expenditure Panel Survey.
NA	Item not applicable due to a skip pattern, indicated in the public use database as a " − 1".
NCHS	National Center for Health Statistics.
NF	1. Medicaid certified nursing facility. 2. A new facility, an eligible nursing home (sampled or otherwise) into which a sampled person transferred during 1996; also known as a transfer facility.
NH	Nursing home, an eligible long-term care place, defined as a facility or distinct part of a facility certified by Medicare or Medicaid or licensed as a nursing home with three or more beds that provides onsite supervision by an RN or LPN 7 days a week, 24 hours a day.
NHC	Nursing Home Component of the 1996 Medical Expenditure Panel Survey.
NHPI	National Health Provider Inventory; an updated NHPI served as the sampling frame for the MEPS NHC. To assist in data collection, the sampling frame was preloaded onto each interviewer's laptop computer and used to identify eligible LTC facilities.
NMCES	1977 National Medical Care Expenditure Survey.
NMES	1987 National Medical Expenditure Survey.
NMES-2	Alternative name for the 1987 National Medical Expenditure Survey.
NMES-3	Name previously given to the 1996 Medical Expenditure Panel Survey.
NNHES	National Nursing Home Expenditure Survey, name previously given to the 1996 Medical Expenditure Panel Survey Nursing Home Component.
NNHS	National Nursing Home Survey, a periodic survey conducted by the National Center for Health Statistics.
NOK	Next of kin of the sampled person, the typical respondent for the Community Questionnaire.
Non-nursing beds	Beds that are not certified or licensed to provide residents the level of skilled nursing care, rehabilitation services, or other health-related services that is provided in nursing beds (i.e., beds in an INEL LTC unit).

Nursing beds	Beds that are certified or licensed to provide residents the same level of skilled nursing care, rehabilitation services, or other health-related services that is provided in nursing beds (i.e., beds in an ELIG LTC unit).
Offsite	Outside the premises of the nursing home or facility.
Onsite	On the premises of the nursing home or facility.
OTC	Over-the-counter, medications available without a prescription.
PF	First admission eligibility code used to identify a provisionally eligible first admission. All persons initially classified as PF were eventually classified as eligible or ineligible as additional data became available.
Place roster	A listing of all places enumerated during data collection. The place roster is unique for each participating NH and lists all units within the NH and parts of the larger facility (if the NH is part of a larger facility), as well as hospitals, other LTC places, and community residences ascertained during facility-level and person-level data collection in a nursing home.
PM	1. Prescribed Medicines Questionnaire. 2. Used to denote the questions on prescribed medicines administered in the NH.
PRN	Standing order, administer as necessary.
QR	Questionnaire respondent.
QxQ	Question-by-question specifications; QxQ's provide item-specific information to interviewers on the intent of question wording. In the MEPS NHC these were provided online as part of the CAPI questionnaires.
R1 (R2 and R3)	The first round (second round and third round) of data collection.
RDY	Ready for interviewing, a questionnaire disposition code.
Red Book File	A standard reference of the pharmacy industry that contains detailed information on all medications sold in the United States.
REF	1. Final refusal, a questionnaire disposition code. 2. An item refused by a respondent, indicated in the public use database as a " − 7".
REF DATE	Reference date. The reference date for the MEPS NHC is calendar year 1996. The reference date for a particular person, particular nursing home, or specific questionnaire or question item can vary depending on, among other things, the round of data collection, kind of information to be collected, when the sampled person was sampled, when data collection was initiated in the nursing home, and the current and past location(s) of a sampled person. Questionnaire reference dates can be a point in time or for periods of time. (See this report for details and the MEPS NHC questionnaires for complete reference date specifications.)

| Respondent roster | A facility-level online directory that contains the names, title, and locating information of all potential respondents and all actual respondents within an NH. Questions denoted "RR" indicate items about the questionnaire respondents. |

RF   Refused; see REF.

RH   1. Residence History Questionnaire. 2. Used to denote person-level questions on residence history.

RN   Registered nurse.

ROC   Record of calls, used by the interviewers to document all contacts with the nursing homes and community respondents.

RR   Respondent roster; see Respondent roster.

RRB   Railroad Retirement Board.

SAD   Sampled admission date. For January 1st residents, the date of the most recent admission to the sampled facility prior to January 1, 1996. For persons sampled as first admissions, the date of the first admission to the sampled facility during the reference year (January 1 to December 31, 1996).

SAD unit   The unit within the sampled NH where the sampled person resided at the sampled admission date.

SAQ   1. Self-Administered Questionnaire; a SAQ, distributed to nursing home respondents during Rounds 1 and 3, collected facility-level staffing information. 2. Used to denote questions from the Self-Administered Questionnaires.

SE   First admission eligibility code assigned by the CAPI program to indicate that the sampled person was sampled by the interviewer in error.

SF   Sampled facility, one of the sampled nursing homes.

SHIFT/5   A CAPI function key used to indicate that the respondent "will never know" the information asked for. Denoted in the public use database as a " – 5".

SNF   Medicare skilled nursing facility.

SOP   Source of payment.

SP   Sampled person.

SS   Sampling section, used to denote the question items in the Facility Questionnaire on the sampling of persons within a sampled NH.

SSA   Social Security Administration.

SSDI   Social Security Disability Income.

SSI   Supplemental Security Income.

SSN   Social Security Number.

T2   Time 2, the second assessment point for cross-sectional health status data. It is collected only when the sampled person was a resident of a nursing home at Time 2 point. For January 1st residents, Time 2 is measured at December 31, 1996; for admissions, it is measured at the key admission date plus 90 days.

TAD   Transfer admission date, the date of admission to the eligible facility, either sampled or new, by a sampled person who transfers out of the originally sampled NH to another NH during the reference year (as reported by the transfer facility).

TAD unit   The unit within the transfer facility where the sampled person resided at the time of admission to the transfer facility.

TCVAD   Closest valid assessment date for Time 2 health status data; see T2.

Tentative   An interim disposition regarding the eligibility of a unit within the nursing home
  additions   or within the larger facility (if the NH is part of a larger facility). All units are eventually classified into one of the four place type designators (e.g., eligible LTC, ineligible LTC).

TIME 2   See T2.

TR   Transferred person, used to designate a sampled person within a new facility. These persons were discharged from their sampled nursing home during 1996 and were subsequently admitted to another NH (either a sampled NH or some other NH).

URI   Upper respiratory infection.

US   Used to denote questions from the Use of Health Care Services Questionnaire.

USE   Use of Health Care Services Questionnaire.

VA   Veterans Affairs (Department of).