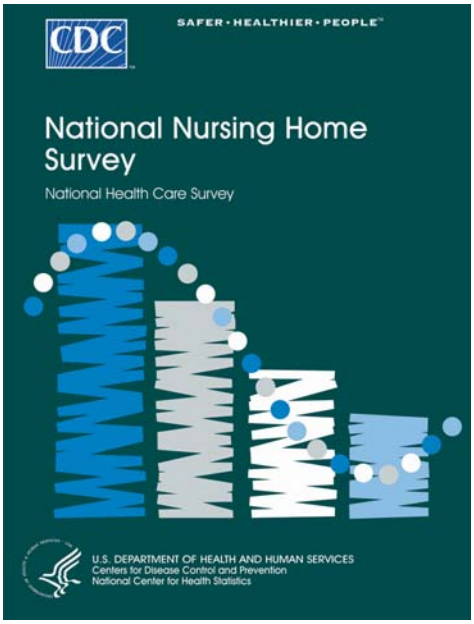
National Nursing Assistant Survey

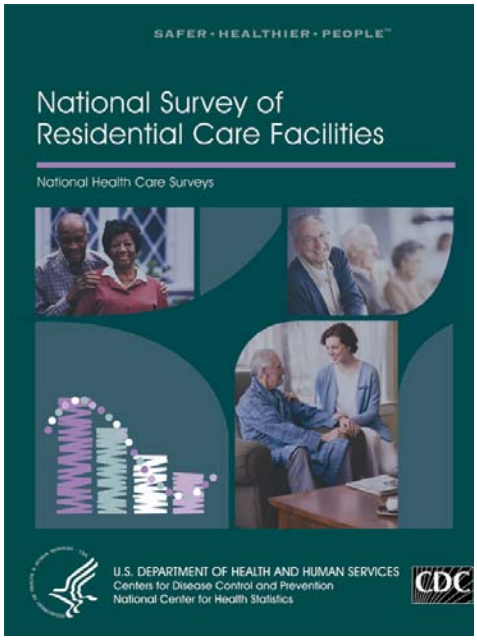


Long-Term Care Statistics Branch

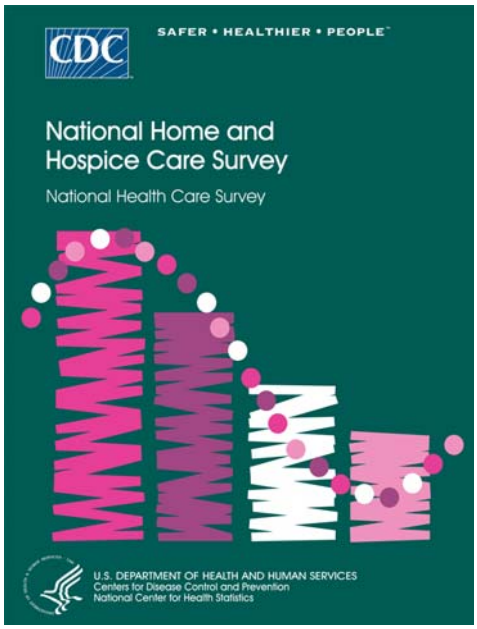
Report to the

Board of Scientific Counselors
and
Review Panel

National Center for Health Statistics



September 5, 2008



National Home Health Aide Survey

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1. Long-Term Care Statistics Branch (LTCSB) within the Division of Health Care Statistics (DHCS)

Organizational Context

The mission of the Long-Term Care Statistics Branch (LTCSB) is to collect, analyze, and disseminate accurate, relevant, and timely data on U.S. long-term care providers, their services, their staff, and the people they serve. These data are intended to provide information to inform decision making by long-term care (LTC) providers, policy makers, and researchers. LTCSB surveys have included the National Nursing Home Survey (NNHS) and its supplemental National Nursing Assistant Survey (NNAS), the National Home and Hospice Care Survey (NHHCS) and its supplemental National Home Health Aide Survey (NHHAS), and the National Survey of Residential Care Facilities (NSRCF).

LTCSB is one of the three branches within the Division of Health Care Statistics (DHCS), which is one of four Divisions in the National Center for Health Statistics (NCHS) (See **Appendix A**). As the Nation's principal health statistics agency, the mission of NCHS is to provide statistical information that will guide actions and policies to improve the health of the American people. The mission of DHCS is to collect, analyze, and disseminate data on access to and use, quality, and cost of U.S. health care and on the health-care organizations and professionals who deliver that care. DHCS conducts the National Health Care Surveys, a family of nationally-representative surveys of encounters and health-care providers in different settings. Data and analyses from these general purpose surveys address topics of interest to providers, policy makers, and researchers, such as the quality and disparities of care among populations, epidemiology of specific medical conditions, diffusion of technologies, effects of policies, and monitoring of changes over time. The National Health Care Surveys share certain design features. Each nationally representative survey samples health-care providers and collects data from encounters sampled within each provider. In addition to the LTCSB surveys, DHCS conducts the following surveys:

- The National Ambulatory Medical Care Survey of office-based physicians and Community Health Centers,
- The National Hospital Ambulatory Medical Care Survey of hospitals with emergency and outpatient departments,
- The National Hospital Discharge Survey of discharges from inpatient departments, and
- The National Survey of Ambulatory Surgery of hospital-based and freestanding ambulatory surgery facilities.

Staffing

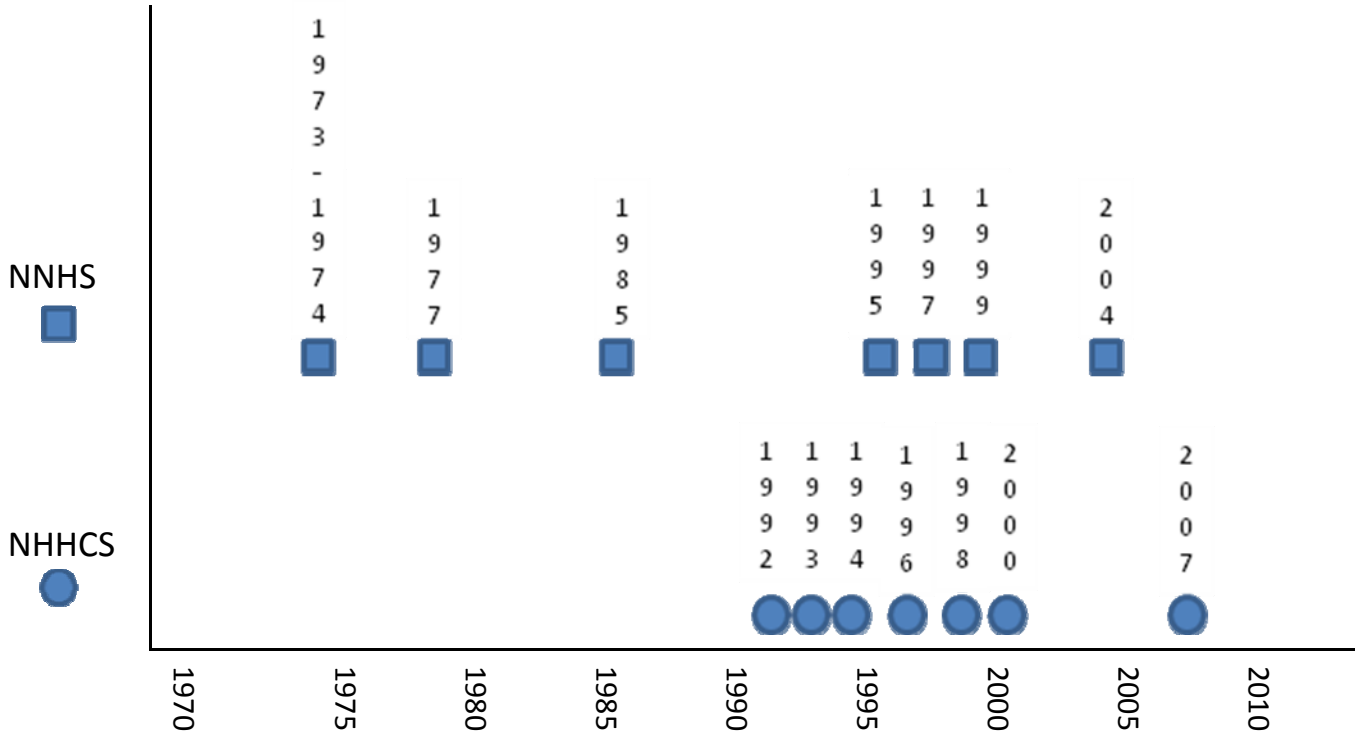
LTCSB consists of 11 staff people (See **Appendix B**). The 10 LTCSB staff members who conduct analyses and survey operations comprise an excellent mix of expertise in

health services research, survey methods, and statistical analysis. Among these 10 staff, six have social science or health services research Ph.D.s, one has an M.P.H., and three have baccalaureates. The program operations assistant provides administrative and research support for LTCSB and assists with administrative support for DHCS. Between November 2006 and January 2007, two people in LTCSB retired and two left NCHS for promotions elsewhere in the Federal government. Since November 2006, two people were promoted from within LTCSB to fill two of these vacated positions, and four new staff were hired (one survey statistician, two social scientists, and the program operations assistant). LTCSB has one vacancy remaining and one impending upon the retirement of a 38-year veteran of LTCSB who is also the Project Officer for NSRCF. With the current LTCSB staff composition, we are well positioned to implement a diverse health services research portfolio using the LTCSB data. The most important LTCSB resources are the dedicated staff members who plan and conduct LTCSB surveys; process, document, and analyze the data; respond to LTCSB data users' requests; and disseminate LTCSB products.

2. Data Collection and File Preparation Activities

NCHS has authority under Section 306(b)(1)(F) of the Public Health Service Act (42 USC 242k) to collect data concerning the public's use of nursing homes, home health agencies, hospices, and other health care providers. For most of its tenure, LTCSB has been responsible for two provider surveys: NNHS fielded seven times since 1973 and NHHCS fielded seven times since 1992 (See Exhibit 1). Between 1999 and 2004, NNHS was taken out of the field for a significant redesign, and between 2000 and 2007 the same was done for NHHCS. The redesigned NNHS was fielded in 2004-2005 along with the NNAS supplement, and the redesigned NHHCS was fielded in 2007-2008 with the NHHAS supplement. NSRCF, the first ever nationally representative survey of residential care and assisted living providers, was designed to provide data about these communities and their residents. NSRCF was piloted in spring 2008, and is being pretested in fall 2008, with plans to conduct the national implementation in 2010. **Appendix C** provides details about NNHS, NHHCS, and NSRCF.

Exhibit 1. NNHS and NHHCS Data Collection, 1973 - 2007



The redesigned NNHS and NHHCS each provide nationally representative data on content not available from any other data sources (See **Appendices D** and **E**). For NNHS facilities and NHHCS agencies, the latest data include information on providers' end-of-life care practices and programs, use of electronic information systems, immunization policies and practices, family and caregiver services offered, cultural competency

services, training and tenure of top managers, and benefits available to and entry level wages offered for nursing staff. For NNHS residents and NHHCS home health current patients and hospice discharges, the redesigned surveys include information on medication use, end-of-life care and advance directives, emergent care, pain assessment and management, and detailed diagnoses. The 2004 NNHS and the 2007 NHHCS also provide data for studying variations in quality of care related to provider characteristics. Facility characteristics not available in other national databases but available in NNHS and NHHCS may be used as independent variables in studying quality of care.

NNAS and NHHAS supplements are unique data sources because they are the first ever nationally representative surveys of these direct care workers. As supplements to their respective provider surveys (NNHS and NHHCS), facility-level data are available to study the relationship between provider characteristics—such as staffing level, top management tenure, benefits, and wages—and the perceptions of these direct care givers about their jobs and careers as a nursing assistant.

National Nursing Home Survey (NNHS) and National Nursing Assistant Survey (NNAS) supplement

NNHS is a continuing series of nationally representative sample surveys of nursing homes in the United States. Although each of these surveys emphasized different topics, they all provided basic information about nursing homes, their services, their staffs, and their residents. All nursing homes included in NNHS had at least three beds, and were either certified by Medicare or Medicaid or had a state license to operate as a nursing home. NNHS was preceded by a series of surveys from 1963 through 1969 called the Residents Places Surveys.

NNHS provides information on nursing homes from two perspectives: the provider of services and the recipient of care. Data about the facilities include size, ownership, Medicare/Medicaid certification, services provided and specialty programs offered, and charges billed. For recipients of care, data were obtained on demographic characteristics, health status, medications taken, services received, and sources of payment. NNHS data were obtained through personal interviews with facility administrators and designated staff, who used administrative records to answer questions about the facilities, staffs, services and programs, and medical records to answer questions about the residents.

Following the NNHS redesign, the 2004 NNHS was conducted from August 2004 through January 2005. Key features of the redesign included transition from using paper and pencil data collection to a computer-assisted personal interviewing (CAPI) system; expanded survey content to incorporate new items on high-profile policy issues; increased sample of current residents intended to facilitate subgroup analyses, e.g., by race; new design variables in the facility public-use files to enable users to more easily calculate accurate standard errors for estimates; and linkage to the Centers for Medicare & Medicaid Services (CMS) Minimum Data Set (MDS) data to enable additional clinical content and development of episodes of care. **Appendix D** provides an overview of the topics covered in the 2004 NNHS.

The redesigned 2004 NNHS also included a supplemental survey of nursing assistants employed by nursing homes, NNAS, which was sponsored by the Assistant Secretary for Planning and Evaluation (ASPE). The escalating demand for qualified and prepared direct care workers – among them certified nursing assistants (CNAs) working in nursing homes – has become the focus of policy makers in the fields of aging, health, and labor. These frontline workers or direct care givers provide the majority of the hands-on assistance to persons with disabilities in the formal long-term care delivery system and are essential to determining the quality of paid long-term care (HHS & DOL, 2003). Ensuring an adequate supply of these workers, however, has proved increasingly difficult to achieve. High worker turnover rates and vacancies among CNA caregivers have been well-documented (AHCA, 2003; GAO, 2001). NNAS was intended to help inform the development of more effective ways to recruit, train, and retain nursing assistants. **Appendix E** provides an overview of the topics covered in NNAS.

NNHS and NNAS Sample Designs

The 2004 NNHS sampling used a stratified two-stage probability design. At the first stage, a sample of 1,500 nursing homes was selected from the universe consisting of 16,628 nursing homes in the United States. The primary sampling strata of facilities were defined by sampling bed size category and Metropolitan Statistical Area (MSA) status (metropolitan, micropolitan, and other). Of these 1,500 nursing homes, 283 refused to participate, and 43 were considered out of scope. A total of 1,174 nursing homes participated at the first stage by providing facility information, resulting in a first stage response rate of 81 percent. The second-stage sampling of current residents and nursing assistants was carried out by the interviewers at the time of their visits to the facilities. A sample of up to 12 current residents per facility was selected. A total of 14,017 residents were sampled from the responding facilities. Of these residents, 8 were out of scope, and for 502 the facilities refused to provide resident information or ran out of time. This yielded a second stage response rate of 96 percent, and an overall response rate for the NNHS resident component of 78 percent. The 2004 NNHS results, when weighted, represent 16,079 nursing homes and 1,492,207 current nursing home residents.

A randomly selected sub-sample (n=790) of the 1,500 NNHS-sampled nursing homes was selected to participate in NNAS. Of these 790 facilities, 21 were determined to be out of scope, 164 did not participate in any aspect of NNHS, and 23 others elected not to participate in the NNAS portion of the survey. As a result, 582 facilities were eligible and participated in the NNHS and also elected to participate in NNAS, meaning that they provided a list of CNAs from which a sample could be drawn. In the second stage, a sample of CNAs was selected randomly from each of the 582 participating facilities. CNAs were eligible to participate if they 1) provided assistance with activities of daily living (ADLs), 2) were paid to provide those services, 3) were certified (or in the process of certification) to provide Medicare or Medicaid reimbursable services, 4) worked at least 16 hours per week, and 5) were employees of the nursing home and not contract employees. A CAPI system program randomly selected up to eight CNAs during the NNHS interview. NNAS was administered after the nursing home visit, using a computer-assisted telephone interview (CATI) system.

Of the 4,542 CNAs selected to participate in NNAS, 4,274 were eligible and 3,017 completed interviews, yielding a CNA response rate of 71 percent and an overall NNAS response rate of 53 percent (facility NNAS participation rate multiplied by CNA response rate). The sample of 3,017 CNAs, when weighted, represents 702,500 CNAs. Details on the questionnaire content, sampling, estimation process and computation of weights are available elsewhere (Squillace, Remsburg, Bercovitz, Rosenoff, & Branden, 2007).

NNHS Data Collection

The 2004 NNHS was administered in sampled nursing home facilities using a CAPI system that was loaded on the interviewers' laptops. **Appendix F** displays the flow of the 2004 NNHS data collection process. A self-administered staffing questionnaire was mailed to the nursing home administrator, along with the appointment confirmation letter, to be completed by the time of the facility interview. The Facility Component of CAPI included facility qualifications and facility characteristics data items. The Resident Component of CAPI was organized into four modules: Health Status, Non-MDS, Prescribed Medications, and Payment Sources. The Health Status module collected information about a resident's health status as documented in the MDS portion of a resident's medical record. Although the plan was to eventually link the 2004 NNHS to MDS database housed at CMS, the viability of the linking process was unknown, so some MDS information was collected during the interview to ensure availability of information comparable to previous years of NNHS. The Non-MDS module collected other information about a resident's health status and medical care that was not included in MDS. The Prescribed Medications module collected information on up to 25 medications taken by a resident the day prior to the interview and up to 15 medications prescribed but not taken the day before the interview. The Payment Sources module collected information on charges billed and sources of payment.

Data were collected according to the following procedures. 1) An advance package of information, including a letter, was mailed to the administrators of sampled facilities to inform them of the survey and the fact that they would be contacted for an appointment. Letters of support from the American College of Health Care Administrators, American Association of Homes and Services for the Aging, and American Health Care Association were sent with the advance package. Also included in this package was one of the reports from the 1999 NNHS to illustrate how the data would be displayed. 2) After the mailing of the packages, the interviewer telephoned the sampled facility and made an appointment with the administrator. 3) After the interviewer successfully scheduled an appointment with the administrator, a confirmation package was mailed to provide details about the interview. This package included a confirmation letter with details about what the interviewer would need for the interview, in addition to the self-administered staffing questionnaire that the administrator was expected to complete by the time of the in-person facility interview. 4) At the in-person interview with the administrator, the interviewer collected the completed staffing questionnaire and administered the Facility Component of the CAPI. Provided the facility was eligible to participate in the survey, the facility provided the interviewer with a list of all residents residing in the nursing home as of midnight the day before the interview. The

interviewer cleaned the list, e.g., eliminated discharges and new admissions. After numbering the list, the interviewer then sampled up to 12 current nursing home residents using the Sampling module of the CAPI. 5) The interviewer interviewed designated staff, familiar with the residents and their care, to answer the data items in the Resident Component. The respondents were asked to use the residents' medical records to answer the data items. No resident was ever contacted or interviewed directly. 6) If the facility was also selected to participate in the supplemental NNAS, the interviewer obtained a sampling list of currently employed CNAs, selected up to eight CNAs, and requested contact information for each sampled CNA.

After the data were collected, they were transmitted from the interviewer's laptop to the office of the data collection contractor, Westat. Extensive data checking, editing, and coding were then performed to ensure that all responses were accurate, consistent, logical, and complete.

NNAS Data Collection

The NNAS was administered by telephone using CATI. The questionnaire included 11 modules, the first of which was a screening section to determine eligibility. In addition to the screening module, the questionnaire included modules on recruitment; education, training and licensure; job history; family life; management and supervision; client relations; organizational commitment and job satisfaction; workplace environment; work-related injuries; and socio-demographics. An additional module was asked only of nursing assistants who were sampled for the survey but were no longer working at the facility at the time of NNAS survey.

Data were collected according to the following procedures. 1) Initial contacts with the nursing facilities were as described for NNHS. 2) The appointment confirmation letter in the packet sent to the facilities chosen to participate in NNAS included additional information unique to NNAS. The letter explained that up to eight CNAs would be selected from the facility to participate in the survey. Administrators were requested to provide a list of CNAs employed by the facility, indicating their tenure (less than one year or one or more years) and contact information for selected CNAs. The confirmation packet also included letters from three professional CNA organizations endorsing NNAS (National Association of Geriatric Nursing Assistants, National Network of Career Nursing Assistants, and Paraprofessional Healthcare Institute), an NNAS flyer to post in a common area, and an advance letter about the survey for the administrator to present to all CNAs employed by the facility. 3) At the time of the in-person interview with the facility administrator, the facility provided a list, for sampling purposes, of CNAs employed by the facility as of midnight the day before the interview. The interviewer cleaned, e.g., eliminated CNAs no longer working at the facility, and numbered the list so that the CNAs were divided into two tenure groups: those employed by the facility for less than one year and those employed by the facility for one or more years. A CAPI program randomly selected up to four CNAs from each tenure group. After the eight CNAs were selected, NNHS field interviewers recorded contact information obtained from the nursing home for each of the selected CNAs. 4) Information packets were left

at the facility to be distributed to the selected CNAs. The packets included letters from the director of NCHS and NCHS project officer, a survey fact sheet, a DVD about the survey, a pen, a $5 bill clipped to the informed consent letter, and a return postcard (and postage paid return envelope) for CNAs to indicate their willingness to participate in the survey and their contact information. These materials also included a toll-free number allowing CNAs to contact Westat, the data collection contractor which conducted the telephone interviews, if CNAs were interested in participating in NNAS. 5) The telephone research center staff at Westat used the contact information provided by the facility to contact the CNAs and to solicit their participation in the survey.

Data were entered by telephone interviewers directly into a CATI instrument. After data were extracted from the instrument database, extensive data checking, editing, and coding were performed to ensure that the responses were accurate, consistent, logical, and complete.

National Home and Hospice Care Survey (NHHCS) and National Home Health Aide Survey (NHHAS) Supplement

NHHCS is a continuing series of nationally representative sample surveys of home and hospice care agencies in the United States. NHHCS was conducted most recently from August 2007 through March 2008. Information was collected about agencies that provide home and hospice care and about their staff, services, and current patients and discharges. The survey includes all agencies that are licensed or certified by Medicare or Medicaid. Data from NHHCS have been used to track changes in home health care provided to individuals and families in their place of residence since 1992 and track changes in end-of-life hospice care in both home and hospice settings. The most recent year of publicly available data is for the 2000 NHHCS. LTCSB is working to have the public-use data files for the 2007 NHHCS available in February 2009.

Home health agencies and hospices are usually defined by the type of care they provide. Home health care is provided to individuals and families in their places of residence for the purpose of promoting, maintaining, or restoring health or for maximizing the level of independence while minimizing the effects of disability and illness, including terminal illness. Hospice care is defined as a program of palliative and supportive care services providing physical, psychological, social, and spiritual care for dying persons, their families, and other loved ones. Hospice services are available in both home and inpatient settings. Many agencies serve both home health and hospice patients and agencies may change or expand the focus of their service, e.g., agencies that previously served only hospice patients may expand their focus to also serve home health patients. For these reasons, efficiencies were gained by including home health agencies and hospice agencies in one NHHCS.

Data for NHHCS were collected through personal interviews with agency directors and staff who used administrative records to answer questions about the agencies, staffs, services, and programs, and medical records to answer questions about patients.

NHHCS was reintroduced into the field in 2007 after a seven-year break, during which time the survey was redesigned. Similar to the NNHS redesign, key features of the redesign included transition from using paper and pencil data collection to a CAPI system; expanded survey content to include information on high-profile policy issues; increased sample of current home health patients and hospice discharges intended to facilitate subgroup analyses, e.g., by race; new design variables in the facility public-use files to enable users more easily to calculate accurate standard errors for estimates; and linkage to CMS' Outcome and Assessment Information Set (OASIS) data for additional clinical content. Results will be weighted to create national estimates of the number of home health patients at the time of the survey and the number of hospice discharges for a year. **Appendix D** provides an overview of the topics covered in the 2007 NHHCS.

The redesigned 2007 NHHCS also included a supplemental survey of home health aides employed by home health and hospice agencies. Like the NNAS, the NHHAS was sponsored by ASPE. Patterned after NNAS, NHHAS is the first national survey of direct care workers in home health and hospice agencies who provide assistance with ADLs. NHHAS will provide new information needed to recruit, retain, and expand the paid workforce that provides direct care to home health and hospice patients. **Appendix E** provides an overview of the topics covered in NHHAS.

NHHCS and NHHAS Sample Designs

The 2007 NHHCS sampling used a stratified two-stage probability design. At the first stage, a sample of 1,616 home health and hospice agencies was selected from the universe consisting of home health and hospice agencies in the United States. The primary sampling strata of agencies were defined by type of agency (home health agencies only, hospice agencies only, and mixed agencies that provide both home health and hospice services) and MSA status (metropolitan, micropolitan, and other). Of the 1,616 sampled agencies, 427 refused to participate and 155 were considered out of scope. A total of 1,034 agencies participated at the first stage by providing agency information, resulting in a first stage response rate of 71 percent. The second-stage sampling of current home health patients and hospice discharges and home health aides was carried out by the interviewers at the time of their visits to the facilities. A sample of up to 10 current patients was selected in agencies that provided only home health services, up to 10 hospice discharges in agencies that provided only hospice services, and a combined total of up to 10 current home health patients and hospice discharges in agencies that provided both types of services (mixed agencies).

A total of 10,009 home health patients (5,026) and hospice discharges (4,983) were sampled from the responding agencies. Of these cases, 180 were out of scope, and for 17 the agency refused to provide patient/discharge information or ran out of time. This resulted in a second stage response rate of 99 percent, and an overall response rate for the patient/discharge component of NHHCS of 70 percent.

Of the 1,034 agencies that participated in any aspect of NHHCS, 961 provided a list of aides from which a sample could be drawn. A CAPI program randomly selected up to six aides per agency during the NHHCS interview. Five percent of eligible, participating

agencies (n=52) had no aides to sample. On average, 4.3 aides were available to be sampled per agency. NHHAS was administered after the agency visit, using CATI. Of the 4,416 aides sampled to participate in NHHAS, 4,280 were eligible and 3,417 completed an interview, yielding an aide response rate of 80 percent and an overall NHHAS response rate of 57 percent (agency NHHCS first stage participation rate multiplied by aide response rate). NHHAS data were collected between September 2007 and April 2008.

NHHCS Data Collection

As in the 2004 NNHS, the 2007 NHHCS was administered in sampled agencies using a CAPI system that was loaded on the interviewers' laptops. **Appendix F** displays the flow of the 2007 NHHCS data collection process. A self-administered staffing questionnaire was mailed to the agency director, along with the appointment confirmation letter, to be completed by the time of the agency interview. The Agency Component of the CAPI included Agency Qualifications data items and Agency Characteristics data items. To be eligible for NHHCS, an agency had to provide home health, hospice, or both types of services to patients, and had to currently serve or to have recently served home health or hospice patients. Agencies that provided only homemaker or housekeeping services or durable medical equipment and supplies were not included in the survey.

Each agency with current home health patients provided the interviewer with a list of all current patients as of midnight the day before the interview. Each agency providing hospice services gave the interviewer a list of all hospice discharges within the three-month period prior to the month of the NHHCS interview. The interviewer numbered the respective lists and the patient and discharge samples were selected using the sample selection module in the CAPI. For each sampled home health patient and hospice discharge, the Patient Component of CAPI consisted of Patient Health and Payment modules.

Data collection procedures described above for the 2004 NNHS were also used for the 2007 NHHCS. One exception is that all sampled NHHCS agencies were asked to participate in NHHAS and up to six aides were sampled per agency, while a random sub-sample of NNHS facilities were asked to participate in NNAS and up to eight CNAs were sampled per facility.

In collaboration with Westat, the NHHCS contractor, LTCSB implemented Computer Audio-Recorded Interviewing (CARI) in the 2007 NHHCS. We used CARI as an innovative tool to 1) identify and correct problematic interviewer behavior or question issues before they negatively affected data quality, and 2) identify ways to diminish measurement error in future implementations of NHHCS. CARI allows for unobtrusive observation of face-to-face CAPI interviews. CARI allows the same visibility into personal interviews as we have with telephone interviews, with audio recording happening directly through the laptop and without any interviewer intervention. During the first nine weeks of the 2007 NHHCS data collection, CARI recorded a subset of

questions from NHHCS application for all interviewers. Recordings were behavior coded. Using the behavior coding and CARI paradata, some interviewers were identified for additional training in some of the specific skill areas and issues were identified in three key survey questions; guidance was provided to all interviewers on how to handle those questions as data collection continued. These results were used to inform the 2007 NHHCS fielding "in real time" and may also be used in the future to inform question wording and interviewer training in the next implementation of NHHCS.

NHHAS Data Collection

NHHAS was administered by telephone using a CATI system. The questionnaire included 11 modules, the first of which was a screening section to determine eligibility. In addition to the screening module, the questionnaire included modules on recruitment; education, training and licensure; job history; family life; management and supervision; client relations; organizational commitment and job satisfaction; workplace environment; work-related injuries; and socio-demographics. An additional module was asked only of aides who were sampled for the survey but were no longer working at the agency at the time of NHHAS. Data collection procedures described above for the NNAS were also used for the NHHAS.

National Survey of Residential Care Facilities (NSRCF)

NSRCF is intended to provide national estimates on the number of assisted living and other residential care facilities operating in the United States, the number of residents receiving care in these facilities, and the characteristics of both the facilities and the residents. NSRCF in-person interviews will be conducted with directors and caregivers to collect information about facility services, staffing, and practices, and resident health, functional status, and payment sources. NSRCF has been developed through collaboration among NCHS, ASPE, Agency for Healthcare Research and Quality (AHRQ), and National Institutes of Health (NIH). Precursor work to NSRCF included 1) developing a methodology for constructing a list of residential care places that informed the NSRCF sampling frame creation and 2) developing a typology of residential care places that informed the sampling frame construction and the initial design work for NSRCF. In 2005, a contract to design the NSRCF survey and sampling frame was awarded to RTI International; the data collection contract was awarded to RTI International in 2007. NSRCF was piloted among six facilities in spring 2008. For the pretest scheduled for fall 2008, the goal is to complete interviews with 75 facilities.

National implementation of NSRCF was initially scheduled to begin in early 2009 contingent on FY08 funding from ASPE. ASPE was unable to provide the full amount of FY08 funding as intended given changing circumstances at ASPE in funding priorities. The national implementation of NSRCF has been re-scheduled to start in early 2010. For the national survey, the goal is to complete interviews with 2,250 facilities.

Preparation of Data Files: In-house and Public-use files

Although LTCSB surveys are often referred to by a single name, e.g., the National Nursing Home Survey, each survey involves the preparation of multiple data files.

2004 NNHS and NNAS Files

Including the NNAS supplement, four in-house confidential analytical files were constructed for the 2004 NNHS: 1) facility file, 2) current resident file, 3) medication file, and 4) the nursing assistant survey file. The construction of each of these files entailed editing and creating recoded variables, developing documentation (e.g., data dictionaries), calibrating weights, and conducting disclosure review analysis for building public-use files.

With the expanded content of the 2004 NNHS, the staff resources required for file construction were substantially greater than in previous years of NNHS. To prepare the in-house files and, eventually, public-use files in as timely a manner as possible, most of the LTCSB staff participated in file preparation with individual LTCSB staff members assigned different data sections to review. The edit process included the traditional practice of assuring that responses for each item were within the numerical range for the item, identifying outliers for review, and verifying that skip patterns were correctly applied. The editing process for the 2004 NNHS also involved creating a number of derived or recoded variables to facilitate analysis by users. For example, in the facility data answers for the job and career tenure of the director of nursing could be in weeks, months, or years. A derived variable was created in which responses of weeks and years were converted into months.

The confidentiality of records in all LTCSB surveys is protected by Section 308(d) of the Public Health Service Act. All data collected are kept in strict confidence and used only for statistical purposes. All published information is presented in such a way that no individual provider, staff, or resident can be identified. All LTCSB surveys are reviewed and approved through the NCHS Ethics Review Board prior to any data collection for piloting, pretesting, or national data collection. Furthermore, all LTSCB data files must go through disclosure risk analysis prior to release as public-use files, in order to ensure confidentiality of individual providers, staffs, or residents/patients.

Disclosure review analysis for developing the 2004 NNHS public-use files began in January 2006. The disclosure review entailed various meetings with LTCSB, DHCS' Technical Services Branch (TSB), and ORM (Office of Research and Methodology) to discuss findings, additional analysis needed, and strategies to reduce disclosure risk. Common edits to reduce subject disclosure were performed, including eliminating some variables from the public-use files and recoding continuous variables such as bed size into categorical variables. The disclosure review analysis for the NNHS/NNAS facility, resident, and nursing assistant files was presented to the NCHS Disclosure Review Board in May 2006 and the Board approved the three public-use files. The separate medication public-use file was approved by the Board in August 2006.

2007 NHHCS and NHHAS Files

The data collection for the 2007 NNHCS was completed in March 2008 and for the NHHAS in April 2008. The data collection contractor, Westat, delivered the data files on June 23, 2008. The target date for releasing public-use files for NHHCS is February 2009 and for NHHAS is April 2009. **Appendix G** outlines the tasks and time table planned for the 2007 NHHCS/NHHAS file development.

3. Stakeholders: Collaborators and Data Users

Collaborators

LTCSB has enjoyed extensive support from collaborators in the implementation of our LTC surveys. LTCSB collaborators include government agencies that provide funding for the surveys, LTC experts who contribute to the development or re-design of our surveys, and provider associations that provide letters of support for the LTCSB surveys.

Federal agency collaborators include the National Immunization Program (NIP), CDC; National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), CDC; ASPE; Department of Veterans Affairs (VA); AHRQ; and National Institute on Aging. LTCSB has a long-standing collaboration with ASPE that has resulted in the NNAS and NHHAS supplements to the most recent NNHS and NHHCS, and the development of the first ever NSRCF. Other collaborations have occurred because of Federal agencies' interest in the LTCSB surveys. For example, NIP has collaborated on the most recent NNHS and NHHCS by providing funds to include questions about staff and resident/patient immunization practices. VA has provided funds to include veteran status of residents/patients in the NNHS, NHHCS, and NSRCF surveys as well as VA as a payment source in the NNHS and NHHCS.

Collaborators also include LTC experts who have participated as technical experts in the redesign of NNHS, NHHCS, and their respective supplements. Experts for the LTCSB surveys have come from Federal government agencies, academia, provider organizations and associations, and private research organizations. LTCSB has obtained the input and insights of many experts for the LTCSB surveys using a variety of mechanisms. **Appendix H** lists sets of these experts for the respective surveys. The lists include experts consulted in the NNHS redesign and those who commented on the redesigned draft NHHCS survey, NNAS Technical Advisory Group members, and NHHAS Technical Advisory Group members. A variety of experts participated in a series of meetings held between 2001 through 2002, including a Hospice Survey Working meeting, an Episodes of Care Working Group meeting, and a 2002 Home Health Care Survey Working meeting. For NSRCF, experts included Technical Expert Panel members and those who reviewed drafts of the NSRCF survey.

Other types of collaborators include the organizations that represent the LTC providers sampled in the LTCSB surveys. These organizations have provided support letters that have been included with the initial contact package to the administrators of sampled facilities, as a way to enhance cooperation. These organizations have continuously supported NNHS:

- the American Health Care Association (AHCA)
- the American Association of Homes and Services for the Aging (AAHSA),
- and American College of Health Care Administrators (ACHCA).

Organizations that have supported NHHCS are:

- the National Hospice and Palliative Care Organization (NHPCO) and
- the National Association for Home Care and Hospice (NAHC).

Organizations that have provided letters of support for NNAS are:

- the National Association of Geriatric Nursing Assistants (NAGNA),
- the National Network of Career Nursing Assistants (NNCNA), and
- the Paraprofessional Healthcare Institute (PHI).

Organizations that have provided letters of support for NHHAS are:

- the National Association of Health Care Assistants (NAHCA),
- the Visiting Nurse Associations of America (VNAA), and
- PHI.

For NSRCF, the following provider associations provided letters of support as well as participated in a series of meetings with NCHS and its data collection contractor, RTI International, to discuss how to enhance cooperation for the NSRCF:

- AAHSA,
- the Assisted Living Federation of America (ALFA),
- the American Seniors Housing Association (ASHA),
- the Center for Excellence in Assisted Living (CEAL), and
- the National Center for Assisted Living (NCAL)/AHCA.

Data Users

Data from the LTCSB surveys are used extensively for health care research, planning, and public policy. LTCSB survey data have been used by the nursing home, home health, and hospice health care sectors and by Federal policy makers. Other users of these data include universities, foundations, private research or non-profit organizations, and a variety of users in the print media. It is reasonable to assume data from LTCSB surveys will continue to be a main data source for these users, given a future where LTC services will become increasingly important as "baby boomers" age and the percentage of the elderly population grows.

The following are selected examples of how NNHS and NHHCS data have been and are being used by a variety of users.

<u>NNHS</u>

- AHRQ uses NNHS data to provide estimates of nursing home current residents and discharges and nursing facilities for its annual N*ational Healthcare Quality*

Report. In the 2007 version of the report, AHRQ included a measure of the quality of care of pain management using data from the 2004 NNHS.

- The Kaiser Commission on Medicaid and the Uninsured sponsored a report on the characteristics, needs, and payment sources for the care of elderly nursing home residents using 1999 and 2004 NNHS data. Key findings included that the number of elderly long-stay nursing home residents declined from 1.21 million to 1.06 million between 1999 and 2004 and the disease prevalence was higher and multiple conditions were more common among elderly nursing home residents in 2004 compared to 1999, indicating an increasingly sicker population (http://www.kff.org/medicaid/upload/7663.pdf).

- The Lewin Group used NNHS data to examine the decline in nursing home use between 1985 and 2004, particularly among those ages 85 and older (http://www.lewin.com/content/publications/NursingHomeUseTrendsPaperRev.pdf).

- The U.S. Census Bureau uses NNHS data (Table 183) on nursing home characteristics and utilization in its annual *Statistical Abstract of the United States* (http://www.census.gov/compendia/statab/cats/health_nutrition/health_care_resources.html).

- The Federal Interagency Forum on Aging-Related Statistics uses NNHS data on nursing home utilization and functional impairment of nursing home residents (Tables 36a, 36b, and 36c) for the *Older Americans 2008: Key Indicators of Well-Being* report (http://agingstats.gov/agingstatsdotnet/main_site/default.aspx).

- *Health, United States*, is the congressionally mandated annual report on the health status of the Nation prepared by NCHS and submitted by the Secretary of the Department of Health and Human Services to the President and the Congress. This widely used and highly respected document has included NNHS data. Most recently, tables on nursing home resident characteristics (Table 104) and average monthly nursing home charges (Table 134) were in *Health, United States, 2007* (http://www.cdc.gov/nchs/data/hus/hus07.pdf#summary).

- CDC uses NNHS data to monitor Healthy People 2010 Objective 1-16, prevalence of pressure ulcers among nursing home residents. NNHS estimates of pressure ulcers using 2004 NNHS data are available for use in DATA2010, the Healthy People 2010 Database (http://wonder.cdc.gov/data2010/obj.htm).

- Congressional staff have requested NNHS resident data on a variety of subjects as background information for legislative proposals.

- Researchers in the National Immunization Program at CDC in collaboration with NCHS researchers have used the 1995, 1997, 1999, and 2004 NNHS to

investigate the availability of immunization services in nursing homes and the proportion of the residents who have been immunized.

- NCHS uses NNHS data in its Trends in Health and Aging web site for topics such as ADLs, nursing home services used, and incontinence among nursing home residents (http://www.cdc.gov/nchs/agingact.htm).

- The National Institute of Dental and Craniofacial Research, National Institutes of Health, has used 1995 and 1997 NNHS data to evaluate the dental and oral health status of nursing home residents.

- The Bureau of Health Professions (BHP) at the Health Resources and Services Administration used 1995 NNHS data to investigate the systematic, unexplained variations in health care utilization across geographic areas. In a separate study, BHP used the 1985 nursing staff data to investigate recruitment and retention of registered nurses in nursing homes.

- The 1977 NNHS was the first NNHS to include a sample of discharged residents, and hence the first survey to show that the distribution of nursing home stays was highly skewed, with many persons discharged after a short stay, while other patients stay for many years. Confirmed with 1997 and 1999 NNHS data, these findings have contributed to the public debate about how to reform LTC policies.

NHHCS

- NCHS uses NHHCS data in its Trends in Health and Aging web site for topics such as ADLs, instrumental activities of daily living (IADLs), home health care services used, and incontinence among home health patients (http://www.cdc.gov/nchs/agingact.htm).

- NAHC, one of the supporters of NHHCS, uses data from the NHHCS to provide information to their constituents about the importance, growth, and cost for this segment of the health care delivery system.

- The Maryland Health Resources Planning Commission used data from the 1993 NHHCS to determine average number of visits by demographic characteristics to assist them in their planning activities.

- BHP used 1992 NHHCS data in their models to forecast utilization rates and expected number of nursing staff needs by hospices and home health agencies.

- The Food and Drug Administration used data collected from the NHHCS to determine the prevalence of use of special medical devices in the home. Home and hospice care agencies were asked to indicate the types of medical devices in use in sample patients' homes and to differentiate between those for which assistance was received from the agency and those for which assistance was not

received.

Some external users of our survey data have collaborated with LTCSB staff to conduct research projects with the goal to disseminate the study findings. The following studies exemplify current external collaboration:

- A team of researchers from Harvard Medical School and DHCS are analyzing the 2004 NNHS medication data to explore the appropriate and inappropriate use of antipsychotics and benzodiazepines among nursing home residents and their relationship with resident and facility characteristics. The study findings are being summarized in a paper that will be submitted to a peer-reviewed journal later this year.

- Researchers from the University of Georgia, Department of Neurosurgery, the Institute for Mental Health Policy, Research, and Treatment in New Jersey, and LTCSB are examining characteristics of the oldest old (i.e., 85 and older) nursing home residents. Both a poster and a paper that summarizes key findings are planned for this collaboration.

- A University of Pittsburgh researcher and an LTCSB staffer are using the 2004 NNHS data to analyze the effect of job tenure of nursing home administrators and directors of nursing on the quality of care. The findings of the first phase of this study were recently submitted to a peer-reviewed journal.

The external use of NNHS and NHHCS data is further illustrated by the many studies in the published literature. **Appendix I** lists selected professional journal articles and reports over the past two decades by non-LTCSB researchers using NNHS and/or NHHCS data.

4. Products and Dissemination

This chapter highlights the products and dissemination venues LTCSB provides to serve the needs of its diverse LTC survey data users. LTCSB web sites and products accessible through these web sites are discussed first, followed by technical assistance provided for data requests, and, finally, LTCSB publications, presentations, and exhibits.

NNHS and NHHCS Web Sites

The NNHS and NHHCS web sites are a major resource for our data users. The NNHS web site is at http://www.cdc.gov/nchs/nnhs.htm. The NHHCS web site is at http://www.cdc.gov/nchs/nhhcs.htm. The web sites include downloadable public-use files, survey documentation, and detailed data web tables. Users may also subscribe to the LTC Listserv at these web sites. Each of these items is discussed below.

Public-use files

Downloadable public-use files are available from the NNHS web site for the 1995, 1997, 1999, and 2004 NNHS, and for NNAS. SAS data files are available as well as ASCII (text) files with accompanying SAS, SPSS, and, for 2004, STATA input statements. Data dictionaries for each file may also be downloaded.

Downloadable public-use files are available from the NHHCS web site for the 1996, 1998, and 2000 NHHCS. SAS data files are available as well as ASCII (text) files with accompanying SAS and SPSS input statements. Data dictionaries for each file may also be downloaded.

Intended to benefit data users, three major enhancements were made in the public-use files released for the 2004 NNHS compared to public-use files for previous NNHS data collection years.

1) To reduce subject disclosure risk, as with previous years of the NNHS the 2004 NNHS facility public-use file does not include resident count or a continuous bed variable for calculating occupancy rate, percent of residents by payer, or staffing ratios; however, to increase the value to data users, categorical variables for occupancy rate, percent residents by payer, and nursing staff ratios were included in the 2004 NNHS public-use file.

2) For the first time, the NNHS public-use files included the sample design or stratification variables required to account for the complex sample design, by inclusion of a finite population correction for each sample strata in the calculation of standard errors. The primary sampling strata were defined by facility characteristics and area demographics. Through the disclosure risk assessment it was demonstrated that inclusion of the strata fields, along with the population count within each strata, did not increase risk of subject

disclosure. This conclusion depended, in part, on the decision not to publish the exact details of how strata were defined.

3) The public-use files for the 2004 NNHS only included one sample weight; in previous years the files included a "variance" weight (the original sample frame weighting) and the "sample" weight calculated from post-stratification adjusted weighting, which led to confusion and errors among outside users and NCHS users. The analysis and decision-making underlying the conclusion that one weight was sufficient for the public-use files took several months. The 2004 NNHS facility and resident public-use files were posted on the web in August 2006 once the decision to include one weight had been reached.

Survey Documentation

In addition to data dictionaries that list the content of the public-use files, extensive documentation of the survey methods is provided to users on the web home pages for NNHS and NHHCS. Survey questionnaires are also posted on the web.

The PDF file with the documentation on the sample design, data collection, and estimation procedures for the 2004 NNHS is available at: http://www.cdc.gov/nchs/data/nnhsd/2004NNHS_DesignCollectionEstimates_072706tags.pdf

Web Data Tables

Experience with prior LTCSB data requests indicates that often users of our data are interested in point estimates, that is, descriptive statistics, such as the number of nursing homes, the number of current residents and the number of residents by age and sex. To accommodate this need for quick reference to such descriptive statistics, LTCSB has developed detailed data tables available at the NNHS and NHHCS web sites.

In 2004, web data tables were produced and made available for current home health and hospice patients and home health and hospice discharges from the 1998 and 2000 NHHCS (http://www.cdc.gov/nchs/about/major/nhhcsd/nhhcshomecare2.htm).

For the redesigned 2004 NNHS, more extensive web data tables were developed and released.

The 2004 NNHS facility tables were posted on the web in December 2006 and include 23 tables with information on:

- Characteristics, staffing, and management (Tables 1-10),
- Programs and services (Tables 11-20), and
- Employee vaccinations (Tables 21-23).

These tables can be downloaded at:
http://www.cdc.gov/nchs/about/major/nnhsd/ Facilitytables.htm.

The 2004 NNHS resident tables include 45 estimates tables and 45 corresponding standard errors tables with information on:

- Demographics (Tables 1-7);
- Payment Sources and Length of Time Since Admission (in days) (Tables 8-13);
- Functional Status (Tables 14-19);
- Quality of Life (Tables 20-32);
- Diagnoses, Medications, and Vaccinations (Tables 33-41); and
- Hospitalizations (Tables 42-45).

These tables can be downloaded at:
http://www.cdc.gov/nchs/about/major/nnhsd/ ResidentTables.htm.

The 2004 NNHS web tables with data on residents were approved for production in late December 2007. Production included review and editing by NCHS professional editors and adherence to requirements of the Americans with Disabilities Act 508 Compliance (ADA 508). The ADA 508 compliance outlined measures to ensure accessibility among all users for all web site material. To comply with the ADA, an ADA 508 compliance description was added to each resident web table. The resident web tables were made available on the web site the first week of June 2008.

Most recently, the NNAS web tables with data on CNAs were posted on the web in August 2008 and include 50 estimates tables with information on:

- Demographics and career decisions (Tables 1-13);
- Work experience and training (Tables 14-20);
- Pay and benefits (Tables 21-29);
- Work environment (Tables 30-40);
- Home environment (Tables 41-44); and
- Injuries and vaccinations (Tables 45-50).

These tables can be downloaded at:
http://www.cdc.gov/nchs/about/major/nnhsd/NursingAssistantTables.htm.

Corresponding standard error tables are being generated and will be posted on the web as well. As with the NNHS resident tables, to comply with the ADA, an ADA 508-compliant description accompanies each nursing assistant web table.

Long-Term Care Listserv

The LTC listserv serves as an information source for users who subscribe. The listserv members are the first to be notified of any information pertaining to the surveys conducted by LTCSB. Notifications are made when new LTCSB products are posted to

the web. At present 738 data users subscribe to the listserv. The subscribers to the listserv are diverse, including individuals in professional associations, private research firms, educational institutions, health care settings, and government settings.

Data Requests

Requests for data or information about LTCSB surveys are one indication of the value of the LTCSB surveys. Data requests fall within four categories: 1) one-time requests for specific information, 2) use of data files through the NCHS Research Data Center, 3) use of data files by other CDC agencies through data use agreements, and 4) requests for analysis and technical support for LTCSB data reported in other NCHS products and other government publications.

One-Time Requests for Specific Information

LTCSB has an LTC data inquiry line that users can call to request information; the phone number is 301-458-4747. Data inquiries are also received through the NCHS Data Inquiry Line, personal contacts with LTCSB staff, and referrals. The NCHS data inquiry staff obtains pertinent data and responds to data requests or the requests may be forwarded to the appropriate program. The protocol for the LTC data inquiries include an initial contact within 24 hours and a follow-up in 48 hours to confirm receipt of information and additional assistance as needed. The LTC data inquiry program in LTCSB maintains an LTC database which identifies data users and records the types of inquiries received for each month. The LTC database is used to identify patterns of information requested and to suggest potential data analyses of specific variables. Data inquiries obtained from personal contacts and referrals are handled by selected LTCSB staff and recorded in the LTC database.

Between June 2007 and July 2008, more than 100 data inquiries were received for LTC data through the LTC data inquiry line and other NCHS data inquiry sources. Data requests came from individuals in the Federal government, private industry, students, and academic researchers. Information requests can be classified into one of five categories:

- Specific point estimates from the LTCSB surveys (e.g., number of agencies/facilities, number of patients/residents, number of beds, beds per nursing home, occupancy rate, and average and median lengths of service);
- Public-use file availability, access, download, and use;
- Software programming (SAS, SUDAAN, STATA, SPSS);
- Survey documentation (questionnaires, data dictionaries)
- Methodological issues (e.g., questions about variable construction, sampling details).

Sometimes the data user's needs cannot be completely addressed by LTCSB data; in those cases expertise in LTCSB regarding other data sources is shared with users.

Research Data Center

In the last year and a half there have been a number of proposals to the NCHS Research Data Center (RDC) to use data from the surveys conducted by LTCSB (See Exhibit 2). These proposals are reviewed by LTCSB staff along with RDC staff. Once a proposal is approved, LTCSB staff construct the data files for use in the RDC, incorporating the specific data elements needed for a study. This work usually involves merging different data sources together, such as selected data elements from an NNHS facility file with selected data elements from an NNHS resident file. For some studies, researchers also supply outside data sources, such as geographical data from the Area Resource File, for LTCSB staff to link to LTCSB data.

Exhibit 2. Recent NCHS RDC Proposals Using LTCSB Data

Title of Project	LTCSB Data Used	Date Data at RDC
Analysis of Tenure and Satisfaction of Certified Nursing Assistants	2004 NNHS facility and 2004 NNAS data elements, including new recoded variables the researchers constructed from the public-use files. Also merged county-level demographics supplied by the researchers.	August 2007
Home Health Agency Quality: Agency Profit Orientation and Patient Risk for Hospitalization	Data elements from the 2000 NHHCS in-house discharge file and the agency file.	August 2007
An Analysis of Nursing Home Length of Stay among Working-Aged Individuals Aged 18 to 64 Years and the Implications for the Medicaid Program	Data elements from the in-house NNHS discharge trend file and NNHS current resident trend file, years 1995 thru 2004.	January 2008
Nursing Home Staff Turnover, Staffing Characteristics and Employee Benefits	Data elements from the in-house 2004 NNHS facility file.	April 2008
Clinical Information Technology and Quality of Care in U.S. Nursing Homes	Data elements from 2004 NNHS in-house facility, resident, and medication files. Merged in researcher supplied drug safety variables (inappropriate use) the researcher developed first from the medication public-use file. Also linked researcher supplied data on state-level staffing regulations.	June 2008
Do Stable Nursing Home Staff Improve Resident Outcomes?	Data elements from 2004 NNHS in-house facility and resident files linked to geographical variables supplied by researcher.	June 2008
Effects of Nursing Assistant Staffing on Nursing Home Quality Controlling for Facility and Community Characteristics	Proposal approved July 2008. Researcher to supply outside data on to link to 2004 NNHS facility and 2004 NNAS data.	Forthcoming

Data Use Agreements within the Centers for Disease Control and Prevention

In the last year, there have also been a number of proposals submitted to LTCSB by other CDC offices for use of LTCSB data (See Exhibit 3). LTCSB staff reviewed the

proposals and wrote and executed the data use agreements following the protocol developed by the NCHS Confidentiality Officer.

Exhibit 3. CDC Data Use Agreement Projects Using LTCSB Data

Title of Project (CDC Center)	LTCSB data used	Date Agreement Started
Strategies to Improve Resident Vaccination in Long Term Care Facilities (National Center for Immunization and Respiratory Diseases)	Data elements from in-house 2004 NNHS facility and resident files.	November 2007
Factors Associated with Receipt of Influenza Vaccination among Nursing Assistants Employed by Long Term Care Facilities (National Center for Immunization and Respiratory Diseases)	Data elements from the in-house 2004 facility file and 2004 NNAS file.	November 2007
Secular Trend of Diabetes Epidemics and its Comorbidities among Nursing Home Residents: 1995-2004 (National Center for Chronic Disease Prevention and Health Promotion)	Data elements for 1995 through 2004 NNHS from in-house facility, current resident, and discharge trend files.	January 2008
Prevalence of Antimicrobial Use in Long-term Care Facilities and Factors Impacting Antimicrobial Use (National Center for Preparedness, Detection and Control of Infectious Diseases)	Data elements from the in-house 2004 NNHS facility, resident, and medication files.	In progress

Other Federal Government Publications

LTCSB is occasionally called upon to perform analyses or provide technical to support the use of LTCSB data in a variety of NCHS products and other Federal government publications. The Chapter 3 section on Data Users listed selected recent examples. These include the use of LTCSB data in the following Federal government publications and resources: *Health, United States*; *Older Americans 2008: Key Indicators of Well-Being*; *Statistical Abstract of the United States: 2008*; NCHS Trends in Health and Aging web site; and, DATA2010, the Healthy People 2010 Database.

LTCSB Publications, Presentations, and Exhibits

LTCSB has publicized the availability of the 2004 NNHS data and the upcoming availability of 2007 NHHCS data through additional venues, including giving presentations about or using LTCSB survey data, holding exhibits at conferences, and producing NCHS reports and peer-reviewed journal articles using LTCSB data.

Presenting at conferences is a major vehicle for telling users about the LTCSB surveys. Sessions providing overviews of the 2004 NNHS and NNAS and the 2007 NHHCS and NHHAS were conducted at the 2006 and 2008 NCHS Data Users Conferences. Sessions on the 2004 NNHS have been held at the annual research meetings of the Gerontological Society of American (GSA) and AcademyHealth in the past few years. LTCSB is

presenting a symposium on health and health care differences based on the 2004 NNHS at the 2008 GSA meeting.

LTCSB has also had exhibits during the last two years at the annual meetings of NAHC and NHPCO, and at the 2008 Symposium on Strengthening the Home and Community-Based Services Direct Service Workforce.

Appendix J lists publications, both journal articles and NCHS reports, by LTCSB staff. The focus of much of the reporting by LTCSB over the years has been through NCHS publications. NCHS publications remain an important method of disseminating research by LTCSB staff, and will remain an important outlet in the future. At the same time, over the last five years, the leadership of LTCSB implemented a plan to increase the analytical work of LTCSB through publication in peer-reviewed journals. **Appendix K** contains the LTCSB 2008 Analysis Plan which lists LTCSB staff publications recently completed, under development, and planned for future years.

5. Challenges and Future Plans

LTCSB faces challenges in five main areas: budget, staffing, timeliness of data release, response rates, and outreach to data users. This chapter briefly describes these challenges and future plans to address them.

Budget

Challenges

Securing funding for the LTC surveys has posed a continuing challenge during this decade. From 1992 through 2000, NNHS and NHHCS were fielded in alternate years, so that a LTC survey was conducted every year. Since NNHS and then NHHCS were removed from the field to be redesigned, each has been fielded once, NNHS in 2004 and NHHCS 2007. Because of budgetary constraints, LTC survey work after the NSRCF pretest is completed in spring 2009 has been postponed. The implication is that the NSRCF will be delayed until 2010 and the next NNHS until 2011, at the earliest.

As with other DHCS surveys and NCHS data collection programs more broadly, LTCSB faces the challenge of developing a steady source of sufficient funding to field its surveys on a regular basis. LTCSB and DHCS have been quite successful in obtaining funds from other federal agencies to support the 2004 and 2007 redesigned surveys and developmental work for NSRCF. External (reimbursable) funding supported 9% of the $3.8 million NNHS and 16% of the $4.5 million NHHCS. External (reimbursable) funding supported all of the $1.4 million NNAS and the $1.3 million NHHAS supplements. To date, 93% of the NSRCF pilot and pretest costs have been supported by external funding.

Collaborator funding is uncertain, as other federal agencies are facing their own budgetary constraints. In FY08, ASPE, for example, was not able to contribute $1.2 million planned to support the national NSRCF, a situation that in turn led to the postponement of that national implementation from 2009 to possibly 2010. Although DHCS has greatly increased its outreach to potential funders, including private foundations, without a substantial increase in NCHS funding, the timing of the next NNHS or NHHCS will remain unclear.

In summary, the budget is the major challenge for LTCSB, affecting the ability to field surveys, staffing, and consequently timeliness of data release and outreach to data users. However, in spite of these challenges, LTCSB surveys continue to provide a unique data resource spanning the spectrum of formal long-term care from nursing home to in-home care. Since data are collected on both the provider and recipient of care, it is possible to assess the association of provider characteristics with patient/resident outcomes. With the forecasted increases in the number of elderly, these data are vital as a base for informed decision-making by policy makers, long-term care providers, potential care-givers, recipients of care, and their families.

Future Plans

Particularly starting with the 2004 NNHS redesign activities, LTCSB/DHCS has successfully pursued outreach to a number of Federal agencies as collaborating sponsors. For example, for NSRCF, in 2007 we identified 14 programs within CDC which may have an interest in the health and health care of the assisted living and residential care population in the U.S. We then identified and contacted point people for each program starting in late 2007. As a result of these on-going efforts, the Division for Heart Disease and Stroke Prevention, NCCDPHP, provided funding toward the NSRCF pretest. Though we were able to gain an additional collaborator through these efforts, we face the continuing challenge of securing sufficient funds to conduct the NSRCF national effort. We will follow-up on the contacts we initially pursued earlier this year.

In addition to continuing outreach efforts, LTCSB plans to consider ways to reduce the costs of fielding each LTCSB survey. Possible ways to achieve greater efficiencies include using alternative data collection modes for some or all components of the surveys that have traditionally been less expensive than in-person interviews, e.g., web, telephone, or mail surveys. Exploring these alternatives would include determining the feasibility of these modes and the trade-offs among costs, response rates, and data completeness with different modes.

Based on experience from other surveys, it is more efficient to maintain a survey in the field continuously than to re-deploy it periodically. For this reason, it would be worthwhile to consider the viability and costs associated with having the NNHS and NHHCS surveys fielded annually but with substantially smaller samples. Multiple years of sample would need to be aggregated to develop reliable estimates, an approach being used with other DHCS surveys.

Staffing

Challenges

LTCSB has been handicapped for the past year and a half by being short staffed. This situation posed a particular challenge during a period when LTCSB faced a heavy load of survey operational responsibilities. Inadequate staffing has required prioritizing work to meet survey operational deadlines, first to pilot and pretest the redesigned NHHCS and NHHAS supplement and then to pilot and pretest the first-ever NSRCF. Meeting these deadlines has required postponing dissemination and analyses of the 2004 NNHS.

One analyst/survey operations position currently remains open in LTCSB and may not be filled until further notice because of NCHS budgetary constraints. In October, a 38-year LTCSB veteran who is serving as the NSRCF project officer will retire. The LTCSB chief will take over project officer responsibilities for NSRCF. Filling the replacement for this position will also be on hold subject to NCHS budgetary constraints.

The LTCSB program would benefit from the addition of LTC clinical expertise from practitioners in nursing, medicine, or other clinical areas. In filling the LTCSB staff vacancies in the past year and a half resulting from retirements and promotions, it has been challenging to find qualified LTC clinical staff who also have survey operations or statistical experience. This combination of skills is needed because LTCSB's current staff of 11 must provide a multitude of services simultaneously in survey operations, survey improvement, analysis, and technical assistance.

Future Plans

Survey operations will remain the first priority of LTCSB until the NSRCF pretest-related activities are completed and the NHHCS and NHHAS public-use files are produced, all scheduled for completion in spring 2009. If LTCSB has no other data collection activities in 2009, staff will be able to prioritize analysis and dissemination of 2007 NHHCS/NHHAS and 2004 NNHS/NNAS data.

When permitted to fill current and upcoming LTCSB vacancies, we will pursue the General Schedule civil service recruitment process we have used previously. In addition, we will try to recruit from the Commissioned Corps and through the Service Fellows program with a focus on health services research programs for clinical fellows. We will pursue these multiple routes in an attempt to obtain a larger set of qualified candidates and to find candidates with LTC clinical expertise. The addition of a research clinician with LTC experience would further broaden and enhance the relevance of the analyses we could conduct with the LTCSB data and, as well, facilitate the continued improvement in the clinical and policy relevance of the data collected.

Given the challenges in recruiting diverse, qualified staff, LTCSB may benefit from long-term internship programs. Through internship programs, LTCSB may identify university students who could be highly successful full-time LTCSB employees after graduation. While familiarizing participants with LTCSB operations and data, this can help create a pool of qualified and well-trained professionals ready for career entry into the Federal workforce.

LTCSB would also benefit from staff's gaining more survey research training, e.g., through continuing education, such as the Joint Program on Survey Methodology short courses at University of Maryland, to enhance or keep up to date on these skills. To further strengthen the solid statistical analytic skills of LTCSB staff to develop products using the LTCSB data, continuing education in more advanced statistical skills would be valuable.

Timeliness of Data Release

Challenges

Fundamental to the mission of NCHS, DHCS, and LTCSB is to provide timely data. **Appendix G** shows the time table and tasks that must be conducted to process and

release the 2007 NHHCS and NHHAS public-use files and documentation. This same set of procedures and steps must be conducted for each LTCSB survey, including recently with the 2004 NNHS and the NNAS. Performing these steps in a timely way was particularly challenging with the 2004 NNHS, as the content of the data files had increased at least three-fold compared to previous NNHS surveys, and enhancements described in Chapter 4 were made for the first time to the public-use data files.

It is a continuing challenge for LTCSB staff to implement the many labor-intensive steps involved in editing, weighting, documenting, and conducting disclosure risk review for the multiple 2007 NHHCS/NHHAS data files (agency, patient, medication, aide) while also analyzing and disseminating the 2004 NNHS/NNAS data and piloting and pretesting the NSRCF. Disclosure risk review is particularly extensive for establishment surveys, such as NNHS and NHHCS. As noted earlier, balancing and attending to these multiple priorities have occurred during a time when LTCSB has been down by one to four staff positions in the past year and a half. The major challenges for developing the 2007 NNHCS/NHHAS public-use files in a timely way will most likely include those encountered with the 2004 NNHS: 1) demonstrating through the disclosure risk assessment the viability of including the sample design or stratification variables, a requirement discussed in Chapter 4 on the NNHS public-use files, and 2) forging consensus on including one case weight rather than separate "variance" and "sample" weights.

Future Plans

LTCSB adapted lessons learned with the file development of the 2004 NNHS/NNAS to expedite the file development for the 2007 NHHCS/NHHAS. First, LTCSB received preliminary data files about halfway during the NHHCS/NHHAS data collection in December 2007 and January 2008. LTCSB conducted quality checks on these data, identifying issues for the contractor to address in the final data file delivery. Rather than waiting for the final data delivery as with the 2004 NNHS, LTCSB and TSB started work prior to the final data delivery on editing, particularly the specifications for known derived/recoded variables, using the preliminary data to test the programming. LTCSB is also deploying a staffing structure for the 2007 NNHCS/NNHAS file development that spreads the work out among more of the branch. Each file (agency, patient, medication, aide) has a small dedicated team of one to two members and a leader, all overseen by the LTCSB staff person who led the public-use file development activities for the 2004 NNHS/NNAS. This staffing allocation plan and the preliminary work described earlier are intended to enable LTCSB to provide the public-use files and documentation within a year of ending data collection.

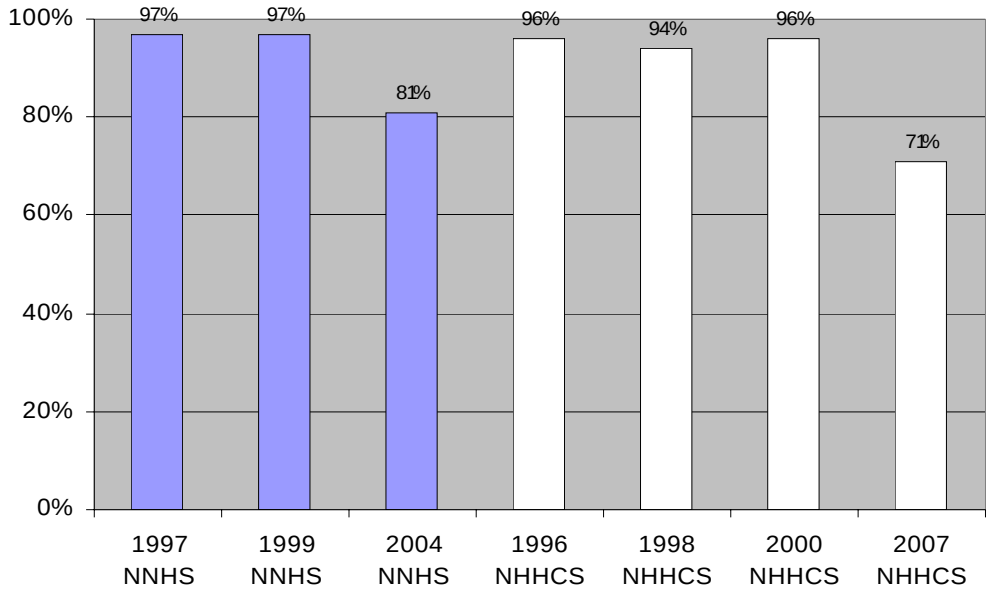
Response Rates

Challenges

Obtaining sufficient response rates is a general challenge facing most surveys today. Low response rates are not desirable since they may decrease the representativeness of

the final sample. NNHS and NHHCS surveys have not escaped the challenge of getting sufficient response rates. The unweighted percentage of in-scope cooperating sampled providers who give information on sampled patients/residents – the second-stage response rate – has remained relatively stable at 98% to 99% in both NNHS and NHHCS surveys over the past decade. However, the unweighted percentage of in-scope sampled providers who agree to participate at all – the first-stage response rate – has decreased in both NNHS and NHHCS surveys over the years (See Exhibit 4). Between 1997 and 2004, the percentage of in-scope sampled nursing homes that agreed to complete at least the facility component of NNHS decreased from 97% to 81%. NHHCS has experienced an even larger decrease in response rates, from 96% in 1996 to 71% in 2007.

Exhibit 4. NNHS and NHHCS Unweighted First-Stage Response Rates



Both NHHCS and, to a lesser extent, NNHS have experienced lower first-stage response rates among sampled providers that are affiliated with a chain or larger corporate entity. In the 2007 NHHCS, the agency first-stage response rate was 71% overall, 80% for agencies not affiliated with chains, and 52% for agencies affiliated with chains. In the 2004 NNHS, the first-stage response rate of chain-affiliated facilities was 72% compared to 81% for all facilities. It was more difficult to gain cooperation from agencies affiliated with chains because many also needed corporate approval, which required going to an additional level and more calendar time.

For the 2004 NNHS, only facilities associated with ten large national chains had been identified prior to the beginning of the data collection. Most facilities associated with chains were identified during data collection when facilities indicated they were chain-affiliated and required corporate approval to participate. The response rate of chain-

affiliated facilities identified during the data collection was lower than for the chain-affiliated facilities identified prior to the start of data collection. Part of the reason was that more effort over time could be spent on getting approval for chain-affiliated facilities known earlier.

With the experience of the 2004 NNHS as a reference, the data collection contractor for the 2007 NHHCS developed a management module for tracking efforts to gain chain approval for chain-affiliated agencies. Work was conducted before the data collection to identify as many of the chain-affiliated agencies in the sample as possible. The effort expended to gain chain approval in the NHHCS was most likely greater, given the advance work, than in the NNHS. Nonetheless, chain affiliation hampered the response rate in the NHHCS and, it appears, more so than in the NNHS. The response rate for chain-affiliated agencies in the 2007 NHHCS was 20 percentage points lower than that of chain-affiliated nursing homes in the 2004 NNHS (52% versus 72%). The 2007 NHHCS response rate for chain-affiliated agencies would have been even lower without the recruitment efforts to obtain corporate approval for chain agencies that initially refused to participate.

Future Plans

Obtaining reasonable response rates in the LTCSB establishment surveys is a challenge in the present-day environment, and chain affiliation is a major driver of the lower response rates occurring in these surveys. Our experience suggests that in future establishment surveys, we should do more outreach to stakeholders, such as the corporate offices of chains, prior to implementing the surveys. Streamlining the content of the surveys to reduce response burden and demonstrating the reduced burden to corporate offices may also facilitate chain participation.

LTCSB has historically been successful in obtaining letters of support from provider associations which have been used in data collection operations to help obtain provider cooperation. LTCSB seeks to explore the extent to which we may be able to increase LTCSB survey cooperation rates among sampled LTCSB providers by working in new ways with provider associations to spread the word about the importance of survey participation. Starting with the re-designed NNHS and NHHCS and continuing further with NSRCF, LTCSB has moved beyond this level of collaboration to explore the extent to which promoting LTCSB survey participation among associations' provider members may help increase provider cooperation in LTCSB surveys. Over the past several months, the NCHS NSRCF team and its data collection contractor, RTI International, have met monthly with board members of CEAL. CEAL is a non-profit collaborative of 11 national organizations whose aim is to promote high-quality assisted living. CEAL's Board of Directors includes representation from provider organizations LTCSB has worked with to obtain letters of support previously for NNHS and NHHCS and, most recently, NSRCF. These organizations include AAHSA, NCAL/AHCA, ASHA, and ALFA. The goal of LTCSB's meetings with CEAL board members has been to solicit information from CEAL on 1) best practices for recruiting facilities to participate in NSRCF and 2) ways we can collaborate to inform their respective memberships about the

importance of the NSRCF. NCHS is also working with state affiliates of these associations during the NSRCF pretest to raise awareness of NSRCF using their affiliates' communication channels with their provider members.

Outreach to Data Users

Challenge

The expanded content in the redesigned NNHS and NHHCS, and the supplemental NNAS and NHHAS, contains data that can expand the investigation of issues and policy in LTC—but only if potential users are aware of the rich data available in the LTCSB surveys. LTCSB seeks to increase the awareness of its data and its uses among the public with the intent to increase its numbers of data users.

Future Plans

LTCSB plans to undertake three strategies to increase the numbers of data users.

Raise awareness. LTCSB seeks to enlarge the LTCSB survey user base across a diverse set of data users by raising awareness of the surveys and products among more researchers, policy makers, and LTC providers. To make more potential users aware of the LTCSB surveys and data products, we propose to identify an array of possible audiences and then identify some key communication channels for distributing information about the strengths of the LTCSB surveys. For example, although some graduate students have used LTCSB data for theses or dissertations, we believe that few students actually know about these data. We plan outreach to students and faculty of programs in public health, gerontology, health services research, and nursing. One possible collaborator for such awareness messaging is the Association for Gerontology in Higher Education (AGHE). Established in 1974, the AGHE is a membership organization of colleges and universities that offer education, training, and research programs in the field of aging. AGHE currently has more than 280 institutional members throughout the United States, Canada, and abroad. We will also explore potential linkages with professional organizations in the gerontology, public health, and health services research fields, in particular GSA and its Emerging Scholar and Professional Organization.

Assess what current and potential users find most helpful. DHCS is in the process of conducting a consumer survey designed to identify our stakeholders, assess their needs, and obtain their feedback on our surveys. The results of this process will include feedback specific to LTCSB as well as to other DHCS programs. Three different stakeholder groups have been targeted for this survey: attendees of the 2008 NCHS Data Users Conference held August 11-13, 2008; subscribers to listservs supported by the Division, including the LTC listserv; and users of the DHCS web pages, including LTCSB web pages.

A convenience sample of approximately 150 attendees of the Data Users Conference completed the survey. The survey was administered at sessions on the National Health Care Surveys, including overview sessions that described content and "hands on" sessions that taught users how to manipulate microdata. Conference participants represent particularly motivated users who were willing to sacrifice time to learn from NCHS staff how to analyze our data resources. We anticipate that most of the attendees will use microdata in addition to published reports, so their feedback is especially important. However, these participants may or may not have been familiar with specific NCHS surveys and data products at the time of the conference.

Invitations to complete the web-based survey were sent to all members of DHCS listservs in the last two weeks of August with a follow-up invitation in the first week of September. Listserv members will already be knowledgeable about DHCS products and services and hence will be well equipped to evaluate the gamut of services DHCS provides.

Finally, the web-based survey will run for approximately three months starting in mid-August, and will target every tenth user of any DHCS web page, including LTCSB web pages. We anticipate that web site users will be considerably less knowledgeable than conference participants or listserv members. We hypothesize that web site users will have less direct experience manipulating NCHS data and more interest in our published reports, a hypothesis that our survey will help to validate. A copy of the web-based survey is included in **Appendix L**. The survey was modified slightly for conference attendees and listserv members in that it did not ask the reason that the respondent visited our web site that day. Results from all three surveys will be compiled to produce a general profile of DHCS stakeholders. The profile will summarize their stated needs and their specific feedback on our services, including data files and documentation, reports and publications, listservs, web pages, and customer service by telephone and e-mail.

More efficiently target LTCSB products to diverse users. LTCSB has relied heavily on NCHS reports as a major way to disseminate information about its LTCSB surveys (See **Appendix J**). In the preceding we outlined some of LTCSB's staffing challenges. Cognizant of staff workload, LTCSB seeks to find an optimal balance among the array of data products it produces relative to its different types of data users. For example, researchers traditionally like public-use files and easy-to-use documentation and read peer reviewed literature in their fields, but LTC providers may well prefer articles in trade publications. We will use the findings from the consumer surveys described above to inform future revisions to the topics and products in the LTCSB analysis plan (See **Appendix K**).

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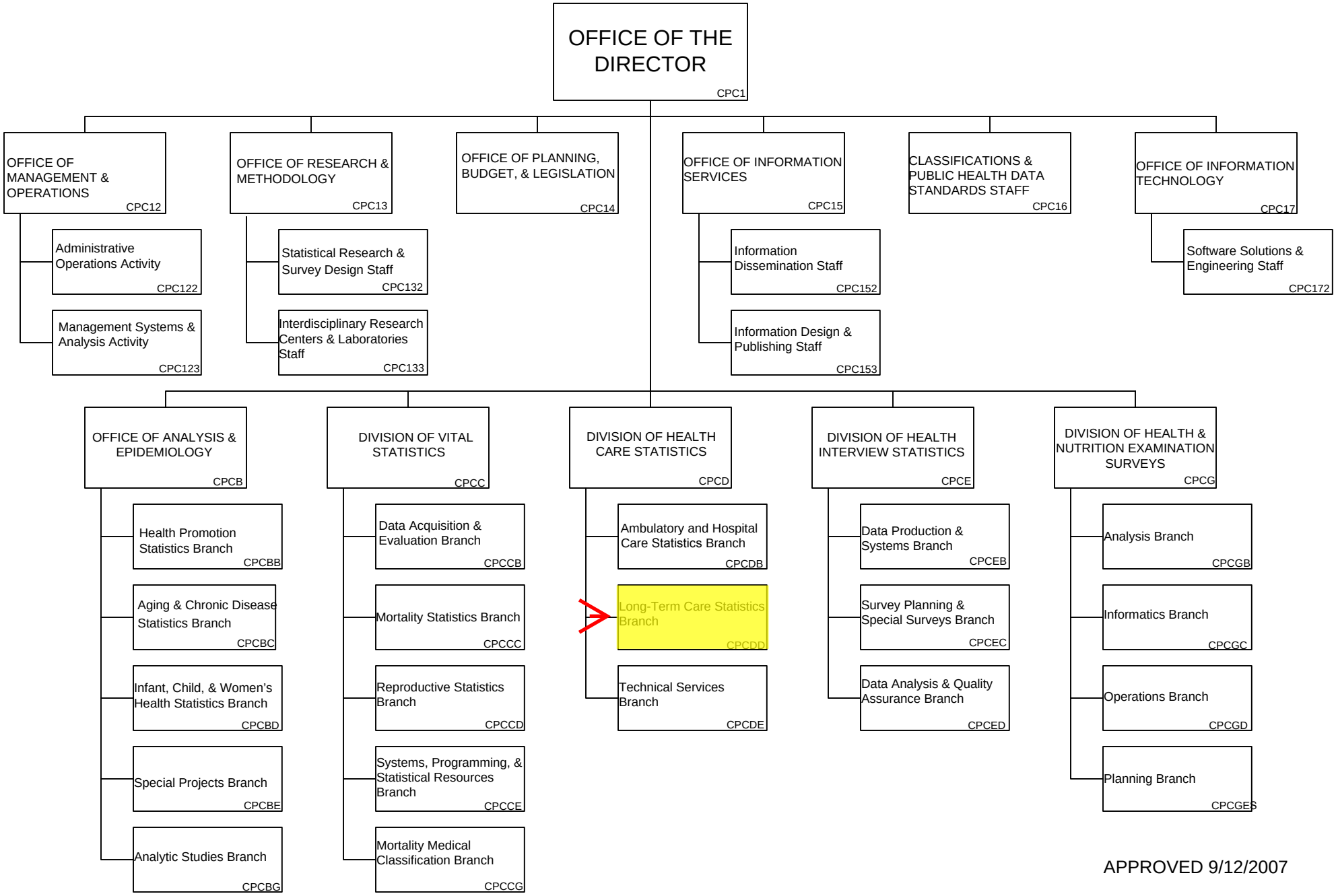
Appendix A.

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)
COORDINATING CENTER FOR HEALTH INFORMATION AND SERVICE (CP)
NATIONAL CENTER FOR HEALTH STATISTICS (CPC)



APPROVED 9/12/2007

Appendix B. Long-Term Care Statistics Branch Staffing Composition

Last Name	First Name	Pay Plan	Series	Grade	Position Title
HARRIS-KOJETIN	LAUREN	GS	101	15	CHIEF
DECKER	FREDERIC	GS	101	14	SOCIAL SCIENTIST
BERCOVITZ	ANITA	GS	601	13	HEALTH SCIENTIST
DWYER	LISA	GS	601	13	HEALTH SCIENTIST
MOSS	ABIGAIL	GS	1530	13	SURVEY STATISTICIAN
SENGUPTA	MANISHA	GS	1530	13	SURVEY STATISTICIAN
STRAHAN	GENEVIEVE	GS	1530	13	SURVEY STATISTICIAN
CAFFREY	CHRISTINE	GS	101	12	SOCIAL SCIENTIST
JONES	ADRIENNE	GS	1530	11	STATISTICIAN (HEALTH)
PARK-LEE	EUNICE	GS	601	11	HEALTH SCIENTIST
COOPER	NICOLE	GS	303	7	PROG OPERATIONS ASST
Vacancy	3/5/2008	GS	1530	11/13	SOCIAL SCIENTIST

Appendix C. Overview of NNHS, NHHCS, and NSRCF

Survey	Type of Data	Years fielded	Respondents/ Encounters
National Home and Hospice Care Survey (NHHCS)	Agencies, current patients/ discharges	1992-94 1996 1998 2000 Redesigned 2007	2007 1,034 agencies 4,700 current home health patients 4,800 hospice discharges 3,417 home health aides
National Nursing Home Survey (NNHS)	Nursing homes, current residents/ discharges	1973-74 1977 1985 1995 1997 1999 Redesigned 2004	2004 1,174 nursing homes 13,670 current resident 3017 certified nursing assistants
National Survey of Residential Care Facilities (NSRCF)	Facilities, current residents	Currently planned for national fielding in 2010	Planned 2,250 facilities 10,150 current residents

Appendix D. Content of the 2004 National Nursing Home Survey and the 2007 National Home and Hospice Care Survey

The content of the National Nursing Home Survey was redesigned and expanded with the implementation of the 2004 National Nursing Home Survey (NNHS). The content of the 2007 National Home and Hospice Care Survey (NHHCS) was subsequently modeled after the 2004 NNHS. Some the content in the 2004 NNHS and 2007 NHHCS differed slightly because of the unique provider focus in each survey. For example, the 2004 NNHS contained questions about special care units, questions not relevant to home health or hospice agencies. Similarly, the 2007 NHHCS asked more questions about the role of agency staff in assisting patients with activities of daily living and medications; the role of assistance can vary more in home and hospice care than in nursing home care with caregivers available 24 hours a day.

The following highlights some of the major topics covered in the 2004 NNHS and 2007 NHHCS.

Content of Facility/Agency Data

Basic characteristics

- Region
- Metropolitan status
- Chain affiliation
- Ownership
- Bed size
- Residents by payer

Practices and services

- Special programs
- Medical services
- Immunization policies & practices
- Advance directive policy and practice
- End-of-Life practices
- Electronic information systems

Staffing

- Administrators, Medical Directors, & Directors of Nursing
  - Training and specialty certification
  - Years of experience and tenure at facility

- Nursing service staff
  - FTEs & staffing mix
  - Specialty certification
  - Advance practice nurses
  - Entry-level wages

  - Recruitment/retention strategies
  - Benefits
  - Staff vacancies, turnover, and stability

- Volunteers
  - Duties/tasks performed
  - Number of volunteers

Content of Resident/Patient Data

Demographic characteristics and payment sources

Health Status

- Activities of daily living
- Comatose
- Cognitive skills for daily decision-making
- Behavioral symptoms
- Bowel control
- Bladder control
- Pressure ulcer
- Current Diagnoses (Recorded up to 16 diagnoses)

Services and treatments

- Medications (Recorded up to 25 medications taken previous day)
- Services from special programs
- Nutritional approaches
- Medical devices
- Pain assessment and management
- Emergency room visits
- Hospital admissions
- Advance directives
- Details on end-of-life/palliative/hospice care provided

Appendix E. Content of the National Nursing Assistant Survey and the National Home Health Aide Survey

This appendix includes
1) a listing of the sections of the two surveys, with examples of questions from each section (Part I);
2) examples of questions unique to the NNAS (Part II); and
3) examples of questions unique to the NHHAS (Part III).
The overwhelming majority of the questions on the 2004 National Nursing Assistant Survey (NNAS) and the 2007/8 National Home Health Aide Survey (NHHAS) are virtually identical, to permit comparison of responses from these two groups of direct-care workers.

Part I. Sections of the NNAS and NHHAS and representative questions

A. Screening and eligibility

B. Recruitment

- Why initially decided to become nursing assistant/home health aide
- How learn about becoming a nursing assistant/home health aide as a possible job
- Tenure in the field
- Type of work prior to becoming nursing assistant/home health aide
- Commitment to field (would the respondent become a nursing assistant/home health aide again)

C. Education and Training

- Where was training received
- Adequacy of training in areas including dementia care, preventing injuries and working with co-workers
- How well the training prepared nursing assistant/home health aide for actual work situation
- Was training hands-one, classroom or mix
- Continuing education

D. Job History

- Number of jobs in last 5 years
- Detail on up to 5 jobs in the last 2 years, including wages, tenure at jobs, hours worked per week, why stopped working (if applicable)
- How found current job
- Health insurance
- Other benefits offered by employer such as sick leave, child care or pension plan
- Satisfaction with number of hours worked
- Overtime
- Commitment to job

E. Family Life

- Mode of travel to job, travel time, amount of work missed due to travel difficulties
- Household composition and time missed from work due to family responsibilities
- Use of government benefits: TANF, WIC, SSI, food stamps, housing assistance

F. Management and supervision

- Perception of supervisor, including support for career and clear assignment of work

G. Client relations

- Adequacy of time to perform tasks
- Pattern of patient assignment
- Perceived respect from patients and supervisor and recognition of a good job by patients

H. Organizational Commitment and Job Satisfaction

- Overall job satisfaction
- Satisfaction with aspects of job including benefits and salary
- Reasons to work in current job
- Areas dislike about job
- Would nursing assistant/home health aide recommend: receiving care from the employer, working for the employer
- Is nursing assistant/home health aide job hunting
- Likelihood of leaving
- Reasons for leaving

I. Workplace Environment

- Opinions about job
- Perceived value of job by society, supervisor, organization and nursing assistant/home health aide
- Discrimination

J. Work-related injuries

- Types of injuries
- How the injuries occurred
- Number of injuries
- Use and presence of safety devices

K. Demographics

- Age, race, gender, Hispanic ethnicity, education, marital status, income, citizenship, languages spoken
- Flu shot in last year
- Difficulties in communicating with patients because of language

L. Facility Leavers

- Why left facility/agency, current occupation, discrimination

Part II. Questions Unique to National Nursing Assistant Survey

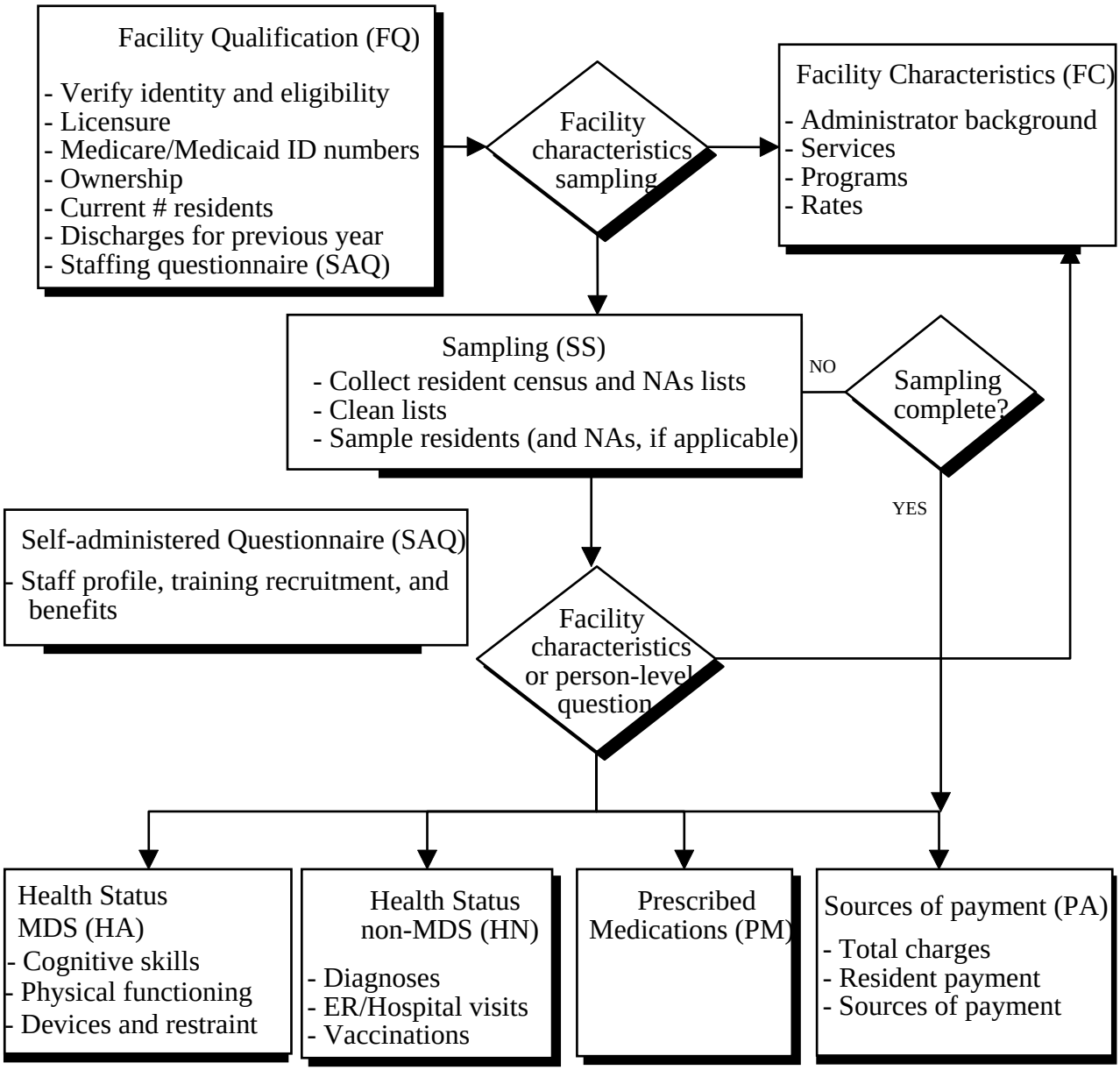
Questionnaire Section	Question	Rationale
B	• Who paid for training to become a nursing assistant Topics not covered in initial training, or would like to see at current job • Was nursing assistant assigned mentor or buddy at first job • Detail on continuing education topics and location of training • Actions facility nursing assistant works act could take to encourage training in addition to that required for yearly re-certification	Unlike home health aides, nursing assistants must receive training and become certified to work in a nursing home. Thus there are considerably more questions on training in the NNAS than the NHHAS.
H	Perceived amount of turnover in facility and its effect on nursing assistant's ability to do job	These issues are not relevant in home health where care is provided generally by the aide working alone.
I	Does nursing assistant ask for assistance with problems on job	

Part III. Questions Unique to National Home Health Aide Survey

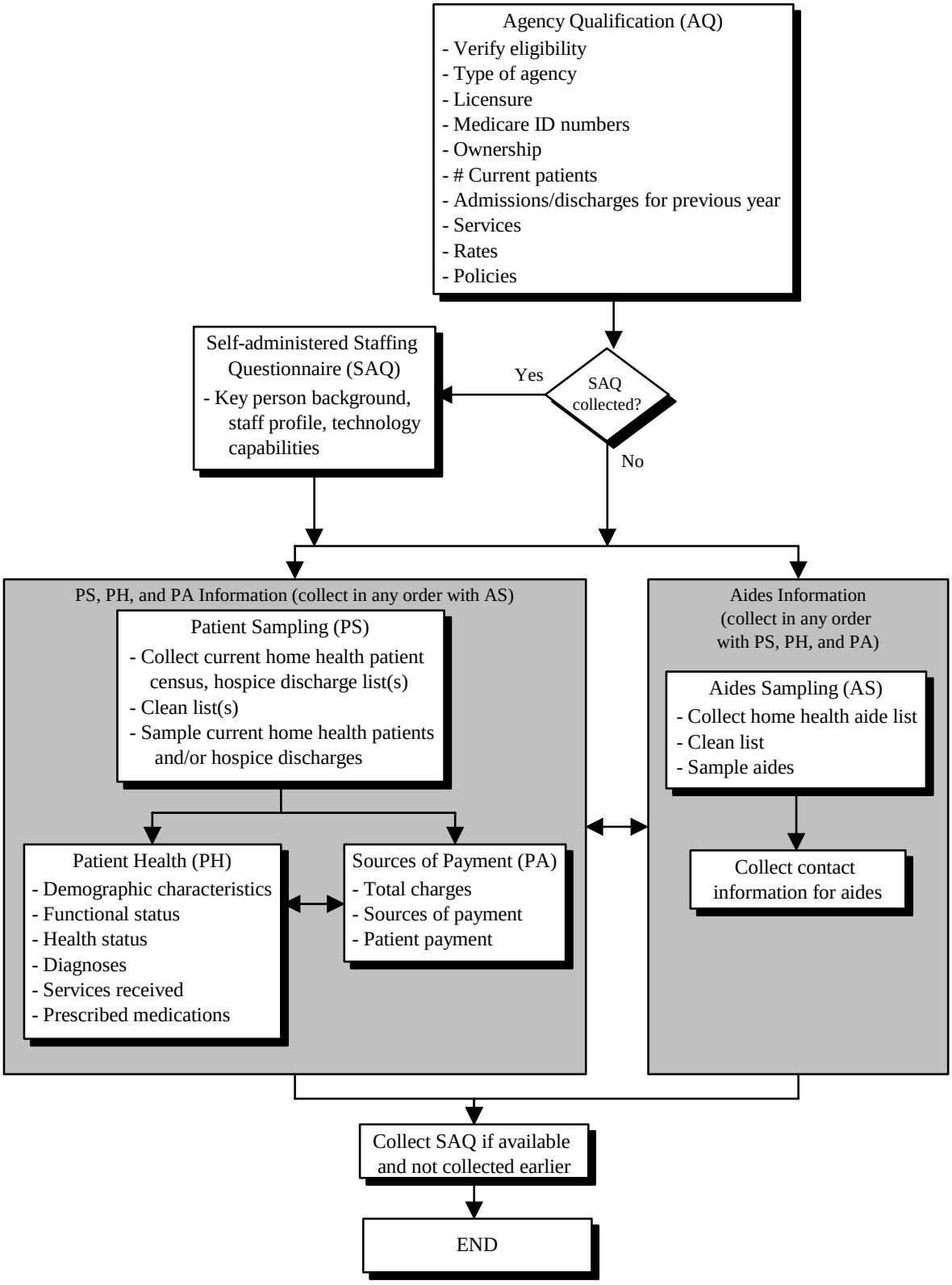
Questionnaire Section	Question	Rationale
A	• Did home health aide work in a facility or patient homes? • Did home health aide work with one patient or multiple patients. • Did home health aide live with the client.	Home health and hospice care may be provided in homes, institutions or in residential hospices. Work experiences and concerns may differ by location.
C	• Did home health aide receive any formal training • Adequacy of all training combined in one question	Home health aides do not require certification or any formal training to provide home health care. Thus detailed questions on training are not as relevant as for nursing assistants.
D E	• Job-related travel reimbursement • Detail on travel time	Home health aides may travel between facilities and patient residences to provide care and thus travel is of greater interest than for nursing assistants who work in a facility.
G	Number of patients seen and visits made per week	The number of patients and visits seen give a picture of the home health aide's workload.

Appendix F. Data Collection Flow of the 2004 NNHS and the 2007 NHHCS

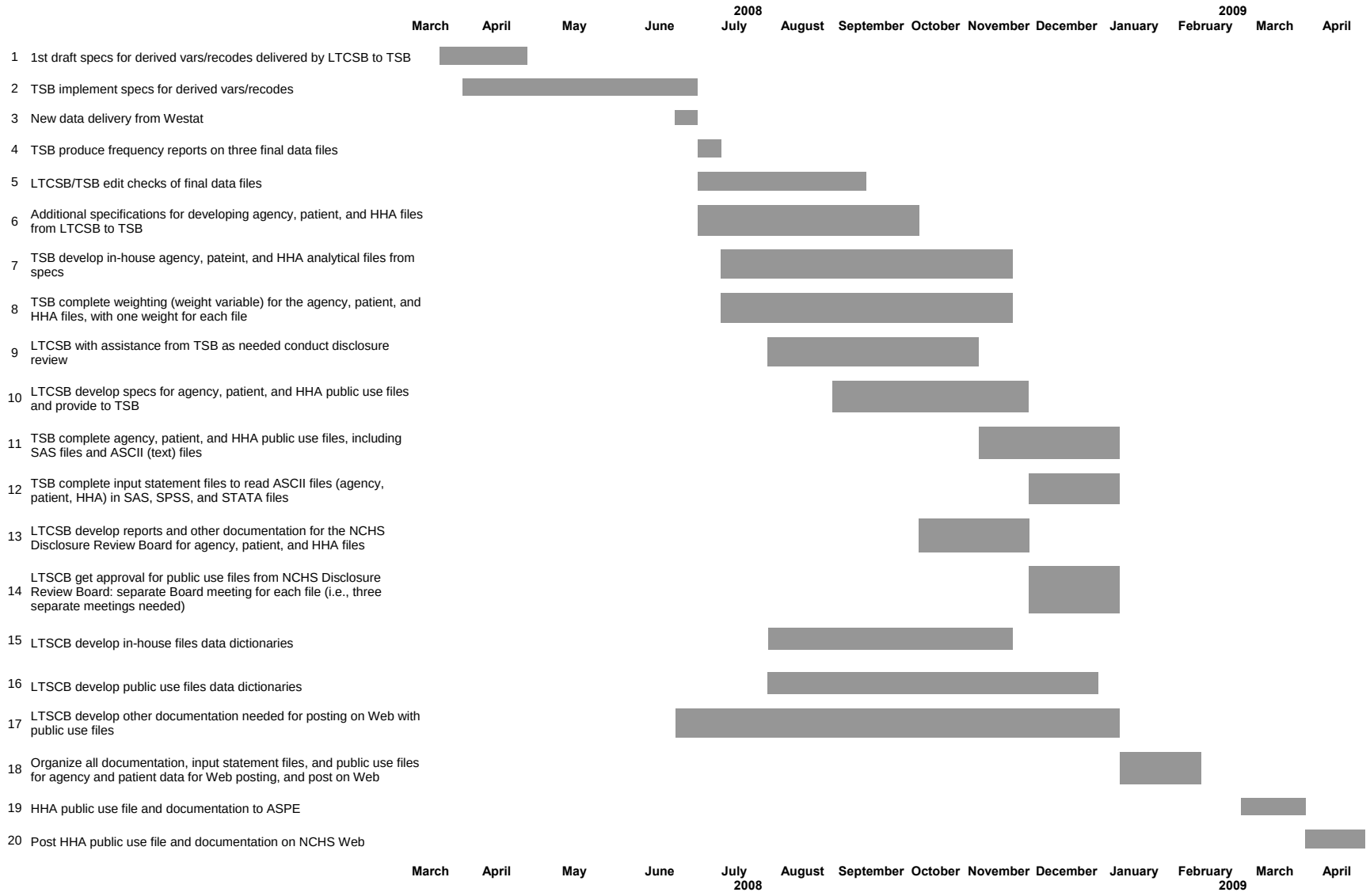
2004 NNHS



2007 NHHCS


Agency Qualification (AQ)
- Verify eligibility
- Type of agency
- Licensure
- Medicare ID numbers
- Ownership
- # Current patients
- Admissions/discharges for previous year
- Services
- Rates
- Policies
SAQ collected?
Yes
Self-administered Staffing Questionnaire (SAQ)
- Key person background, staff profile, technology capabilities
No
PS, PH, and PA Information (collect in any order with AS)
Patient Sampling (PS)
- Collect current home health patient census, hospice discharge list(s)
- Clean list(s)
- Sample current home health patients and/or hospice discharges
Patient Health (PH)
- Demographic characteristics
- Functional status
- Health status
- Diagnoses
- Services received
- Prescribed medications
Sources of Payment (PA)
- Total charges
- Sources of payment
- Patient payment
Aides Information (collect in any order with PS, PH, and PA)
Aides Sampling (AS)
- Collect home health aide list
- Clean list
- Sample aides
Collect contact information for aides
Collect SAQ if available and not collected earlier
END

Appendix G. Tasks and Time Table for the 2007 NHHCS/NHHAS Files Development



Appendix H. Experts Consulted for NNHS, NNAS, NHHCS, NHHAS, and NSRCF Development and Redesign

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Appendix I. Selected Publications by Outside Researchers Using LTCSB Data

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Appendix J. Selected Publications by LTCSB/NCHS Staff Using LTCSB Data

Chronological order within publication type (71 cites)

JOURNAL ARTICLES

Decker, F.H., Harris-Kojetin, L.D, Bercovitz, A. Intrinsic Job Satisfaction, Overall Satisfaction, and Intention to Leave the Job Among Nursing Assistants in Nursing Homes, The Gerontologist. 2009, forthcoming.

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Appendix K. LTCSB Analytic Plan 2008 (last updated 8/18/2008)

DHCS Research Priorities

I. Core survey report
II. Sponsored supplement
III. Quality of care including patient safety
IV. Disparities in care for population subgroups (in quality and access)
V. End-of-life care
VI. Use of resources/costs to manage conditions, including staffing
VII. Patterns of disease/specific conditions
VIII. Provider-related issues (characteristics of facilities/organizations/individuals, including staffing)
IX. Methods to support research priorities
X. Hot topics
XI. Diffusion of technology, e.g., medications, surgical procedures, EMRs

NOTE: Topics that are both **underlined and bolded** below are highest priority for completion before the end of 2008

LTCSB Products

1) Web Tables: BASIC FACILITY, RESIDENT, AND AIDE CHARACTERISTICS

   2004 NNHS/NNAS

   A. Facilities (Moss) [I] – done in 2006

   B. **Residents** (Jones, Moss) [I] – done 6/2008

   C. **NAs** (Moss, Jones, Bercovitz) [II]– in publications as of 8/14/08; scheduled for Web posting 9/2008

   D. Trends (# of homes, residents, LOS, race, etc.) (Moss) [I]– done in 2006

2) **2004-2005 NNHS Overview Report** (Jones, Dwyer, Bercovitz, Strahan) [I] – in Center review as of 8/2008

3) **Series 1 Methods Report on the Redesign of the 2004 NNHS** (Remsburg, Strahan) [IX]

   2007 NHHCS/NHHAS

4) **Series 1 Methods Report on the Redesign of the 2007 NHHCS** (Dwyer, Harris-Kojetin) [IX] – to draft in 2008

5) STAFFING

2004 NNHS/NNAS

A. NCHS series report: Overview of Nursing Assistants (ASPE, Bercovitz, Remsburg) [II, VIII, IX] – done in 2007

B. **Characteristics of NAs with intentions to leave in the next year** (ASPE, Bercovitz, Remsburg) [VIII]– under review by Journal of Aging & Social Policy

C. **The National Nursing Assistant Survey: Improving the Evidence Base for Policy Initiatives to Strengthen the Certified Nursing Assistant Workforce** (ASPE, Remsburg, Harris-Kojetin, Bercovitz, Han) [VIII]. Accepted on April 9, 2008 by The Gerontologist; publication date to be determined

D. **The Relationship of Educational Level to the Job Tenure of Nursing Home Administrators and Directors of Nursing** (Decker, Nicholas Castle) [VIII] – received NCHS clearance on July 20, 2008; submitted to Health Care Management Review on August 8, 2008

E. The Relationship of Nursing Home Performance to the Job Tenure of Nursing Home Administrators and Directors of Nursing (Decker, Nicholas Castle) [III, VIII] – intended for journal submission; under development

F. **Intrinsic Job Satisfaction, Overall Satisfaction, and Intention to Leave the Job Among Nursing Assistants in Nursing Homes** (Decker, Harris-Kojetin, Bercovitz) [VIII]– Accepted on August 6, 2008 by The Gerontologist; publication date to be determined.

G. What CNAs' Supervisors' Management Behaviors Reveal to CNAs (Harris-Kojetin, Bercovitz, Decker) [VIII]– presented at GSA 2007; intended for journal submission, under development

H. CNAs' Assessments of Turnover's Effects on Their Jobs (Bercovitz, Harris-Kojetin, Decker) [VIII]– presented at GSA 2007; intended for journal submission (e.g., The Gerontologist) and an ADR

I. Concordance of CNA and NH Administration Responses about CNA benefits offered by facility (Bercovitz) [VIII] – concept under development, intended for journal submission

2007 NHHCS/NHHAS

J. **NCHS Series Report: Overview of Home Health Aides** (Bercovitz, Moss) [II, IX]

6) HOT TOPICS

2004 NNHS

A. **Strategies to Improve Employee Influenza Vaccination Rates in U.S. Nursing Homes** (Harris-Kojetin, Remsburg, NCIRD/NIP) [III, VIII, X] Presented at CDC's 2007 WorkLife Conference; QuickStat published January 2008

B. Intensity and Management of Moderate to Excruciating Pain (Remsburg, AHRQ, Harris-Kojetin) [X]— presented at 2007 GSA

C. Pain Management Among Residents with Dementia and Depression (Bercovitz, Jones) [X] – need concept; work on in 2009/2010

D. Complementary and Alternative Medicine Use among Nursing Home Residents (Bercovitz) [X] – need concept; intended as Data Brief or National Health Statistics Report; work on in 2009/2010

7) DIFFUSION OF TECHNOLOGIES – E.G., MEDICATIONS, SURGICAL PROCEDURES, EMRS

2004 NNHS

A. **NCHS Series 1 Report: Collecting Medication Data in the 2004 National Nursing Home Survey** (Dwyer) [IX, XI]– in NCHS Center review as of 8/2008

B. **Polypharmacy Among U.S. Nursing Home Residents: Results from the 2004 National Nursing Home Survey** (Dwyer, Han, Woodwell, Rechsteiner) [III, XI]— in DHCS review as of 8/2008

C. Antipsychotic and Benzodiazepine Use among Nursing Home Residents (S. Decker, David Stevenson/David Grabowski/Haiden Huskamp/Susan Mitchell (Harvard University), Dwyer) [III, XI] — concept approved; under development

D. Potentially Inappropriate Medication Use Among U.S. Elderly Nursing Home Residents: Has the Prevalence Changed Since the Adoption of Beers List in Drug Regimen Review (Dwyer, Margie Goulding (OAE), Denys Lau (Northwestern University's School of Medicine) [III, XI] – concept to be submitted for branch review before end of 2008

E. Laxative use and opiate prescriptions (Bercovitz) [III, XI] – concept needed; work on in 2009/2010

F. EMR/IT in NHs ADR (Bercovitz) [XI]— concept under development; work on in 2009/2010

G. IT and Medications (Bercovitz, Decker, Jones) [XI]— work on in 2009/2010

H. Association of IT with selected outcomes (falls, pressure sores, etc.) (Bercovitz) [III, XI] – need concept; work on in 2009/2010

8) QUALITY, ACCESS, DISPARITIES

2004 NNHS

A. **Predictors of Emergency Department Use for Short Stay Nursing Home Residents** (Caffrey) [III]—accepted for presentation at GSA 2008; intended for peer-reviewed manuscript, under development

B. **Prior Living Arrangement as a Predictor of Hospitalizations among Nursing Home Residents** (Caffrey, Harris-Kojetin) [III]- presented at Academy Health 2008; intended for peer-reviewed manuscript under development

C. Characterization of the Oldest Old (Bercovitz, Lee Hyer, Catherine Yeager) – conference abstract approved

D. Health and Health Care Differences between Black and Non-Black Nursing Home Residents: Descriptive Findings from the 2004 National Nursing Home Survey (Jones, Harris-Kojetin) [IV] – intended for GSA 2008 presentation and for a Data Brief.

E. **Prevalence of Pressure Ulcers in the U.S. Nursing Home Population: Findings from the 2004 National Nursing Home Study** (Park-Lee, Caffrey) [III] – intended for a Data Brief; concept in branch review as of 8/2008

F. Falls and Fall Risk Factors among U.S. Nursing Home Residents with and without Dementia (Harris-Kojetin, Caffrey) [III]—accepted for presentation at GSA 2008; intended for peer-reviewed manuscript, under development

9) END-OF-LIFE CARE

2004 NNHS

A. **End-of-Life Care in United States Nursing Homes: Data from the 2004 National Nursing Home Survey** (Bercovitz, Decker, Jones, Remsburg) [V]– NCHS Center-cleared report is in editing in preparation for printing as of 8/2008

B. Advance Directives Used by Nursing Home Residents (Moss, Harris-Kojetin) [V]— intended for a Data Brief or National Health Statistics Report; need concept; work on in 2009

C. Use Of Advance Directives by Nursing Home Residents and its Association with Geographic, Facility and Resident Characteristics (Decker) [V]– intended for journal submission; need concept; work on in 2010

10) PATTERNS OF DISEASE/SPECIFIC CONDITIONS

2004 NNHS

A. Mental Health (Jones) [VII] — need concept; work on in 2010

B. Diabetes (Dwyer, Jones) [VII] — need concept; work on in 2010

C. Dementia (Bercovitz) [VII] — need concept; work on in 2010

11) 2008 NCHS DATA USERS CONFERENCE

A. An Overview of the National Home and Hospice Care Survey (Dywer) [IX]

B. An Overview of the National Home Health Aide Survey (Bercovitz, Sengupta) [IX]

C. Workshop for the 2004 National Nursing Home Survey (Decker) [IX]

D. Cross-cutting Session on Using NCHS's Long Term Care Surveys to Examine Aging Issues (Bercovitz, Caffrey) [IX]

NCHS User Survey

You've been selected to participate in a short, 13-question customer satisfaction survey. Your voluntary participation is extremely important, and will be used to improve NCHS' products and services. All information will be treated confidentially. Thank you for helping NCHS.

1. Please indicate your opinion about the NCHS web site and the information you obtain from it.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	N/A
Information is easy to find						
Information is easy to interpret						
Information is relevant						
Information is accurate						
Information is timely						

2. About how many times have you visited the NCHS web site in the last year? (Please include today's visit in your count.)

- 1 time
- 2-5 times
- 6-11 times (less than once a month)
- 12-23 times
- 24 times or more (twice a month or more)

3. On this occasion, how did you access the NCHS web site?

- Bookmark or favorites
- Link from other site
- Search engine (such as Yahoo, Alta Vista, Lycos)
- Typed the web address directly
- Other

NCHS User Survey

4. Why did you visit the NCHS website today? (Check all that apply)

- To obtain information about a specific health topic
- To download a specific report, publication, or data table
- To download public use micro-data files or obtain information about these files
- To identify survey methods or data collection forms to apply to your own research
- Other

5. Please rate each of the following NCHS services and data products that you have used in the last year.

	Excellent	Very good	Good	Fair	Poor	N/A
Website						
Public use microdata files						
Listserv for one or more NCHS surveys						
E-mail notices about NCHS products						
Customer service from an NCHS employee by e-mail, U.S. mail, or telephone						

6. From which of the following health care surveys have you obtained information in the last year? (Check all that apply)

- National Ambulatory Medical Care Survey (NAMCS)
- National Hospital Ambulatory Medical Care Survey (NHAMCS)
- National Hospital Discharge Survey (NHDS)
- National Home and Hospice Care Survey (NHHCS)
- National Nursing Home Survey (NNHS)
- National Survey of Ambulatory Surgery (NSAS)
- None of the above
- Don't know/not applicable

7. From which of the following surveys have you obtained information in the last year? (Check all that apply)

- National Health Interview Survey (NHIS)
- National Health and Nutrition Examination Survey (NHANES)
- National Survey of Family Growth (NSFG)
- State and Local Area Integrated Telephone Survey (SLAITS)
- None of the above
- Don't know/not applicable

NCHS User Survey

8. Have you obtained birth or death statistics (National Vital Statistics) in the last year?

- Yes
- No
- Don't know/not applicable

9. How do you use NCHS information? (Check all that apply)

- Academic research/school project
- Health program planning, administration or evaluation
- To inform/develop policy or legislation
- Media/journalism
- Market research/product development
- Personal interest
- Other (please specify)

10. Please describe any important gaps in the information or data that NCHS provides.

11. Which best describes your occupation?

- Health care provider
- Health/public health professional
- Health researcher/scientist
- Legal professional
- Market researcher, analyst, or consultant
- Media professional
- Policy-maker, policy analyst, or advocate
- Retired
- Student
- Other (please specify)

NCHS User Survey

12. How would you best describe your organization?

Academic/research institution

Health care facility

Medical drug or device industry or healthcare consulting

Media/communications firm

Non-profit advocacy or policy organization

Government

Not affiliated with an organization

Other (please specify)

13. Other comments: