Appendix D.— Major Databases Covering the Availability of Health Care Services

Introduction

This appendix discusses the major databases containing information on the availability and services of U.S. health care facilities (e.g., number, geographic location, bed size, and capacity). The primary sources of information are the American Hospital Association's (AHA) Annual Survey of Hospitals, the Master Facility Inventory of Hospitals and Institutions (MFI), and the Medicare/Medicaid Automated Certification System (MMACS). Additional sources of data include the Area Resource File (ARF), State certificate-of-need (CON) databases, and ambulatory care surveys.

AHA's Annual Survey of Hospitals

The Annual Survey of Hospitals conducted by AHA is a basic source of data on the characteristics of U.S. hospitals. The survey has been conducted since 1946, and its results are published in the fall of each year. Data are collected for the survey through a questionnaire mailed to all hospitals in AHA files (approximately 7,000 hospitals), which include nonmember as well as member hospitals in the United States and associated areas. AHA depends on the American Osteopathic Hospital Association for a list of osteopathic hospitals and on the Joint Commission on Accreditation of Hospitals for a list of long-term care facilities.

The Annual Survey of Hospitals collects data on more than 500 items, including information on facilities and services, utilization patterns, hospital expenses, and staffing patterns. Examples of specific items are as follows (12):

- geographic location (by county and zip code);
- classification (type of ownership);
- major type of service (e. g., short-term);
- facilities and services (general medical, surgical, and selected ancillary services);
- beds and utilization by inpatient service;
- total facility beds and utilization;
  - —licensed bed capacity,
  - —newborn nursery,
  - —surgical operations,
  - —outpatient utilization,
  - —adult pediatric and neonatal beds,
  - —Medicare and Medicaid utilization (discharges, visits),
  - —65 and older utilization;
- financial data:
  - —revenue,
  - —expenses,
  - —unrestricted funds,
  - —restricted funds,
  - —capital expenditures; .
- personnel; and
- medical staff.

Data from the Annual Survey of Hospitals are available on data tapes (1969 to present) and customized computer printouts (in the form of tables, listings, or labels). To the users of AHA's recently acquired National Data Network, annual survey data from 1978 are also available online. Users of the Data Network System can also maintain their own databases on the system and can merge them with the AHA databases (12).

Since data for the AHA Annual Survey are collected via a mailed questionnaire, individual hospitals must take responsibility for supplying complete and accurate responses. For nonreporting hospitals or those that submit incomplete survey questionnaires, data are estimated. The survey provides information on some services provided by the hospitals, but it does not provide an exhaustive list of all services. According to AHA, "the intent is not to serve as an official and all inclusive list of services offered by individual hospitals" (12).

Master Facility Inventory of Hospitals and Institutions (MFI)

MFI, which is maintained by the National Center for Health Statistics (NCHS), is the most comprehensive file of inpatient health facilities available in the United States. The file includes data from 33,000 **fa**cilities that provide either medical, nursing, or custodial care. Because it provides statistics on the number, type, and geographic distribution of facilities, MFI often serves as a source of data for probability samples used in conducting other national surveys (e.g., the National Nursing Home Survey described in app. C). Facilities are categorized in MFI into three types:

1. hospitals (short- and long-term);
2. nursing and related care homes; and
3. custodial or remedial care facilities (resident treatment centers for alcohol and drug abusers; homes for the mentally retarded, blind, deaf, emotionally disturbed, and physically handicapped; orphanages; and homes for unwed mothers).

MFI began in 1962-63 with the files of four Federal agencies containing the names and addresses of facilities, the directories of national associations, and State

licensure files. Every 2 years, NCHS conducts a series of mail surveys to all facilities except hospitals. These surveys are intended to ensure that information about the basic characteristics of the facilities is accurate. In addition, State licensure agencies, national voluntary associations, and other sources periodically submit their most recent directories or lists of new facilities.

In order to gather information on hospitals, NCHS cooperated with AHA in a joint survey from 1969-78. AHA collected data for its member hospitals, while NCHS surveyed the 400 nonmember hospitals. Since 1978, AHA has been surveying all hospitals as part of its annual survey described above, and NCHS has purchased hospital data tapes from AHA,

The following types of data are contained in the MFI files (353):

- Hospitals:
  - —data items available from AHA tapes (see above);
- Nursing homes:
  - —location,
  - —ownership,
  - —major type of service,
  - —licensed and staffed beds,
  - —beds certified for Medicare and Medicaid,
  - —admission policy with regard to age, sex, and conditions,
  - —patient census by age and sex,
  - —inpatient days of care,
  - —number of admissions, discharges, and deaths,
  - —staffing,
  - —number of patients receiving nursing care,
  - —services routinely performed,
  - —basic monthly charge,
  - —operating expenses;
- Other facilities:
  - —location,
  - —ownership,
  - —major type of service,
  - —licensed and staffed beds,
  - —beds certified as intermediate-care beds,
  - —admission policy regarding age and sex,
  - —patient census by age and sex,
  - —inpatient days of care,
  - —number of admissions,
  - —discharges and deaths,
  - —staffing,
  - —basic monthly charge,
  - —operating expenses.

In conducting a survey as large as MFI, it is very difficult to obtain replies from all respondents or to verify each one's existence. Many facilities either do not respond to several inquiries or are found to be beyond MFI's scope (do not meet definitional criteria or minimum bed size), and some questionnaires are returned as undeliverable (317). Also, MFI does not include hospital-based skilled nursing facilities *(SNFs)* and intermediate-care facilities (ICFs) (67).

Final data and methodology from MFI are released to the public in biennial editions of Health Resources Statistics. Special tabulations of data tapes may also be available (353).

Medicare/Medicaid Automated Certification System (MMACS)

To participate in Medicare or Medicaid, institutions (including SNFs and ICFs) must be certified. The purpose of the certification process is to ensure that each participating institution provides safe and effective care to the beneficiaries of these programs. After initial certification, the institution is periodically reviewed. The review is conducted first at the State level, with final approval given by the Health Care Financing Administration (HCFA).

MMACS has two parts: 1) the Survey Report Form, and 2) the Provider of Services (POS) File. The Survey Report Form contains the criteria that measure an institution's ability to provide acceptable care and the decisions of the State agency regarding certification. Data from certification applications and surveys are then used as the basis for the POS File.

The POS File is the source of information on provider characteristics for the Medicare Part A data systems. This file includes information on the characteristics of the institutions, such as bed size, services, and staffing.

The POS File is updated daily, and recertification replace the associated earlier certifications (which are placed in a separate history file). Approximately 7,000 hospitals, 5,200 SNFs, 3,000 home health agencies, 3,500 independent laboratories, and 1,600 other Medicare-participating facilities are included in this file.

The following data items are available in the POS File:

- type of facility;
- location of facility (city, State, county, Standard Metropolitan Statistical Area, HCFA region);
- type of control (voluntary, proprietary, etc.);
- number of beds (total and certified);
- services offered; and
- number of employees (salaried physicians, nurses, pharmacists, social workers, occupational therapists, speech therapists, physical therapists, and other employees),

Data from the POS File are used to support the Directory of Medical Facilities, which is a compendium

of participating and nonparticipating medical care institutions. This directory is used by Medicare intermediaries for admission approval.

Data tabulations and analyses based on information from the POS File are published annually. Other divisions of HCFA, Congress, and private organizations may request various listings and tabulations from this data (325).

MMACS currently records a great deal of duplicative information. For instance, if one facility maintains both SNF and ICF beds, these are recorded as two facilities. However, HCFA is conducting a project to eliminate duplications in the 1984 and 1985 data, and duplications among data from 1981 have recently been eliminated. Some information deficits also occur, because many institutions are not Medicare/Medicaid certified. In order to determine the number of nursing homes in existence, both the POS File and MFI must be cross checked (in 1981, 161 facilities found in MFI were not listed on the MMACS file) (67).

Area Resource File (ARF)

ARF is a health resource database maintained by the Office of Data Analysis and Management of the Bureau of Health Professions, Health Resources and Services Administration (HRSA). The ARF System has three major parts that integrate data from a number of sources; it combines information on health resources with areawide demographic and socioeconomic variables. The purpose of ARF is to provide a data file for analysis of the geographic distribution of resources. The information that ARF contains is derived from 75 source files.

The core of the overall ARF System, the county-specific record, has expanded since 1971 to include more than 7,000 variables at the county level. The information can be divided into eight categories:

- health facilities,
- health professions,
- measures of resource scarcity,
- health status,
- economic activity,
- health training programs,
- socioeconomic characteristics, and
- environmental characteristics for each county.

The health facilities category contains data on hospitals obtained from the AHA Annual Hospital Survey. Data in the health facilities category can be integrated with data from the other categories. The health facilities category also contains information on the number and the enrollment of health maintenance organizations as well as limited data on nursing homes. The nursing home data are obtained from the MFI, the National Nursing Home Survey, and the AHA Annual Survey of Hospitals. Only data that are reported on a county level are used.

The advantage of ARF is that the use of the county as the basic geographic unit permits aggregation of data in various ways, The following geographic areas have been defined in the system that allow linking ARF with other data files:

- Standard Metropolitan Statistical Areas,
- Primary Metropolitan Statistical Areas,
- Area Health Education Centers,
- State Economic Areas and Economic Subregions,
- Veterans Administration Service Area Codes,
- Bureau of Economic Analysis Areas,
- Federal Regions,
- Health Service Areas,
- Peer Review Organization Areas, and
- Medicare Prevailing Charges Locality Codes.

The second part of the ARF System is the State/National Timeseries Database. This database contains data on education and the medical professions obtained from the basic county-specific ARF and other sources, Specific information consists of characteristics of the professions' training systems, size and characteristics of the supply of each profession, population and demographic characteristics, health care expenditures and financing, and health services utilization.

The third part of the ARF System contains four internal components, which expand the capabilities of the system: 1) detailed hospital files; 2) detailed support files on various disciplines; 3) a data dictionary/directory system; and 4) a graphics/mapping capability. The hospital files include both facility- and county-level information. The facility-level hospital file contains one record per hospital. The county-level hospital file consists of facility data aggregated to the county level for hospitals that responded to the AHA Annual Survey of Hospitals (345).

Certificate-of-Need (CON) Databases

In 1974, Congress passed the National Health Planning and Resources Development Act (Public Law 93-641). This law requires that State planning agencies review and approve development of new health care facilities and other major capital expenditures. Each facility must file a CON application, which is reviewed by the local and State planning agencies. State planning agencies have the responsibility of determining

the numbers and types of facilities and services needed by their populations (308). The Department of Health and Human Services (DHHS) **(through HRSA) and** private organizations, such as Hospital Research Associates, Inc., have maintained databases of all new institutional health care facilities as reported on CON applications.

HRSA collects the following State and national data on the number and dollar volume of CON applications (total, approved, and disapproved) for (347):

- hospitals;
- nursing homes;
- health maintenance organizations;
- ambulatory facilities; and
- other facilities (i. e., SNFS, kidney disease treatment centers, rehabilitation hospitals).

If DHHS discontinues maintenance of CON data, private organizations will play a larger role as data sources. Hospital Research Associates, a private company, has been tracking CON data since 1977 and lists projects, sorted by State, in 230 categories. Over 75, 000 projects are included. The CON program categorized projects into four areas: capital construction, medical equipment, services, and bed changes. Hospital Research Associates maintains data on total number of applications in each area as well as the application cost. Each facility is categorized in the following ways (145):

- new facility,
- renovation,
- expansion,
- conversion / relocation,
- change of ownership,
- replacement,
- addition / deletion of beds, and
- replacement of beds.

Until recently, States that failed to comply with the law risked losing their Federal planning money. Even so, one State (Louisiana) never passed CON laws, Furthermore, since 1982, the Federal planning program has been funded on continuing resolutions that have specified that noncomplying States not be penalized. As a result, some States (e.g., Minnesota, Idaho, New Mexico, and California) have discontinued CON applications. This situation will greatly affect the future use of CON data. If the Federal planning program is discontinued, States may still collect CON applications voluntarily, but DHHS will not continue maintaining a database (29). The use of CON data as a comprehensive measure of new facilities and equipment is also undermined by the fact that States have very different expenditure limits above which CON approval is necessary.

Ambulatory Care Center Surveys

The National Association for Ambulatory Care Centers (NAFAC), formerly the National Association of Freestanding Emergency Care Centers, has completed two surveys of freestanding emergency centers to obtain data on environmental factors (e. g., health care costs, demographic changes, and competitive forces) and characteristics of the centers (e.g., number, location, ownership, scope of services, patient volumes, etc.). NAFAC defines ambulatory care centers as "those physicians' offices which are open extended hours, offer expanded treatment capabilities, treat patients on a non-scheduled basis, utilize advertising and marketing principles and are most sensitive to the laws of supply and demand" (216).

The first survey was completed and available for sale in February 1983. The second survey was available for distribution in June 1985.

For the second survey, "The FEC Factor 11: The Second Comprehensive National Study of Freestanding Emergency and Urgent Care Centers" the following data items were collected:

- identification information (location);
- facility ownership;
- facility characteristics;
- area characteristics;
- services provided, volumes, and types of conditions seen;
- patient characteristics;
- number of personnel;
- equipment;
- supplies used;
- drugs most frequently prescribed; and
- reimbursement and finances.

Data for the FEC II survey were collected until October 1984, and NAFAC obtained a 20-percent response rate from an estimated 1,200 facilities. (As of May 1985, NAFAC estimated that there were 2,500 ambulatory care centers.)

It is difficult to determine the exact number of ambulatory care centers for a number of reasons. Without any licensing or regulation of the industry, there is no comprehensive central list of centers. Also, many ambulatory care centers can be established at a capital cost substantially below the CON level. Other difficulties arise from the number of different definitions of ambulatory care centers. The Federal Government, for example, estimates that there are currently 1,800 "immediate care centers. " DHHS identifies three types of immediate care centers: 1) facilities that are open continuously, provide episodic care for many types of illnesses and injuries, and are staffed by emergency

physicians; 2) facilities similar to physicians' offices and offering evening care; and 3) facilities that provide episodic care for minor emergencies and are open 12 to 16 hours a day, 7 days a week (147). Until all ambulatory care centers are licensed or regulated, it will be difficult to maintain adequate availabilit, **data.**