
Health Data Sources

The American Hospital Association's Annual Survey of Hospitals: Continuity and Change

Peter D. Kralovec and Ross Mullner

Conducted since 1946, the Annual Survey of Hospitals is the principal data collection mechanism of the American Hospital Association and is a basic source of data on hospitals in the United States. Its main purpose is to provide a cross-sectional view of the hospital industry each year and to make it possible to monitor hospital performance over time. The information that it gathers from its universe of over 7,000 hospitals concerns primarily the availability of services, utilization, personnel, finances, and governance.

Throughout its 35-year history, the survey has been kept in the same format in order to maintain continuity and to permit important time series and trend analyses. Similar definitions have been employed, similar arrangements of questions have been followed, and a relatively consistent data set has been collected. Until recently, the size of the instrument and the quantity of data collected have changed very little.

The 1980 Annual Survey, however, is greatly expanded. The new questionnaire asks for approximately twice as many data items as the 1979 survey. The expansion came about for two reasons. First, curtailment of federal funding for the National Center for Health Statistics Health Facilities Inventory meant that the data from which this inventory was compiled could no longer be collected by the federal government through the Co-operative Health Statistics System. In view of this situation the AHA, recognizing that these data items are needed to profile the hospital industry

Address communications and requests for reprints to Ross Mullner, Associate Director of Data Based Development, Hospital Data Center, American Hospital Association, 840 North Lake Shore Drive, Chicago, IL 60611; Bruce Steinwald, Program Analyst, OASPE/H, Department of Health and Human Services, Rm. 442E, Humphrey Bldg., 200 Independence Ave. S.W., Washington, DC 20201. Peter Kralovec is Associate Director of Operations at the Hospital Data Center, American Hospital Association.
0017-9124/81/1603-0351/\$2.50/0

Health Services Research

and to characterize individual hospital operations, responded by voluntarily expanding the Annual Survey to collect them. Second, the AHA decided that other data items also needed to be collected annually in order for the industry to be adequately profiled and analyzed. Expansion of the survey has affected its size: it collects the same types of data but asks for more detailed information. The organization of the 1980 questionnaire is identical to versions used in previous years; this was done in order to ease the burden of reporting for the individual hospitals and to ensure consistent responses by maintaining a clear link to the earlier surveys. Furthermore, to preserve the continuity of the time series, all data items requested on the 1979 survey are also requested on the new questionnaire and similar definitions are used.

The 1979 and 1980 surveys are both divided into the following seven sections:

1. *Reporting Period.* In this section, the beginning and ending dates of the reporting period are requested, as well as information about the hospital's current fiscal year. Although respondents are asked to provide data for a 12-month period beginning October 1 and ending September 30 of the following year, they have the option of reporting data for any consecutive 12-month period.
2. *Classification.* Includes questions about governance and the principal medical service provided.
3. *Facilities and Services.* Includes questions about services available.
4. *Beds and Utilization by Inpatient Service.* Includes questions about beds set up and staffed within distinct inpatient service areas of the hospital and about the utilization of these units in terms of discharges and patient days.
5. *Total Beds and Utilization.* Includes questions about the total number of beds set up and staffed, admissions, discharges, patient days, discharge days, outpatient utilization, and surgical operations for the entire reporting period.
6. *Financial Data.* Includes questions about total patient and non-patient revenue, payroll and nonpayroll expenses, restricted and unrestricted assets, and liabilities.
7. *Hospital Personnel.* Includes questions about full- and part-time staff divided into occupational categories.

New for 1980 are the number and type of items included within each of the above sections. Significant differences between the 1979 and 1980 questionnaires are as follows:

- The facilities and services section has been expanded from 44 to 110 specific services. In addition, information is requested about the manner in which the services are provided: *hospital-based distinct unit; hospital-based not in a distinct unit; hospital-based contracted; and provided by another hospital through a formal arrangement*. Also, a special subsection is devoted exclusively to ambulatory care and the manner in which ambulatory services are provided.
- General utilization items have been expanded to include a subsection relating to Medicare and Medicaid admissions and patient days.
- The financial section has been expanded to request information about the sources of patient revenues by type of payor. Information is also requested about capital expenditures and disposals and retirements of capital assets.
- The personnel section has been expanded to request information about full- and part-time employees for 35 occupational categories; in the past, 6 general categories were used. Information is also requested about the number of budgeted staff vacancies for each category.

In late October of each year, the Annual Survey is mailed to over 7,000 hospitals in the United States and its territories. The mailing universe consists of both AHA registered and nonregistered institutions. Registered hospitals comprise approximately 98 percent of the mailing universe. Identification of nonregistered hospitals is provided by sources such as the National Center for Health Statistics and other national organizations such as the Federation of American Hospitals.

The overall response rate averages approximately 90 percent each year. The response varies, however, between groups of hospitals categorized by size, ownership, service, geographical location, and membership status. The response rate of community hospitals, defined as all nonfederal, short-term general and other special hospitals, is generally higher than that of noncommunity hospitals. The response rate of registered hospitals averages approximately 90 percent, while that of nonregistered hospitals averages less than 60 percent. The response rate of hospitals with more than 100 beds averages over 92 percent; that of hospitals with fewer than 100 beds, 82 percent. As of April 15, 1981, the overall response rate for the 1980 survey was approximately 88 percent. The final response rate is expected to be comparable to response rates obtained in earlier years.

When questionnaires are returned partially completed, or are not returned at all and contacts with the hospitals do not yield completed

questionnaires, estimates for most missing data items are generated on the basis of their values in the previous year, whether they were actual or estimated, and on the basis of data reported by hospitals similar to the nonrespondents in size, type of control, principal medical service provided, and length of stay (long- or short-term).

Because of the importance of the Annual Survey, information reported is carefully screened for accuracy. The data verification process for the 1980 survey remains essentially the same as that used in the past, even though much more information must be evaluated and edited. The process consists in the techniques described below, which are integrated into a unified computerized processing system and applied to each reported data item.

Because the continuity of the survey makes accurate time-series analyses possible, a major component of the editing phase involves testing the reliability of information reported in the current survey against data reported by the same hospital in previous years. Unusual changes from one year to the next may indicate data problems. Additional tests include comparing data from a responding hospital with average values for data reported by similar hospitals and testing each response for consistency and agreement with the other information reported on the questionnaire. Once all additions and corrections to these data are completed, aggregate totals for geographical areas, hospital types, and hospital size are compiled for each item. The aggregates are then compared with those obtained in the past. If the changes in aggregate levels are inconsistent with historical trends, the individual case data are re-evaluated until either the findings are confirmed or a specific problem is identified.

No historical data are available for testing the new items on the 1980 survey. Consequently the editing routine for these items is based primarily on comparing them with data reported by similar hospitals and on checking their consistency with other information reported on the questionnaire.

The individual hospital is contacted for clarification and confirmation of specific responses that fail the editing tests. As a result of this contact, the data are modified if necessary (in some instances, specific data are revised without the hospital being contacted if other reported information indicates that the revision is appropriate and justified). On the average, 3,000 hospitals have been contacted each year for resolution of problems. Preliminary returns from the 1980 survey indicate that the number of contacts this year will increase to 4,500 hospitals, or about 70 percent of all participants. This increase was not unexpected, given the number of new data items to be processed and the absence of historical information by which the items can be evaluated.

Data from the Annual Survey are compiled each year in two AHA

publications: the *Guide to the Health Care Field* and *Hospital Statistics*. The *Guide* lists all AHA registered hospitals and presents general descriptive information about each, such as location, governance, primary service provided, available facilities and services, total beds, and total utilization, expense, and personnel indicators. *Hospital Statistics* contains aggregates of most data items for hospitals grouped by location in U.S. Census Divisions and by state. Within these geographical categories, the data are disaggregated for groups of hospitals classified by control and service, length of stay, and size. Other tables show data for selected metropolitan areas and for other special hospital groups. Because of current constraints on the size of the two publications, their 1981 editions will not include any of the new items collected through the 1980 survey.

For more detailed descriptive and analytical purposes, the complete data set is available through the AHA's Hospital Data Center (HDC) in magnetic tape format. Information about the revenues, assets, and liabilities of individual hospitals is confidential, however, and is not released. Essentially two versions of the data tape are available. The nonestimated file contains only reported data, with nonrespondents and missing items recorded as blanks. The estimated file, which represents the entire universe of hospitals, contains both reported and estimated data, the latter identified by a special coding scheme. Data from the 1980 Annual Survey of Hospitals is available for release as of September 1981.

The HDC can also respond to special data requests relating to Annual Survey data. Requests for more information should be directed to the Department of Data Services of the HDC at (312) 280-6521.