# MEPS
# Medical Provider Component
# Annual Methodology Report

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# Introduction 1

This report describes the data collection activities and results of the 2006 Medical Provider Component (MPC) of the Medical Expenditure Panel Survey (MEPS).

The 2006 MPC sample was drawn from Panel 10 households completing their second year (Rounds 3, 4, and 5) and Panel 11 households completing their first year (Rounds 1, 2, and 3) of study participation. While most activities and procedures carried out for the 2006 MPC did not differ from prior years, efforts were made, as they are each year, to increase the efficiency and quality of the data collection operation. In response to the steady increase in volume of abstracted cases across all component types, in July of 2007 a separate Abstraction Unit was created with the goal of concentrating the abstraction activity. Recognizing that the skill sets of an abstractor are inherently different than the skill sets of a data collection specialist (DCS), the Abstraction Unit was initially staffed with existing employees who possessed strong background and experience in abstraction and, in many cases, prior billing experience. During 2007 the automated faxing and the use of EDA matured and were used extensively throughout the data collection effort. Many of the training materials were updated and a pilot program was introduced to test contacting hospital medical record and patient account departments in hospitals concurrently. Also in 2007 a joint MPC and Household Component effort was expanded so that household interviewers participated in the collection of patient profiles from two large pharmacy providers.

As required by AHRQ a procedural change was introduced that prohibited the disclosure of patient identity until after the authorization forms were sent. As will be discussed in Section 3.6.4, this had the effect of increasing the time required to complete a case, especially for separately billing doctors (SBDs).

Chapter 2 of this report describes the activities that occur prior to the start of data collection: sample preparation, forms development, and recruiting and training of staff.

Chapter 3 details the data collection activities and describes the data collection protocols for each subcomponent of the MPC: hospitals, SBDs, office-based providers, health maintenance organizations (HMOs), home health providers, institutional care providers, and pharmacies. Also discussed in this chapter are the data abstraction procedures, quality control activities, schedule, and

results of data collection. The tables in Appendix A summarize the results of data collection for each MPC year from 1996 through 2006.

This report provides an annual update for MPC data collection activities. For a broader description of all activities associated with the MPC, refer to the MEPS Medical Provider Component Methodology Report 1996-1999.

# Preparation Activities for MPC Data Collection 2

This chapter describes activities associated with the startup of MPC data collection. These activities include identification and preparation of the sample for each subcomponent (hospital and office-based providers, pharmacies, and separately billing doctors or SBDs); updating of data collection forms and questionnaires; and recruiting and training of data collection specialists (DCS) and abstractors.

## 2.1 Sample Selection

### 2.1.1 Identification in the Household Survey

Providers asked to participate in the MPC are identified by Household Component respondents. The household respondents are asked to identify all medical providers associated with health care services received by each member of the household. Within the Household Component, medical providers are broadly defined to include any type of practitioner contacted by the household for what the household considers to be health care. In addition to hospitals, clinics, HMOs, medical doctors, dentists, and home care providers, the Household Component collects information about care obtained from optometrists, podiatrists, chiropractors, psychologists, and other practitioners. The sample for the MPC is drawn from among specified categories of this wide range of providers.

In general, eligibility for the MPC is restricted to services rendered in a hospital or by (or under the supervision of) a medical doctor or doctor of osteopathy. Services provided by dentists, optometrists, psychologists, podiatrists, chiropractors, and other kinds of health care practitioners who do not provide care under the supervision of a medical doctor or doctor of osteopathy are excluded. Care provided by home care agencies represents an exception to this rule; the sample design includes all care provided through a home care agency. Pharmacies reported as sources of prescription medicines obtained by household respondents make up the final group of MPC respondents.

The following types of providers are considered eligible for the MPC sample.

- **Providers of Hospital-Based Care.** All providers associated with events reported as occurring at a hospital are eligible for the MPC. Included are any providers associated with a hospital outpatient clinic or emergency room event, as well as an inpatient stay.
- **Providers of Long-Term Health Care.** Although the institutionalized population is not the primary target population for MEPS, long-term health care facilities reported by household respondents are included in the MPC data collection.
- **Pharmacies from Which Household Respondents Report Obtaining Prescription Medicines.** Respondents who report obtaining/purchasing one or more prescription medicines during the survey year are asked to identify all of the pharmacies from which they obtained/purchased their medicines.
- **Physicians (Medical Doctors/Doctors of Osteopathy) Associated with Nonhospital Ambulatory Office Visits.** All reported office-based physicians are eligible for the MPC.
- **Separately Billing Doctors (SBDs).** These providers are not identified by household respondents but by MPC hospital respondents. They are identified by the hospital as health professionals who provide care to a patient during an inpatient hospital stay, an emergency room visit, or an outpatient hospital visit. The charges and payments for these services are not included with those reported for the facility by the hospital's patient accounts office.
- **Home Care Agencies.** Any provider associated with a home care agency who provides care in the home of a household respondent is eligible for the MPC. Providers who are not associated with an agency are not included in the MPC.

### 2.1.2 Provider Coding

The process of relating provider names, addresses, and telephone numbers to an operationally manageable, unduplicated list of MPC sampled providers was carried out in essentially the same manner as in previous years. The first stage of provider coding occurs in the household interview as field interviewers use the online provider directory to identify providers named by the household respondents. The version of the directory distributed on the interviewer laptops has not been updated since MEPS was first fielded in 1996. As a result, the number of providers who cannot be located in the directory has increased over time, and much of the provider coding workload has shifted from the interview to between-round processing at the home office. Home office clerical staff have online access to an enhanced version of the directory, which they use to code any providers not coded during the interview. Providers to whom a new identification number is

assigned at the home office are added to the enhanced version of the directory accessible at the home office.

### 2.1.3 Authorization Form Acquisition and Processing

The MEPS protocol requires that a signed form authorizing the project to contact a provider be obtained for each person-provider pair identified for the MPC sample. The protocol for obtaining authorization forms from household respondents has remained unchanged, but the content of the form was revised in 2002 to conform to the requirements of the Health Insurance Portability and Accountability Act (HIPAA). This form was revised again in 2007 to remove the patient's Social Security number and to add words about opting out of participation.

When the signed authorization form is received at Westat's home office, the image is scanned and the scanned image is printed for the MPC for inclusion in interviewer materials. The electronic image is used by Rightfax in the electronic faxing process (see Section 3.4).

### 2.1.4 Sample for Data Year 2006

The 2006 MPC sample was generated from two MEPS household panels: Panel 10 households completing their second year of MEPS and Panel 11 households completing their first year of the study. The Panel 10 portion of the sample was drawn from Rounds 3, 4, and 5 of that panel; the Panel 11 portion was drawn from Rounds 1, 2, and 3.

The total sample is fielded in three main groupings. The first and largest group includes hospitals, office-based doctors (OBDs), home care agencies, HMOs, and long-term care institutions. The second group is the pharmacies, whose authorization form collection schedule differs from that of the other providers. The third is the SBDs, who are identified by the hospitals and fielded as the hospital data collection draws to a close. The providers in each of these groupings are fielded in two or more waves.

The first wave of the 2006 sample, fielded in late February 2007, included hospital, office-based doctors, home care, HMO, and institutional providers identified in the household interviewing rounds that ended in December 2006 (Panel 10, Rounds 3 and 4; Panel 11, Rounds 1 and 2). Providers identified in the rounds ending in May-June (Panel 10, Round 5 and Panel 11, Round 3)

were fielded in July 2007. The authorization form "cutoff" used in prior years was implemented again for the 2006 sample. This "cutoff" allowed the timely fielding of the second wave of the MPC by eliminating, with one exception, person-provider pairs associated with authorization forms received after May 31. The exceptions to this rule were pairs that met the criteria for "targeting"—that is, those expected to be associated with high medical expenditures because of multiple or extended inpatient stays or end-of-life care. Providers associated with a targeted person were fielded even if the authorization form was received after May 31.

The pharmacy sample was fielded in three waves, with the first wave being fielded at the end of May 2007. The pharmacy sample is fielded later in the year than the hospital, OBD, home care, HMO, and institutional providers because pharmacy authorization forms are collected only during the spring rounds each year (Rounds 3 and 5). For the pharmacy sample, the first wave is identified midway through Rounds 3 and 5, at a point when a substantial portion of the interviewing has been completed. For the 2006 sample, the first pharmacy wave was identified as of April 15, 2007; the pharmacies associated with authorization forms signed as of that date were designated as the first wave. Sample review, printing, and assembly were completed to allow data collection to begin in early June.

Since the identification of SBDs is dependent upon the completion of hospital data collection, the first waves of SBDs were released in November 2007, when most of the hospital interviewing was complete. The last wave was released March 6, 2008.

### 2.1.5 Sample Sizes

Table 2-1 summarizes several aspects of the household design that affect the annual MPC sample. Over the past three years the number of primary sampling units (PSUs) in which household interviewing occurs has remained constant at 195 and the number of households in the new panels has remained stable.

As indicated in Table 2-1, the office-based providers have been subsampled in each of the years shown. Table 2-2 shows MPC sample sizes for data years 2004 through 2006 before and after the subsampling. The subsampling is implemented using the household respondents' characterization of their providers as office-based. The table, however, shows providers as classified for the MPC, which adjusts the household characterization based on the project's experience with the provider in

Table 2-1. Summary of design factors affecting MPC samples, 2004, 2005, and 2006

| | 2004 | | 2005 | | 2006 | |
|---|---|---|---|---|---|---|
| | Panel 8, Year 2 | Panel 9, Year 1 | Panel 9, Year 2 | Panel 10, Year 1 | Panel 10, Year 2 | Panel 11, Year 1 |
| No. of PSUs for household sample | 195 | 195 | 195 | 195 | 195 | 195 |
| No. of household interviews | 6,726 | 6,861 | 6,627 | 6,727 | 6,461 | 6,707 |
| Subsampling of office-based providers in CAPI | No | No | No | No | No | No |
| Subsampling of office-based providers after CAPI | Yes | Yes | Yes | Yes | Yes | Yes |

prior years. These differences between household and MPC characterizations of providers account for the changes shown in the table for providers other than office-based physicians. As shown in the table, the components of the MPC sample have remained relatively stable over the 3-year period, with the noticeable exception being the office-based sample. The decrease in the number of office-based providers fielded between 2004 and 2006 (the "After subsampling" column in the table) from 20,212 in 2004, to18,933 in 2005, and to 13,473 in 2006 is a direct result of the subsampling rates applied.

## 2.2 Instrument Design

For 2005 data collection "principal diagnosis" was dropped as a data item for all nonpharmacy components and "manufacturer" was dropped for pharmacy, though the instruments themselves remained unchanged. For 2006 the instruments were updated to reflect the change. Specific calendar year references were updated, but no other substantive changes were made to the questionnaires. The MEPS Medical Provider Component Methodology Report 1996-1999 provides a detailed description of each of the data collection instruments.

For 2006 data collection "principal procedure" was dropped as a data item for all nonpharmacy components, though the instruments remained unchanged.

Table 2-2. MPC sample sizes for data years 2004-2006

| Households contributing to the sample | 2004 | | 2005 | | 2006 | |
|---|---|---|---|---|---|---|
| | Initial Yield | After subsampling | Initial yield | After subsampling | Initial yield | After subsampling |
| Provider level | | | | | | |
| Hospital providers | 7,567 | 6,094 | 7,461 | 6,059 | 7,447 | 5,884 |
| Office-based providers | 27,617 | 20,212 | 26,972 | 18,933 | 27,620 | 13,473 |
| HMO providers | 420 | 300 | 422 | 301 | 333 | 284 |
| Home health providers | 568 | 556 | 606 | 593 | 655 | 648 |
| Institutional providers | 93 | 92 | 121 | 116 | 80 | 80 |
| SBDs | 20,094 | 20,094 | 19,810 | 19,810 | 21,126 | 21,126 |
| Pharmacy providers | 8,608 | 8,608 | 8,404 | 8,404 | 8,471 | 8,471 |
| Total | 64,967 | 55,956 | 63,796 | 54,216 | 65,731 | 49,966 |
| | | | | | | |
| Person-provider pair level | | | | | | |
| Hospital providers | 13,175 | 12,772 | 12,933 | 12,601 | 13,071 | 11,911 |
| Office-based providers | 34,611 | 26,392 | 33,854 | 24,517 | 37,576 | 17,139 |
| HMO providers | 791 | 665 | 804 | 685 | 694 | 594 |
| Home health providers | 610 | 610 | 689 | 689 | 719 | 719 |
| Institutional providers | 94 | 94 | 123 | 123 | 80 | 80 |
| SBDs | 29,271 | 29,271 | 28,930 | 28,930 | 31,058 | 31,058 |
| Pharmacy providers | 21,720 | 21,720 | 21,077 | 21,077 | 21,090 | 20,090 |
| Total | 100,272 | 91,524 | 98,410 | 88,622 | 104,285 | 81,591 |

## 2.3 Recruiting and Training

During the summer of data year 2006 (July 2007) an Abstraction Unit, separate from the Telephone Unit was created and eight Health Information Specialists (HIS) – all with background and expertise in medical billing and health information management were hired to lead the Abstraction Unit. All existing data collectors were then categorized as either "core abstractors" or "core telephone data collection specialists". Core abstractors were identified by their demonstrated ability for abstracting at Westat as well as their experience with billing outside of Westat. Forty percent of the abstraction staff had outside billing experience.

### 2.3.1 Data Collection Specialist (DCS) and Abstractor Recruiting

Though the "unit separation" occurred in July 2007 it was not necessary to augment the staff until January of 2008 when both abstractors and data collectors, each with different skill sets, were recruited. Separate ads were run, as follows:

- MEDICAL/BILLING to review medical charts and billing records from medical providers and billing services and extract relevant medical and expenditure information onto paper form. Qualification: Completion of health information technology courses and/or certification or work experience within a health information department, hospital billing department or medical billing service. Medical/billing chart review experience a plus.
- TELEPHONE INTERVIEWING to contact doctors' offices and hospitals for a national health care study. Qualifications: Must have experience in medical terminology, health insurance, or medical billing practices OR previous interviewing experience with business or professional personnel.

The recruitment process for data year 2006 has remained essentially unchanged over the course of the project. Candidates either call or send a resume and are screened on the telephone. Potential hires are invited for a personal interview, references are checked and, if all "checks out" they are invited to training. All candidates are asked to read a "mini" questionnaire to test their reading ability and their facility for pronouncing common medical terms during the interview. Additional tests are being developed to screen abstractors.

The number of new DCSs and abstractors to be trained each year is determined by the schedule, sample size, attrition rate, and average hours expected per week by each data collection specialist.

DCSs and abstractors are recruited through advertisements placed in local newspapers, on newspaper web sites, and on the Westat web site, as well as through referrals.

### 2.3.2 General Overview Training

New DCSs and abstractors are welcomed to Westat with a series of videos and presentations about Westat, about AHRQ, and about MEPS. Each is focused on familiarizing new staff with the MPC and the work they will be doing. Both abstractors and telephone data collection specialists are then trained in general interviewing techniques that introduces new trainees to the basic skills needed for interviewing: gaining respondent cooperation, listening, probing, and conventions for recording answers. General training also includes the AHRQ and Westat mandated training on security and confidentiality as well as the policies and procedures of Westat and MPC operations. Both DCS and abstractor staff attend this training; abstractors because they must make data retrieval and clarification calls.

### 2.3.3 MPC Project Training for DCSs and Abstractors

For the 2006 MPC, the project conducted five training sessions for the office-based component, three for the hospital component, and one for the pharmacy component with new employees. The project conducted two SBD training sessions in November for existing Westat staff who had not worked on SBDs in previous years. There were also five additional SBD trainings for *new* staff held early in 2008.These trainings were added in order to increase the staff levels for the additional work-load resulting from the Authorization Form procedure change (Section 3.6.4 ).

The 16 training sessions extended from February 2006, when the first office-based training was conducted, to March 2008, when the final training for SBDs was conducted. Table 2-3 shows the number of data collection specialists hired to attend the office-based and pharmacy training sessions. It also shows the number of data collection specialists and abstractors hired for the February SBD sessions. The hospital training included only experienced staff being trained on this component for the first time. This reflects the project's view that it is most productive to train new DCS staff to administer the less complex office-based instrument. Then, after working successfully for several weeks with the office-based instrument, the more skilled of the new data collection specialists are trained on the hospital data collection protocol.

Table 2-3. Data collection specialists and abstractors hired and trained for the MPC, 2006

| Component | No. of new hires invited | No. completing training | Training dates |
|---|---|---|---|
| Office-based | 125 | 111 | 2/20/07, 3/26/07, 5/7/07, 5/21/07, 6/18/07 |
| Hospital | n/a | 47 | 3/12/07, 4/24/07, 7/9/07 |
| SBD (2007 hires) | n/a | 33 | 11/14/07, 11/27/07 |
| SBD | 64 | 47 (19 abstractors and 28 DCSs) | 2/4/08, 2/11/08, 2/18/08, 3/17/08, 3/25/08 |
| Pharmacy | 22 | 20 | 6/4/07 |

Experienced DCSs, those who had been trained and worked on components in prior years, attended refresher trainings for each component to which they were assigned. The refresher trainings were designed to update staff on procedural changes and to hone their skills before beginning work on 2006 data collection.

As the project workload required, DCSs with very strong skills were selected for specialized training to collect data from specific types of providers: institutional and home care providers, large HMOs, and Veterans Affairs facilities. A special training session was conducted to prepare DCSs to collect data from large pharmacy chains. Additional training sessions were held to prepare selected staff for work as editors, provider locators, and refusal and disavowal converters.

While the subject matter of the 2006 project-specific training sessions was essentially unchanged from prior years, the emphasis placed on "content points" and presentation styles were significantly enhanced. Scripts were updated to include using Power Point to provide emphasis and a new camera (ELMO) system was purchased to demonstrate recording procedures. This camera captures and projects images of the trainer recording on actual forms (not transparencies) onto a screen. New videos and a magazine were introduced to provide background and to demonstrate interviewing and recording techniques. Role plays for DCSs and practice abstractions were all updated to allow trainees more time to grasp concepts and important points.

The revamped materials for both DCS and abstractor trainings that were developed during the year placed more emphasis on the following "content points":

- Medical terminology.
- The organization of a healthcare facility and how a medical or billing record is created during the patient experience.
- Billing/reimbursement/insurance issues.
- Broad overview of diagnostic and procedural coding.
- Health care reimbursement industry terminology.
- Quality control measures.
- Identification of SBDs (hospital only).

In addition, abstractor trainings were revised to either incorporate the following concepts or improve the existing script to enhance the training of the following concepts:

- Review of several "real" billing statement examples (including the UB-04) and identification of data items including charge and final payment data.
- Data retrieval calls, including mock scenarios on when and how data retrieval calls should be placed.
- Scrutiny of events where payments equal charges.
- Collecting information from the final payment summary
- Scrutiny of events where there is only one payer source.

# 3 Data Collection Activities and Results

With the exception of a procedural change, most of the MPC instruments and procedures used for contacting different types of providers for data year 2006 continued the protocols established during the previous cycles of the survey as described in earlier reports of the methodology series, especially the MEPS Medical Provider Component Methodology Report 1996-1999.The procedural change, which was requested by AHRQ, modified the contact protocol such that the Authorization Form had to be sent to the provider prior to the release of any personal health information (PHI) including whether or not the patient was actually a patient of that provider.

This chapter provides a brief summary of the data collection procedures, followed by sections that describe what was unique to the 2006 data collection: the maturation of bar code technology to track the location of cases through the data collection cycle; the full implementation of decentralized automated faxing; the effects of the authorization form procedural change; the set-up of a separate Abstraction Unit; a pilot test; the schedule; the sample; and data collection outcomes. Although the chapter focuses primarily on the 2006 cycle of data collection, most of the tables presented cover the years 2004 to 2006. Data for 2004 and 2005 are provided for context and comparison. Tables summarizing results from the first year of MPC data collection through 2006 are presented in Appendix A.

## 3.1 Data Collection Procedures

The MPC instruments and procedures were designed to support data collection by telephone, but with the flexibility to use mail, fax, and in-person methods as needed to accommodate respondent preferences. As described in the MEPS Medical Provider Methodology Report 1996-1999, a unique Event Form was developed for each provider/sample type. The Event Forms are variations on a common theme; adaptations were made as needed to collect the core set of MPC data items in different provider settings. The forms collect a common set of data items for each event that occurred during the target calendar year for each MEPS patient seen by the provider,.

The MPC event-level data are collected independently of the specific events reported by the household respondents. With the exception of separately billing doctors, discussed in Section 3.1.2,

telephone data collection specialists and medical providers are not given the dates of care reported by the household respondents. The medical providers are asked to report all events in their records for the target year, irrespective of what has been reported by the household. The data collection specialists are, however, given a count by event type of the household reports. This count serves as a prompt for the data collection specialist to probe for additional events when the number of events reported by the provider is less than the household report.

The data collection specialist (DCS) uses a Contact Guide to provide structure to the initial conversation with each provider. During the initial contact, the DCS identifies the appropriate respondents within the provider setting, explains the MPC request, mails or sends a fax with authorization forms, and documents steps for proceeding with the data collection.

In a change from previous years, the DCSs can no longer verify patient names with a provider prior to sending an authorization form (nor obtain data first and fax later). In past years the ability to verify that a patient "belonged" to the provider allowed the DCSs to move the "case" to the next step if the provider "disavowed" knowledge on the initial call. This year a second call or call sequence[1] was required for all cases in the sample. Consequently, the change has increased the number of calls, which, in turn, has had the effect of increasing the time per complete for all components, some more dramatically than others as discussed in Section 3.6.4.

The following sections describe the MPC data collection protocol and the procedural variations for each provider type.

### 3.1.1 Hospital Data Collection

The first contact with the hospital is made by a telephone data collection specialist.

In the initial call, the data collection specialist verifies that the number reached is in fact a hospital. If the place is not a hospital, the data collection specialist determines whether the place is eligible for MPC data collection as another type of provider and, if so, documents this fact and prepares the case for interviewing with the appropriate Event Form. If the place contacted is a hospital, the data

[1] Refers to the series of calls needed to make contact. For example, if call 1 = voice mail, call 2 = call me back later, and call = contact, this call sequence required 3 calls.

collection specialist asks to speak to someone in the medical records department, the first of three points of contact in the hospital protocol.

When the data collection specialist reaches a representative in the medical records department, he or she explains the nature of the data collection request and makes arrangements to fax or mail a packet of survey materials. These materials explain the study and identify the patients for whom information is being requested. Copies of the authorization forms signed by the household respondents are also included in the packet. Faxing is the preferred and most frequent mode for sending materials to the hospital because of the speed with which it can be completed and the capability it provides for prompt followup with the hospital contact.

Once medical records are received, they are logged and sent to "abstraction" where the data are abstracted and recorded in the Event Form as discussed in Section 3.2.

If the medical records are not received after a prescribed period of time (which varies according to whether material was faxed or mailed to the respondent), the data collection specialist calls the medical records department again and asks them to either send the records or, if they prefer, to collect the data by telephone. If collected by telephone, the data collection specialist asks for an initial set of data items for each event in the targeted calendar year: dates of service, event type (emergency room, outpatient, inpatient), and diagnoses. The medical records department contact is also asked to report the name and specialty of each health professional who saw the patient during the hospital event and who charged for services separately from the hospital's main facility billing. These health professionals, referred to as separately billing doctors or SBDs, constitute the final segment of the MPC sample (discussed in Section 3.1.2). After being identified by the hospital, they are contacted by telephone and asked about the services they provided during the events reported by the hospital. Medical records are the critical source for identifying SBDs.

After the medical records department contact has provided information identifying the patient's events, the data collection specialist contacts the hospital's patient accounts department to request the remaining data items—services provided, charges, and sources and amounts of payment—for each event identified. Because an authorization form has already been provided to the medical records department, some patient account departments do not require another authorization form.

After obtaining the requested data items from patient accounts, the data collection specialist contacts the hospital's administrative offices to ascertain the billing status of each health professional

identified by the medical records department and to obtain locating information for the followup contacts with the providers who billed separately from the facility.

Because such a large proportion of medical record and patient account information is mailed and abstracted by the project, a pilot program was introduced in order to improve efficiency and speed for obtaining records. In this pilot program both departments are contacted on the same call or call sequence instead of waiting to collect medical record information before contacting the patient accounts department. This is discussed in more detail in Section 3.4.3.

### 3.1.2 Separately Billing Doctors

The separately billing doctor or SBD portion of the MPC sample is identified not by the household respondents but by MPC hospital respondents. As explained in Section 3.1.1, SBDs are identified by the hospital as health professionals who provide care during a hospital-based event but whose charges and payments are not included in those reported by the hospital's patient accounts office. To capture this critical part of the costs of hospital care, the MPC asks the hospital to identify all health professionals who provide care during each hospital event, to indicate which of these bill separately from the hospital, and to provide contact information for those who bill separately.

Once identified by the hospital, the SBDs enter a stream of processing that prepares them for fielding. As a first step in this processing, MPC edit staff review the completed hospital Event Forms to ensure that the original hospital data collection specialist or abstractor followed the appropriate steps to identify all SBDs associated with each event. Certain kinds of events have a high likelihood of having one or more SBDs. The MPC edit staff verify that the expected SBDs have been identified or that the data collection specialist or abstractor has explicitly noted the hospital's response to probing for information about SBDs. For inpatient surgeries, for example, the hospital is expected to identify at least a surgeon and an anesthesiologist. If the completed case does not include the expected SBDs or an explanation for the omission, the case is referred back for a retrieval call.

The edited hospital Event Forms are sent for data entry and the information relating to the identification of the SBDs is keyed. Each newly reported SBD is checked against previously reported providers and assigned a provider-level identification (ID) number. The SBD sample is built and unduplicated on a continuing basis as additional hospital cases are completed and keyed. At appropriate points, the project staff define a "wave" of SBD cases, generate case materials and

authorization forms for the pairs in the wave, assemble the materials, and incorporate them into the SBD data collection, the schedule for which is discussed in Section 3.5.

Although they are referred to as separately billing "doctors," many of the providers identified in medical records are not doctors but other types of health professionals who bill separately for services provided in a hospital setting. All health professionals who participated in the hospital event and who bill separately are included in the SBD sample for contact. Similarly, many of the ultimate respondents in the SBD data collection are not the offices of physicians or other health professionals, but are billing services. Over time, the SBD sample has included an increasing number of large billing services that manage the records for providers who are widely dispersed geographically.

Processing and fielding of SBDs differ from the procedures for other provider types in several ways. Before a wave of SBDs can be fielded, the providers in that wave must be compared with providers previously fielded in the office-based sample. Because a physician named as an SBD by a hospital may also have been named by the household respondent as a physician seen in an office-based setting, and thus may have already been contacted as an office-based provider, this check is made to avoid duplication in the data collection. If the household respondent reported seeing the physician in an office-based setting, information about the services the physician provided in connection with the hospital event may have already have been obtained in the course of the office-based data collection. The check ensures that information about the event is not collected twice, and that information collected about services in the hospital setting is processed as part of the SBD event data rather than the office-based event data.

To support this check for overlaps between the office-based and SBD samples, cases in each wave of the SBD sample are compared electronically to the office-based sample to identify those that match on patient-provider ID, event type, and event date. Based on the outcome of this check, the new wave is handled as two waves: one wave with the cases containing events that matched, one wave with those that did not match. For the cases with a match, the office-based data for the event are reviewed to verify the match. If the match is verified, the SBD case is not fielded and the office-based data are used in subsequent SBD processing. Because of differences in the way households and hospitals report the same providers, the electronic matching does not identify all of the overlap cases. Consequently, the cases in the wave that did not match on patient-provider ID are further reviewed for the possibility that the data needed for the SBD were collected in the office-based component, but under a different provider ID. Additional overlap cases are identified through this review.

The SBD data collection protocol also differs from the protocol for office-based physicians in another important way. When an MPC data collection specialist calls an office-based physician, he or she requests information about *all* events in the provider's records for that patient during the survey's target year. SBD data collection, in contrast, focuses on the specific events reported by the hospital. The SBD data collection specialist is provided with the dates of service reported by the hospital and probes specifically for services provided on those dates. Throughout collection and processing, the SBD data are linked to the specific events identified by the hospital.

The authorization form sent to SBDs identifies the hospital as being authorized to release information and, in small print, states that the release includes all providers who supplied services during the hospital event. However, since many respondents do not read the small print DCSs must explain how the authorization form does, indeed, cover the SBDs.

During hospital data collection, the hospital administrative office respondents, who typically are the source of SBD contact information, often cannot say definitely whether a given physician identified in the records for a particular patient does or does not bill separately or whether the physician did or did not bill separately for a specific event for the patient. When the hospital administrative office respondent cannot make this determination, the physician is included in the sample provisionally, pending the outcome of the SBD data collection effort. During SBD data collection, when the data collection specialist learns that a physician did not bill separately, the SBD event created on the basis of the hospital report is assigned an out-of-scope disposition.

### 3.1.3 Office-Based Physicians

The survey instrument and data collection protocols for office-based providers were designed with the aim of making it possible for a single respondent—a contact in the provider's billing office—to provide all of the requested data items. Whereas access to medical records is essential to the collection of SBD names for hospital events, the office-based provider contact was designed to eliminate the need for direct access to medical records and any requirement for direct involvement of the physician. Typically, all of the requested information is available from the provider's billing records.

The Contact Guide for office-based providers leads the data collection specialist through the process of identifying the place contacted, verifying that services were provided at that location by

(or under the supervision of) a physician, and contacting a respondent with access to billing records. Having contacted the billing respondent, the data collection specialist explains the study, solicits cooperation, and makes arrangements to fax or mail the survey documents and authorization forms. If the respondent chooses to provide the billing records by phone, rather than sending them by mail or fax, the data collection specialist makes arrangements to call back to collect the data items. The data collection specialist calls back at the appointed time and collects the detailed event-level information for each MEPS patient who signed an authorization form for the provider.

As with hospitals, some office-based providers prefer to mail or fax patient records rather than provide the requested information by telephone. When billing records are received, they are reviewed and the data elements are abstracted onto data collection forms. Questions that arise are resolved through callbacks to the provider.

### 3.1.4 Health Maintenance Organizations

Although providers associated with health maintenance organizations (HMOs) share many of the characteristics of office-based physicians and clinics and, in some instances, operate their own hospitals, their distinctive financing arrangements warrant special treatment in the MPC.

A select group of data collection specialists is identified each year to handle contacts with HMOs. They develop familiarity with capitation arrangements, HMO payment practices, and conventions for capturing data on HMO practices within the basic set of MPC Event Forms. They also learn how the records of specific HMOs are organized—when data must be obtained from local offices or from regional or other centralized locations. Data collection specialization also creates possibilities for continuity in contacts with an HMO from year to year, although HMO staff turnover limits the extent to which this can occur. When collecting data from an HMO respondent, the data collection specialist uses either the hospital or the office-based physician form, whichever is appropriate for the specific event being reported.

### 3.1.5 Home Care Providers

In general, data collection for home care providers follows the protocol for office-based providers. The data collection specialist uses a home care provider Contact Guide for the initial calls and a

provider-type-specific Event Form to collect information about home care events. The home care Event Form has been adapted to capture data that are characteristic of home care providers.

The home care sample presents several special challenges to the data collection effort. The identifying information provided by household respondents is more frequently incomplete for home care providers than for other provider types. Many respondents report their home care providers in personal terms—using the person's name or the kind of care the person provides—rather than in terms of the provider's agency or company. Identifying the appropriate respondent for data collection—the agency or organization that maintains records of the care—is often more difficult with home care providers than with other provider types. Household respondents often identify intermediary or referral agencies as the source of their home care rather than the agency itself. When this occurs, the task of locating records for a patient may require contacts with a series of social service providers, local agency representatives, and corporate offices.

What constitutes home care, moreover, is less clearly delineated than other types of health care considered eligible for the MPC. Office-based physician care, for example, must be provided by or under the supervision of a medical doctor or doctor of osteopathy. "Home care," however, is broadly defined for MEPS and can include a wide range of services provided in the home, as long as they are provided because of a recipient's health conditions.

In recent years, the MPC has had to adjust the way it captures payment information when providers report Medicare as a payer. Under the Medicare Home Health Prospective Payment System that went into effect in October 2000, Medicare instituted the practice of paying for approved home care in 2-month increments. The MPC home care form is designed to collect data in monthly increments. To handle the change in Medicare payments, project staff routinely divide the amount reported by the provider, allocating an equal share to each of the 2 months covered by the payment.

During 2005, a review of the Home Care Event Book and protocol was begun in collaboration with AHRQ. This review continued in 2006.

### 3.1.6 Institutional Care Providers

The institutional care sample of the MPC is identified when household respondents are reported to have had an episode of care in a long-term health care facility. As with other provider types, the initial contact with the institutional sample is by telephone. In the initial telephone screening, a data

collection specialist verifies whether the place is in fact a long-term care facility. Copies of the survey materials and authorization forms are faxed or mailed to the places verified as long-term care providers. This is followed by contacts for the main data collection.

### 3.1.7 Pharmacy Providers

During the first year of the MPC, the collection of prescription medicine information from pharmacies was carried out as a mail survey, in an operation separate from the main MPC effort. Problems encountered during this first year led to a modification of the data collection approach, shifting to a mixed mode (telephone and mail) in the second year and, in the third and subsequent years, to telephone-based data collection conducted as a subcomponent of the MPC. Since the third year, the pharmacy data collection has followed a protocol similar to that for office-based providers: initial contact by telephone, faxing of introductory materials and authorization forms, and return (by fax or mail) of record-based responses from pharmacies.

A unique feature of the pharmacy data collection is its focus on a request for a "patient profile" (a computer-generated listing of the prescriptions dispensed to a given customer). Most pharmacies routinely make such profiles available to customers on request, and the profiles contain many of the data items most critical to MEPS: name and National Drug Code (NDC) for each medicine, dosage and units, date dispensed, quantity, the customer's out-of-pocket payment, and third-party payments. The request to pharmacies focuses on obtaining these patient profiles. Because many of the profiles are missing critical items (such as third-party payers) or contain idiosyncratic codes whose meaning is not apparent, at least one callback is necessary to clarify or obtain information.

Sampled pharmacies are divided into two major groups for handling: individual retail pharmacies and pharmacies associated with chains. The approach for individual retail pharmacies is essentially the same as that for office-based providers. A data collection specialist contacts the pharmacy by telephone to identify an appropriate respondent and explain the study. During this call, the data collection specialist explains the nature of the data request, asks about the availability of patient profiles, and discusses the data items available on the profiles. This discussion is intended to limit the need for callbacks to obtain additional explanation after the profiles have been received. Finally, the data collection specialist arranges to mail or fax the authorization forms and other survey documents to the pharmacy. Pharmacies are asked to respond by mailing or faxing the profiles for the designated patients.

Pharmacies associated with chains are approached in one of two ways, with the approach determined by the project's interactions with the chain in prior years. Some chains prefer that the project contact its individual stores to collect the data; in these cases, the data collection progresses the same as with the individual retail stores. Other chains prefer to handle the data request through a regional or central contact. For these chains, the initial contact is by telephone with the corporate or regional office. The project establishes a corporate contact and negotiates cooperation and an arrangement for obtaining the data. In general, the project does whatever is necessary to facilitate the chain's compliance including providing customized hard-copy listings or electronic files identifying the customers who have provided authorization forms. Different chains have chosen to participate in different ways. Some simply suggest that the project directly contact their individual retail outlets, sometimes supplementing that request with an authorizing communication to the outlets. Some chains compile the information from central or regional offices, providing printed patient profiles for all of their reported patients. Other chains request a diskette identifying the patients of interest and the store locations. The diskette and the authorization forms are sent to the corporate office. Some corporate offices return an electronic file of the profile data, while others provide hard-copy documents even though the initial request was by diskette.

### 3.1.8 Veterans Affairs Facilities and Military and Indian Health Service Hospitals

Over time, the project has developed procedures for handling contacts with selected types of providers whose organization or characteristic data require special attention. Although the standard Event Forms are used to collect data from these providers, what these providers can report often deviates from the most common patterns. Small groups of data collection specialists are trained to handle these cases, which involve providers associated with the U.S. Department of Veterans Affairs (VA), the U.S. military, and the Indian Health Service. Some cases are initially selected for handling by these specialized data collection specialists on the basis of provider names; other cases receive special handling after an initial call identifies them as belonging to one of the relevant groups.

These cases commonly present special problems, examples of which are described below.

- **Problems of Patient Identification.** Most VA and military facilities use the prime beneficiary's Social Security Number (SSN) for medical record and patient account identification. Although household respondents were asked in 2006 (this has since changed)to record their SSN on the authorization form, many choose not to give the SSN. The absence of an SSN causes problems in obtaining the cooperation of facilities

that have to rely on another method for identifying the desired records. Facilities whose recordkeeping is based on the SSN of the service member or eligible veteran may also have difficulty when the MEPS patient is a dependent. Even when the patient's SSN is available, the facility may have difficulty locating records that are stored under the SSN of the primary beneficiary.

- **Mobility of Medical Records.** When military personnel move, retire, or separate from service, they take their medical records with them. They also remove their records when going to outside providers and sometimes fail to return them to the medical records section. As a result, some MPC cases cannot be successfully completed because the records are not available.

- **Charges and Payments.** There is considerable variation in what these facilities can report as the full established charges for their services. Payment patterns also vary: while there may be no event-specific payments for some eligible patients, for other patients there may be copayments and/or charges to third parties.

## 3.2 Data Abstraction

As explained in Section 3.1.1, the first step in the data collection protocol for hospital providers is to contact the medical records department of the hospital to establish the date(s) of service, the place of service (inpatient, outpatient, emergency, or other), the diagnosis for each date of service, and the names of the SBDs associated with each date of service. Although the original methodology for hospital data collection used telephone contact for collecting these data items, most providers prefer to send copies of patient records by fax or by mail. Patient accounts departments, like the medical record departments, particularly those in large hospitals, also prefer to send copies of billing records, rather than take the time to report information by telephone. Many nonhospital providers, such as physicians and pharmacists, also often choose to mail/fax records rather than report by telephone.

The percentage of providers choosing to send records continues to increase every year. In July of 2007, in response to this increase, the project created a separate Abstraction Unit, hired eight Health Information Specialists (HIS) to lead the unit, and began to hire abstractors with billing experience to handle the abstraction work. The recruiting and training of abstractors is described in Section 2.3. When medical and patient account records are received, the records are sent to the Abstraction Unit where the relevant data items are abstracted from the records and recorded in the appropriate Event Form by skilled abstractors.

Table 3-1 shows the level of the abstraction effort for 2004, 2005, and 2006. The table shows the number of cases ("provider-waves") completed and the number and percentage of these for which records were abstracted for two stages of hospital respondents, for office-based providers, and for SBDs. As shown in the table, the percentage of providers choosing to send records continues to increase, with 91.3 percent of hospital medical records departments sending records in 2006 compared to 86.6 percent in 2005, and just 82.8 percent in 2004.The increase is even greater for patient accounts (from 70.7% to 83.8%) and office-based providers (from 43% to 54.2%) over the past three years. These percentages reflect a major shift over 2003 when the abstraction rates were 80, 59, and 39 percent, respectively.

**Table 3-1. Abstraction workload for hospital and office-based providers, 2004, 2005 and 2006***

| 2004 | | | |
|---|---|---|---|
| | | Providers sending records | |
| Respondent type | Completes | Number | Percent |
| Hospital—medical records | 6,920 | 5,729 | 82.8 |
| Hospital—patient accounts | 6,920 | 4,892 | 70.7 |
| Office-based providers | 16,466 | 7,080 | 43.0 |
| SBDs | 11,649 | 1,863 | 16.0 |

| 2005 | | | |
|---|---|---|---|
| | | Providers sending records | |
| Respondent type | Completes | Number | Percent |
| Hospital—medical records | 6,975 | 6,042 | 86.6 |
| Hospital—patient accounts | 6,975 | 5,524 | 79.2 |
| Office-based providers** | 14,771 | 7,891 | 53.4 |
| SBDs | 11,538 | 1,846 | 16.0 |

| 2006 | | | |
|---|---|---|---|
| | | Providers sending records | |
| Respondent type | Completes | Number | Percent |
| Hospital—medical records | 6,863 | 6,269 | 91.3 |
| Hospital—patient accounts | 6,863 | 5,752 | 83.8 |
| Office-based providers** | 10,574 | 5,735 | 54.2 |
| SBDs | 11,563 | 5,666 | 49.0 |

* Units in the table are "provider-waves," the units used to track cases for data collection. A provider is counted once for each wave of the sample in which it is represented.

**Excludes OBDs worked as hospital cases

The most dramatic increase occurred among Separately Billing Doctors (SBDs) where the abstraction rate went from just 16 percent to 49 percent. We attribute this increase to the change in procedures in which authorization forms must be faxed prior to confirming the patient – provider relationship. Prior to this shift in protocol, SBDs were more likely than other provider types to provide the data over the phone on the initial contact (the authorization form would then be faxed later).With the introduction of pre-faxing, SBDs joined other provider types in the way they respond; like OBDs about half chose to send data by mail.

## 3.3 Quality Control

Quality control checks are in place at each step of the MPC data collection.

Ten percent of the work of each telephone data collection specialist is silently monitored. Monitors "listen" to telephone contacts to ensure that the Contact Guide and the Event Form questions are being administered and that answers are recorded according to the protocol. Monitoring staff complete an evaluation form during each monitoring session and, following the session, discuss the data collection specialist's performance, providing both positive and negative feedback as needed.

The abstractors' work is verified by re–abstraction. One hundred percent of all new abstractor work is verified during their first two weeks, then, if their work is acceptable, the verification rate is reduced to 10 percent. An evaluation form is completed to note the quality of the work and to identify any items needing clarification. The form is reviewed with the abstractor.

All finalized cases, whether or not they include completed Event Forms, are reviewed by editors. The editors assess the case documents for clarity and legibility of responses and for adherence to the specifications for each question. Editors prepare a Problem Resolution Sheet to inform the data collection specialist (or abstractor) of items that need resolution or data retrieval. Five critical items, if blank or containing invalid responses, trigger preparation of a Problem Resolution Sheet: date of service, diagnosis (ICD-9 code), procedure (CPT-4 code), reimbursement type, and total payment by source. Other unusual situations, such as linked events or overpayments, trigger managerial review. Cases for which a Problem Resolution Sheet is prepared are returned to the appropriate data collection specialist (or abstractor) for clarification and, when necessary, for a callback to the provider to retrieve missing or incomplete items. When the cases are returned to the editors after data retrieval, they are reviewed again to make sure that all items on the Problem Resolution Sheet

have been resolved. When editing on the case is complete, the Event Forms are sent for data entry. If the data entry process identifies a problem, the case is returned to the editing department for resolution and, if necessary, to the data collection specialist (or abstractor) for further clarification.

The work of the editors is also verified. All work by newly trained editors is verified 100 percent with the rate being reduced as the editor achieves a greater and greater level of proficiency, with the minimum level being 10 percent.

## 3.4 Innovations During 2006 Data Year

During 2007 for 2006 data collection the use of Electronic Digital Assistants (EDAs) and electronic faxing matured and became firmly embedded in MPC procedures. In addition a pilot test was inaugurated to look at the feasibility of contacting hospital medical record departments and patient account departments at the same time as opposed to collecting data from one before contacting the other, as had been the practice for many years.

### 3.4.1 Enterprise Digital Assistant (EDA)

Throughout the data collection process, a provider case will move to multiple physical locations. To track this location at any time during data collection, wireless handheld bar code readers (Enterprise Digital Assistants – EDA) were introduced in late 2006 (for 2005 pharmacy) and by 2007 they were used for all components.

### 3.4.2 Electronic Faxing

Before submitting medical and billing information, each provider must receive the authorization forms (AF) that allows us access to the data. In addition to the AF, providers are sent cover materials that include a letter from AHRQ, a brochure to describe the study, instructions for returning the data, and a list of patients for whom data are being requested. To expedite the process these materials are most often sent by fax.

The fax request was initiated by the data collection specialist completing a specific form and routing the request and the provider case to the fax operator. The fax operator then faxed the appropriate materials to the provider – using one of eight fax machines. The MPC transmits approximately 60,000 to 70,000 faxes during a data year.

In order to streamline this process, a pilot was initiated among SBDs in late 2006 and early 2007 (for 2005 SBDs) to test the feasibility of automating the faxing process (the same process also works for outgoing mail requests). Using a standard desktop computer, the software interface provides a mechanism for the fax operator to scan the provider identification number which, in turn, displays the provider and the provider's patients. When contact information is entered, the system automatically generates a fax that is sent to the provider. The fax contains the AFs (which were scanned when received from the household), a list of patients, a brochure, a cover letter, and instructions for returning the data.

The SBD pilot was successful and the fax software was expanded to all components in 2007 for 2006 data collection. The fax stations were moved and interspersed throughout the data collection area, operators were assigned to each, so that, if requested, a fax can be sent in 6 minutes (depending upon the speed of the receiving machine).

### 3.4.3 Pilot of Contacting Medical Records and Patient Accounts Simultaneously

Since the MPC was initially designed as a telephone data collection effort procedures evolved to support a telephone operation. To this end medical record information was collected first, followed by charge and payment data after the medical record was complete. This sequence assured that charges were obtained for all event dates and procedures and that payment information was also consistent. However, as the percentage of abstraction increased it became inefficient to wait to contact patient accounts until after medical records were received and abstracted. For this reason a pilot was implemented in 2007 (for 2006 hospitals) in which the telephone contact sequence between medical records and patient accounts became simultaneous; it was no longer necessary to wait for the completion of one to begin the other. The pilot was successful resulting in speedier return of both components and as a result the contact procedures for data year 2007 will be modified.

## 3.5 Data Collection Schedule

The annual expenditure estimates generated from MEPS are derived from a union of the data collected from household and medical provider respondents. The data in a given year's estimates relate to the year in which the data were collected from household respondents. Because the MPC sample is identified during household data collection, medical provider data collection necessarily follows household data collection, and the MPC sample cannot be fully identified until all household interviewing for the target calendar year is complete (the June following the end of the target year).

A major goal of the survey is to make the MEPS data available to users on as timely a basis as possible. By design, the MPC trails household interviewing. It provides the last elements of data content for the annual estimates, and the major processes required to prepare the annual estimates cannot begin until the MPC data collection is complete. Achieving the data delivery goal thus requires that the MPC data collection be started and completed as quickly as possible following household interviewing.

The schedule for fielding the MPC sample is shaped by the data delivery goal in several ways. The MPC sample for a given year is fielded in two or more waves, with the first wave beginning while household interviewing for the data year is still in progress. A first wave of the MPC sample is drawn from the first two rounds of household data collection for the calendar year—from Rounds 1 and 2 of the panel completing its first year and from Rounds 3 and 4 of the panel in its second year. These rounds end by mid-December. The final wave of the MPC sample can be fielded only after the household rounds that close out the calendar year data collection—Round 3 of the panel in its first year and Round 5 of the panel completing its second year—have been completed, which occurs in June. Readying these last elements of the year's MPC sample for data collection is critical to the overall MPC data collection schedule.

A minimum of 12 to 14 weeks is needed to build an acceptable response rate for this final part of the sample. The availability of this sample thus sets a minimum bound on how quickly the MPC data collection can end and the MPC data can be made available for processing. In recent years, the project has made steady incremental progress in reducing the processing time required to field each wave of the sample at the start of data collection operations and in making the MPC data available for processing at the end of data collection.

Table 3-2 summarizes the schedule for MPC data collection for calendar years 2004 through 2006. As reflected in the table, the sample is fielded in three groups with hospitals, office-based physicians, and home care, institutional, and HMO providers fielded as one group and SBD and pharmacy providers fielded as separate groups. For each of the main elements of the data collection, the table shows the start of the first wave of MPC data collection, the end of the final round of household data collection that generated the sample for the year's MPC, the start of the last wave of MPC data collection, the end of the MPC data collection, and the number of waves in which the year's MPC sample was fielded.

**Table 3-2. Schedule for MPC data collection, 2004-2006**

| Year | Provider group | Start of first MPC wave | End of household data collection | Start of last MPC wave | End of MPC data collection | Number of waves |
|---|---|---|---|---|---|---|
| 2004 | Hospital, etc.* | 02/28/05 | 6/15/05 | 08/01/05 | 12/15/04 | 2 |
| | SBD | 11/14/05 | 6/15/05 | 02/27/06 | 04/15/05 | 3 |
| | Pharmacy | 05/13/05 | 6/15/05 | 08/09/05 | 01/13/05 | 2 |
| 2005 | Hospital, etc.* | 02/27/06 | 6/15/06 | 07/24/06 | 12/15/06 | 2 |
| | SBD | 11/22/06 | 6/15/06 | 02/7/07 | 04/20/07 | 3 |
| | Pharmacy | 05/05/06 | 6/15/06 | 08/04/06 | 01/12/06 | 3 |
| 2006 | Hospital, etc.* | 02/28/07 | 6/15/07 | 08/29/07 | 12/27/07 | 3 |
| | SBD | 11/19/07 | 6/15/07 | 03/05/08 | 04/25/08 | 5 |
| | Pharmacy | 05/08/07 | 6/15/07 | 08/06/07 | 01/08/08 | 3 |

* Includes hospitals, office-based physicians, and home care, institutional, and HMO providers.

## 3.6 Data Collection Results

### 3.6.1 Response Rates

Table 3-3 summarizes the provider-level results of the MPC data collection for data years 2004 to 2006. Table 3-4 summarizes the results at the patient-provider pair level. For each event type, the tables show sample size and rates for response, refusals, and other nonresponse.

Table 3-3. Provider-level response rates, for events in calendar years 2004-2006

| Provider | Initial sample | Initial sample after subsampling | Final eligible sample | Response rate | Refusal rate | Other nonresponse rate |
|---|---|---|---|---|---|---|
| 2004 Providers | | | | | | |
| Hospitals | 7,567 | 6,094 | 5,671 | 0.920 | 0.027 | 0.053 |
| Office-based providers | 27,617 | 20,202 | 18,069 | 0.864 | 0.076 | 0.060 |
| HMOs | 420 | 300 | 250 | 0.892 | 0.056 | 0.052 |
| Home care providers | 568 | 556 | 509 | 0.809 | 0.108 | 0.083 |
| Institutions | 93 | 92 | 89 | 0.910 | 0.056 | 0.034 |
| SBDs | 20,094 | 20,094 | 13,225 | 0.840 | 0.076 | 0.084 |
| Pharmacies | 8,608 | 8,608 | 7,663 | 0.794 | 0.159 | 0.047 |
| Total | 64,967 | 55,596 | 45,476 | | | |
| 2005 Providers | | | | | | |
| Hospitals | 7,461 | 6,059 | 5,600 | 0.931 | 0.026 | 0.043 |
| Office-based providers | 26,972 | 18,933 | 16,898 | 0.859 | 0.086 | 0.055 |
| HMOs | 422 | 301 | 241 | 0.963 | 0.012 | 0.025 |
| Home care providers | 606 | 593 | 539 | 0.810 | 0.111 | 0.080 |
| Institutions | 121 | 116 | 108 | 0.963 | 0.009 | 0.028 |
| SBDs | 19,810 | 19,810 | 12,971 | 0.846 | 0.075 | 0.077 |
| Pharmacies | 8,404 | 8,404 | 7,568 | 0.787 | 0.167 | 0.046 |
| Total | 63,796 | 54,216 | 43,925 | | | |
| 2006 Providers | | | | | | |
| Hospitals | 7,447 | 5,884 | 5,484 | 0.941 | 0.022 | 0.037 |
| Office-based providers | 27,620 | 13,473 | 12,062 | 0.869 | 0.074 | 0.057 |
| HMOs | 333 | 284 | 238 | 0.920 | 0.042 | 0.038 |
| Home care providers | 655 | 648 | 602 | 0.856 | 0.080 | 0.065 |
| Institutions | 80 | 80 | 78 | 0.808 | 0.115 | 0.077 |
| SBDs | 21,126 | 21,126 | 13,013 | 0.823 | 0.111 | 0.066 |
| Pharmacies | 8,471 | 8,471 | 7,489 | 0.799 | 0.149 | 0.052 |
| Total | 65,792 | 49,966 | 38,966 | | | |

Table 3-4. Pair-level response rates, for events in calendar years 2004-2006

| Patient-provider pair | Initial sample | Initial sample after subsampling | Final eligible sample | Response rate | Refusal rate | Other nonresponse rate |
|---|---|---|---|---|---|---|
| Total | 97,909 | 84,073 | 67,561 | | | |
| 2004 Pairs | | | | | | |
| Hospitals | 13,175 | 12,772 | 11,589 | 0.922 | 0.028 | 0.050 |
| Office-based providers | 34,611 | 26,392 | 23,446 | 0.858 | 0.084 | 0.058 |
| HMOs | 791 | 665 | 514 | 0.813 | 0.088 | 0.099 |
| Home care providers | 610 | 610 | 555 | 0.805 | 0.115 | 0.080 |
| Institutions | 94 | 94 | 90 | 0.911 | 0.056 | 0.033 |
| SBDs | 29,271 | 29,271 | 18,694 | 0.827 | 0.103 | 0.070 |
| Pharmacies | 21,720 | 21,720 | 18,571 | 0.715 | 0.214 | 0.071 |
| Total | 100,272 | 91,524 | 73,549 | | | |
| 2005 Pairs | | | | | | |
| Hospitals | 12,933 | 12,601 | 11,279 | 0.923 | 0.036 | 0.041 |
| Office-based providers | 33,854 | 24,517 | 21,821 | 0.852 | 0.094 | 0.054 |
| HMOs | 804 | 685 | 514 | 0.955 | 0.014 | 0.031 |
| Home care providers | 689 | 689 | 619 | 0.816 | 0.113 | 0.071 |
| Institutions | 123 | 123 | 113 | 0.965 | 0.009 | 0.027 |
| SBDs | 28,930 | 28,930 | 18,720 | 0.824 | 0.114 | 0.063 |
| Pharmacies | 21,077 | 21,077 | 18,159 | 0.711 | 0.214 | 0.075 |
| Total | 98,410 | 91,976 | 74,227 | | | |
| 2006 Pairs | | | | | | |
| Hospitals | 13,071 | 11,911 | 10,830 | 0.934 | 0.031 | 0.035 |
| Office-based providers | 37,576 | 17,139 | 15,274 | 0.861 | 0.082 | 0.056 |
| HMOs | 694 | 594 | 476 | 0.903 | 0.059 | 0.038 |
| Home care providers | 719 | 719 | 661 | 0.847 | 0.082 | 0.071 |
| Institutions | 80 | 80 | 78 | 0.808 | 0.115 | 0.077 |
| SBDs | 31,058 | 31,058 | 18,699 | 0.807 | 0.144 | 0.049 |
| Pharmacies | 20,990 | 20,990 | 17,418 | 0.734 | 0.196 | 0.070 |
| Total | 104,288 | 81,591 | 74,227 | | | |

As shown in Table 3-3, the response rate for the hospital component has increased by one point in each of the last three years (94% in 2006 over. 93% in 2005 and 92% in 2004).The response rate for OBDs was also higher at nearly 87 percent and the response rate for SBDs slipped slightly to 82 percent. We attribute the slippage to the increased workload and the respondent's reluctance to

accept the authorization form with the name of a hospital rather than the provider. This issue was more pronounced this year because of "pre-faxing". While not dramatic, pharmacies also showed a slight increase in response rate over the previous year reflecting the efforts of the household component at collecting profiles from a two large corporate entities. The sample size for the other components, Institutions, HMOs, and Home Care are very small (about 90, 250, and 500 respectively) and as expected, their response rates show more fluctuation than the components with a large sample. This pattern is consistent with the patient provider pair level as shown in Table 3-4.

One feature of the SBD rates to be noted in Tables 3-3 and 3-4 is the proportion of SBD cases that are classified as "out of scope" or disavowals. This proportion is reflected in these tables as the difference between the initial sample after subsampling and the final eligible sample. Where the proportion of sample loss held close to 10 percent for most of the provider types, it was substantially higher each year for the SBDs at approximately 34 to 35 percent in 2004 and 2005, and 38 percent in 2006 for both providers and pairs. This proportion reflects, in large part, the approach taken by the project to identify the sample of SBDs: data collection specialists (or abstractors) record all providers whose names are identifiable in the medical records and attempt, through hospital contacts, to identify those who billed separately. They also identify procedures for which an SBD is likely such as an anesthesiologist for a surgery. Any provider who cannot be confirmed as having billed separately is included in the MPC sample. One consequence of this approach is that the sample includes many referring physicians and other providers who are associated with the patient but who did not provide services in connection with the reported hospital event and who cannot be confirmed as other than SBDs. When they are contacted and explain their relation to the event, they are classified as out of scope.

Over the years, project staff have observed that the proportion of cases coded as disavowals was particularly high among those characterized as "referring physicians," "copied physicians," or a similar designation. Medical records for an event often include the name of a referring physician, a physician who was provided a copy of the record, or other physicians who had some association with the patient but did not provide services in the hospital for the event in question. When the hospital administrative office respondent cannot say whether these physicians billed separately for the event, they are included in the SBD data collection. When contacted, they frequently report that they know the patient but did not provide any services during the hospital event. Physicians may report that their billing was in fact included in the hospital's charges or that there was no separate charge for their services.

Since 2004 the project has continued to try to determine the extent to which SBDs could be correctly classified as disavowals based on information provided by the hospital respondents, that is, on information available before SBD data collection is attempted. If identifiable groups of SBDs could be effectively classified as disavowals at the sample identification stage, they could be classified as out of scope without the need for a telephone call, reducing the workload for the SBD data collection effort.

Using information appearing in medical records or supplied by a hospital telephone respondent, each SBD is classified into one of six categories: referring physician, followup physician, department head, primary care physician, copied physician, or something else ("other"). These classifications are then evaluated to assess whether they are reliable indicators of whether a provider billed or charged a "professional fee" for an event: for example, did any physicians identified as "copied" report charges for an event or were all determined to be out of scope?

Table 3-5 shows the distribution of final result codes (at the "node" level) for the six physician categories into which the SBD sample was classified. ("Node" refers to the actual hospital event connected to the SBD.) Final "node" status includes refusal, disavowal, other nonresponse, and complete. As expected, most SBD physicians are categorized as "other," the group believed to be actively treating the patient and most likely to have billed for professional services. What was not expected was to find in all three years some professional fees reported for events associated with the referring, followup, department head, primary care, and copied physicians.

The data in the table suggest that, although the classifications are reliable in a large majority of the cases, they do not appear to be reliable for all cases: between 0.0 and 10.0 percent of the cases across all three years that were preclassified into one of the "expected-to-be-out-of-scope" categories actually reported some expenditure data. These data would have been lost to the study if the potential SBDs classified into these categories were excluded from data collection on the expectation that they would be out of scope. However, in each of the three years they represent less than 1 percent (n=133 out of 24,752 in 2006; n=195 out of 24,531 in 2005; and n=226 out of 24,259 in 2004) of the nodes for which data were collected. In order to collect data from the 133 "expected out-of-scope" categories in 2006, 5,045 providers had to be contacted and sent faxes. This had significant cost ramifications. During 2008 the project will analyze the "dollars" reported from the "expected out of scope" categories to determine if a recommendation should be made to AHRQ that some (or all) be eliminated from future collections.

Table 3-5. SBD physician categories by final node status, 2004, 2005, and 2006

| SBD physician category | Category total (N) | Final Node Status: Refusal N | Refusal: Percent of category total | Disavowal N | Disavowal: Percent of category total | Other nonresponse N | Other nonresponse: Percent of category total | Complete N | Complete: Percent of category total | Percent of complete (column) |
|---|---|---|---|---|---|---|---|---|---|---|
| 2004 | | | | | | | | | | |
| Referral | 3,579 | 390 | 10.9 | 2,929 | 81.8 | 169 | 4.7 | 91 | 2.5 | 0.004 |
| Followup | 708 | 57 | 8.1 | 588 | 83.1 | 6 | 0.8 | 57 | 8.1 | 0.002 |
| Dept. head | 125 | 1 | 0.8 | 119 | 95.2 | 4 | 3.2 | 1 | 0.8 | 0.000 |
| Primary | 1,120 | 107 | 9.6 | 974 | 87.0 | 4 | 0.4 | 35 | 3.1 | 0.001 |
| Copied | 1,083 | 59 | 5.4 | 976 | 90.1 | 6 | 0.6 | 42 | 3.9 | 0.002 |
| Other | 55,516 | 6,654 | 12.0 | 19,302 | 34.8 | 5,527 | 10.0 | 24,033 | 43.3 | 0.991 |
| 2005 | | | | | | | | | | |
| Referral | 3,070 | 178 | 5.8 | 2,783 | 90.7 | 28 | 0.9 | 81 | 2.6 | 0.003 |
| Followup | 568 | 44 | 7.7 | 460 | 81.0 | 8 | 1.4 | 56 | 9.9 | 0.002 |
| Dept. head | 5 | | 0.0 | 4 | 80.0 | 1 | 20.0 | - | 0.0 | 0.000 |
| Primary | 1,222 | 70 | 5.7 | 1,117 | 91.4 | 4 | 0.3 | 31 | 2.5 | 0.001 |
| Copied | 735 | 44 | 6.0 | 660 | 89.8 | 4 | 0.5 | 27 | 3.7 | 0.001 |
| Other | 57,122 | 7,252 | 12.7 | 18,864 | 33.0 | 6,669 | 11.7 | 24,337 | 42.6 | 0.992 |
| 2006 | | | | | | | | | | |
| Referral | 2,471 | 203 | 8.2 | 2,195 | 88.8 | 29 | 1.2 | 44 | 1.8 | 0.002 |
| Followup | 668 | 62 | 9.3 | 556 | 83.2 | 10 | 1.5 | 40 | 6.0 | 0.002 |
| Dept. head | 20 | | 0.0 | 5 | 25.0 | 13 | 65.0 | 2 | 10.0 | 0.000 |
| Primary | 1,009 | 102 | 10.1 | 853 | 84.5 | 25 | 2.5 | 29 | 2.9 | 0.001 |
| Copied | 877 | 79 | 9.0 | 769 | 87.7 | 11 | 1.3 | 18 | 2.1 | 0.001 |
| Other | 69,121 | 9,046 | 13.1 | 25,957 | 37.6 | 9,499 | 13.7 | 24,619 | 35.6 | 0.995 |

During the first 2 years of MPC operations, the progress of SBD data collection was tracked at the provider and patient-provider pair levels, the same as for other provider types. Beginning in 1998, SBDs were also tracked at the "node" level, that is, in terms of each SBD reported for each event identified in the hospital data collection. Table 3-6 summarizes the node-level data collection results for 1998 to 2006. The sample losses occurring with the SBD data collection are reflected as the "eligibility rate" in this table.

### 3.6.2 Refusal Rates

Table 3-7 provides additional information on the refusal component of nonresponse for 2004 through 2006. The units reported in these two tables are "provider-waves," the units used to track providers in the telephone operational management system. A provider reported by patients in both waves of a year's sample is represented twice in these tallies.

Table 3-7 shows the proportion of cases "ever coded a refusal" and the final disposition of cases after conversion. The percentage of "ever coded a refusal" cases over the 3 years represented in the table is fairly consistent with some upward trend (except for pharmacies and hospital MRs) to have a higher initial refusal rate than in previous years. The upward slope is a byproduct of a concentrated effort to (1) more carefully classify veiled refusals as "initial refusals," allowing more skilled interviewers an opportunity to convert them; (2) place more emphasis on refusal conversion training; and (3) start conversion efforts earlier in the year. The conversion rates (the last column in Table 3-7) shows an increase for hospitals and OBDs over 2005, consistency among pharmacies, and a substantial decrease in the conversion rate for SBDs. We attribute the decrease to less time available for conversion due to the increased sample size and the longer time per complete resulting for the authorization form procedure change.

Table 3-8 looks at the reason for final refusal and compares 2005 and 2006. Issues related to HIPAA account for less than 1 percent (n=32) of the refusals continuing the downturn since HIPAA was first introduced in 2003. Concerns about accepting the authorization forms account for nearly 12 percent (n=521) of the refusals in 2006 and 9 percent (n=444) in 2005. Most of this increase is driven by SBDs where the rate increased from 10.6 percent (n=140) in 2005 to 15.7 percent (n=281) in 2006. We attribute this increase for SBDs to their reluctance to accept an authorization form with a hospital name (rather than the provider name). This became more pronounced in 2006 when authorization forms were sent to all providers in advance of collecting data (or determining eligibility).

Table 3-6. SBD node-level response, 1998-2006

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|---|---|---|---|
| Total nodes | 26,421 | 30,994 | 33,354 | 59,910 | 64,837 | 56,353 | 62,131 | 62,861 | 74,247 |
| Out of scope | 10,111 | 13,811 | 16,816 | 30,121 | 30,463 | 26,107 | 30,073 | 30,181 | 38,087 |
| Net eligible | 16,310 | 17,183 | 16,538 | 29,789 | 34,374 | 30,246 | 32,058 | 32,680 | 36,160 |
| Complete | 12,368 | 12,571 | 12,691 | 21,204 | 23,067 | 22,274 | 24,661 | 25,020 | 26,491 |
| Nonresponse | 3,942 | 4,612 | 3,847 | 8,585 | 11,307 | 7,972 | 7,397 | 7,660 | 9,669 |
| | | | | | | | | | |
| Eligibility rate | 0.617 | 0.554 | 0.496 | 0.497 | 0.53 | 0.537 | 0.516 | 0.520 | 0.487 |
| Completion rate | 0.758 | 0.732 | 0.767 | 0.712 | 0.671 | 0.736 | 0.769 | 0.766 | 0.733 |

Table 3-7. Refusal conversion outcomes: Final disposition of cases coded as refusals during MPC data collection, 2004-2006*

| | | Ever coded refusal | | Final disposition of refusals | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Out of scope | | Final refusal | | Other nonresponse | | Complete | |
| | Initial sample (N) | N | Percent of initial sample | N | Percent of refusals | N | Percent of refusals | N | Percent of refusals | N | Percent of refusals |
| 2004 | | | | | | | | | | | |
| Hospital–medical records | 8,377 | 1,260 | 15.0 | 74 | 5.9 | 241 | 19.1 | 42 | 3.3 | 903 | 71.7 |
| Hospital–patient accounts | 8,377 | 1,016 | 12.1 | 37 | 3.6 | 241 | 23.7 | 22 | 2.2 | 716 | 70.5 |
| Hospital–admin offices | 8,377 | 345 | 4.1 | 2 | *** | 241 | 69.9 | 12 | 3.5 | 90 | 26.1 |
| Office-based providers | 21,487 | 3,367 | 15.7 | 154 | 4.6 | 1,504 | 44.7 | 85 | 2.5 | 1,624 | 48.2 |
| Pharmacies | 10,204 | 2,081 | 20.4 | 68 | 3.3 | 1,548 | 74.4 | 22 | 1.1 | 443 | 21.3 |
| SBDs | 21,578 | 3,368 | 15.6 | 416 | 12.4 | 1,429 | 42.4 | 15 | *** | 1,508 | 44.8 |
| 2005 | | | | | | | | | | | |
| Hospital–medical records | 8,380 | 1,026 | 12.2 | 80 | 7.8 | 240 | 23.4 | 45 | 4.4 | 661 | 64.4 |
| Hospital–patient accounts | 8,380 | 1,040 | 12.4 | 59 | 5.7 | 240 | 23.1 | 14 | 1.3 | 727 | 69.9 |
| Hospital–admin offices | 8,380 | 365 | 4.4 | 66 | 18.1 | 240 | 65.8 | 5 | 1.4 | 54 | 14.8 |
| Office-based providers | 19,936 | 3,332 | 16.7 | 189 | 5.7 | 1,554 | 46.6 | 84 | 2.5 | 1,505 | 45.2 |
| Pharmacies | 9,983 | 2,004 | 20.1 | 54 | 2.7 | 1,602 | 79.9 | 19 | 0.9 | 329 | 16.4 |
| SBDs | 21,292 | 3,476 | 16.3 | 655 | 18.8 | 1,317 | 37.9 | 34 | 1.0 | 1,470 | 42.3 |
| 2006 | | | | | | | | | | | |
| Hospital–medical records | 8,041 | 944 | 11.7 | 60 | 6.4 | 209 | 22.1 | 18 | 1.9 | 657 | 69.6 |
| Hospital–patient accounts | 8,041 | 1,123 | 14.0 | 47 | 4.2 | 208 | 18.5 | 15 | 1.3 | 853 | 76.0 |
| Hospital–admin offices | 8,041 | 266 | 3.3 | 32 | 12.0 | 199 | 74.8 | 2 | 0.8 | 33 | 12.4 |
| Office-based providers | 14,058 | 2,565 | 18.2 | 148 | 5.8 | 948 | 37.0 | 57 | 2.2 | 1,412 | 55.0 |
| Pharmacies | 10,917 | 1,929 | 17.7 | 73 | 3.8 | 1,509 | 78.2 | 31 | 1.6 | 316 | 16.4 |
| SBDs | 23,399 | 3,602 | 15.4 | 771 | 21.4 | 1,785 | 49.6 | 9 | 0.2 | 1,037 | 28.8 |

*Cell entries represent "provider-waves," the units used to monitor telephone data collection operations. A provider is counted in each wave of fielded cases in which it appears.

**The denominator for "ever coded a refusal" includes provider wave cases ever coded an interim refusal (2* or 3*) or a final refusal (H* or R*) without being coded an interim refusal.

***Less than 1 percent.

Table 3-8. Reasons for final refusal, 2005 and 2006*

| | Final refusal | Refusal | | HIPAA refusal | | Provider will not accept authorization | | Respondent revoked authorization | | Records archived and resp refuses to retrieve | | Records purged from system | | System conversion | | Other refusal | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % |
| 2005 | | | | | | | | | | | | | | | | | |
| Hospitals | 240 | 163 | 67.9 | 4 | 1.7 | 53 | 22.1 | 15 | 6.3 | 0 | 0 | 2 | *** | 0 | 0 | 3 | 1.3 |
| OBDs | 1,554 | 1213 | 78.1 | 3 | *** | 147 | 9.5 | 106 | 6.8 | 9 | *** | 63 | 4.1 | 10 | *** | 3 | *** |
| Pharmacies | 1,602 | 1375 | 85.8 | 83 | 5.2 | 104 | 6.5 | 24 | 1.5 | 2 | *** | 9 | *** | 5 | *** | 0 | 0 |
| SBDs | 1,317 | 898 | 68.2 | 9 | *** | 140 | 10.6 | 13 | 1 | 13 | 1 | 201 | 15.3 | 43 | 3.3 | 0 | 0 |
| Total | 4,713 | 3,649 | 77.4 | 99 | 2.1 | 444 | 9.4 | 158 | 3.4 | 24 | *** | 275 | 5.8 | 58 | 1.2 | 6 | *** |
| 2006 | | | | | | | | | | | | | | | | | |
| Hospitals | 209 | 122 | 58.4 | 2 | 1.0 | 44 | 21.1 | 24 | 11.5 | 1 | *** | 13 | 6.2 | 3 | 1.4 | 0 | 0 |
| OBDs | 948 | 704 | 74.3 | 4 | *** | 86 | 9.1 | 81 | 8.5 | 21 | 2.2 | 47 | 5.0 | 5 | 0.5 | 0 | 0 |
| Pharmacies | 1509 | 1341 | 88.9 | 21 | 1.4 | 110 | 7.3 | 25 | 1.7 | 7 | *** | 3 | 0.2 | 2 | 0.1 | 0 | 0 |
| SBDs | 1785 | 1296 | 72.6 | 5 | *** | 281 | 15.7 | 23 | 1.3 | 19 | 1.1 | 124 | 6.9 | 37 | 2.1 | 0 | 0 |
| Total | 4451 | 3463 | 77.8 | 32 | *** | 521 | 11.7 | 153 | 3.4 | 48 | 1.1 | 187 | 4.2 | 47 | 1.1 | 0 | 0 |

* Cell entries represent "provider-waves," the units used to monitor telephone data collection operations. A provider is counted in each wave of fielded cases in which it appears.

***Less than 1 percent

Comparable to 2005, a small percentage of providers refused because of issues related to system changes, purged records, etc. Seventy-seven percent in both years occurred because the provider "chose not to participate" and our refusal conversion attempts failed. The highest percentage in this category occurred among pharmacies where two large providers chose not to participate.

Figures 3-1 through 3-4 provide a graphic summary of major components of the MEPS MPC data collection over the survey's history. Data elements highlighted in the graphs are at the provider level The figures show response over time for hospitals (Figure 3-1), office-based providers (Figure 3-2), SBDs (Figure 3-3), and pharmacies (Figure 3-4). The lines on each figure indicate

- Sample size, as a proportion of the sample fielded in 2002,
- Sample eligibility rate,
- Final completion rate, and
- Final refusal rate.

In general, the figures show relatively little fluctuation from year to year in eligibility rates, final completion rates, and final refusal rates despite some very noticeable changes in sample size. The hospital sample essentially doubled from the 1998-2000 level to a peak in 2002, then dropped moderately in 2003. In 2006, the size of the hospital sample was consistent with 2003, 2004, and 2005.There was a large drop in the OBD sample due to the subsampling plan; a slight increase in the pharmacy sample, and a large increase in the SBD sample.

### 3.6.3 Locating Rates

A substantial part of the data collection effort each year is invested in identifying the patients in medical providers' records. Cases in which a patient cannot be identified by the provider are, except for SBDs,[2] considered nonresponse on the assumption that error at some point in processing led the project to the wrong provider or the wrong set of provider records. However, it is often the case that subsequent checking, using additional information available from the household interview,

[2] For SBDs these cases are considered "out of scope".

Figure 3-1. Hospital providers: Response factors over time

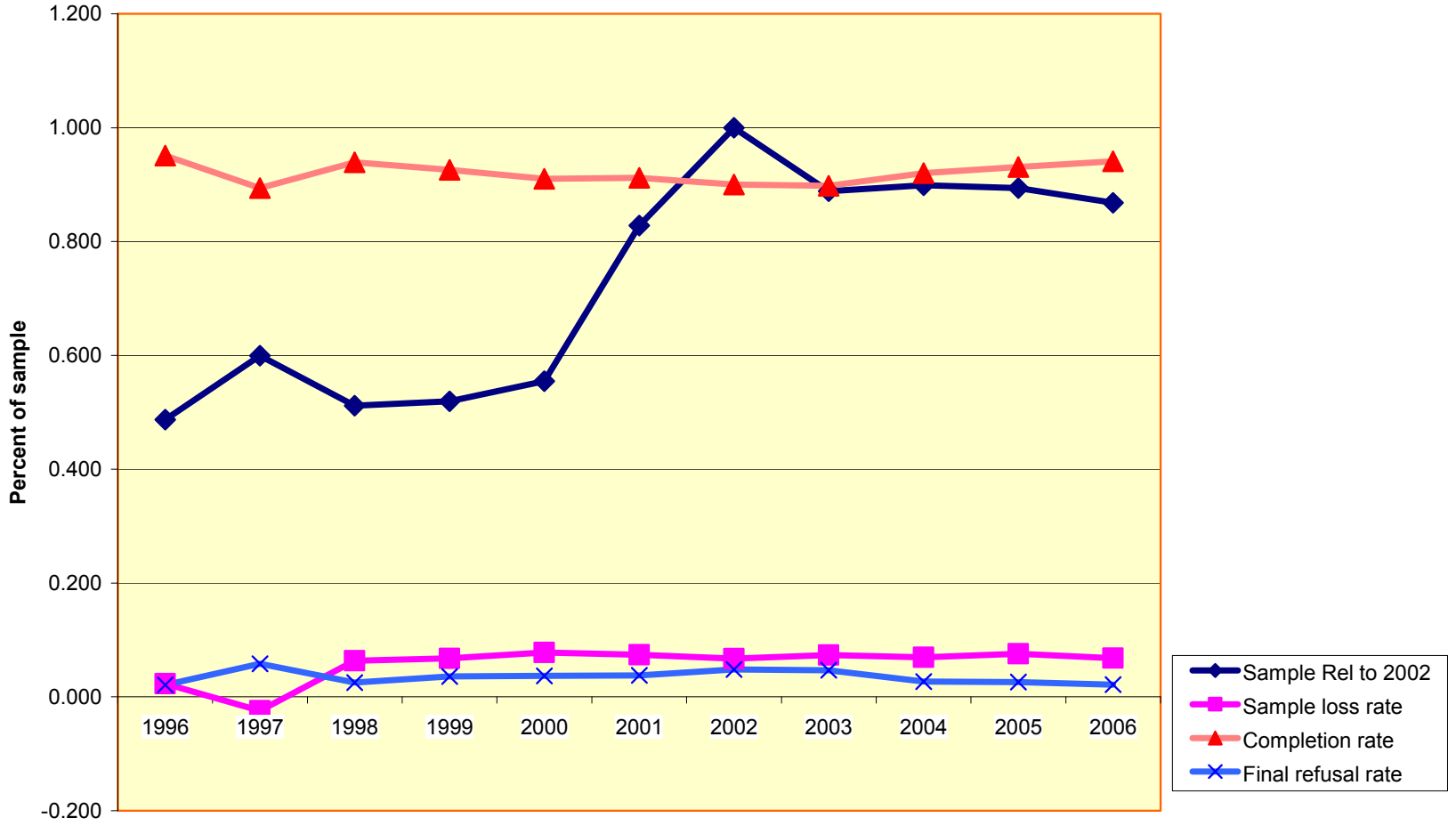


Figure 3-2. Office-based providers: Response factors over time

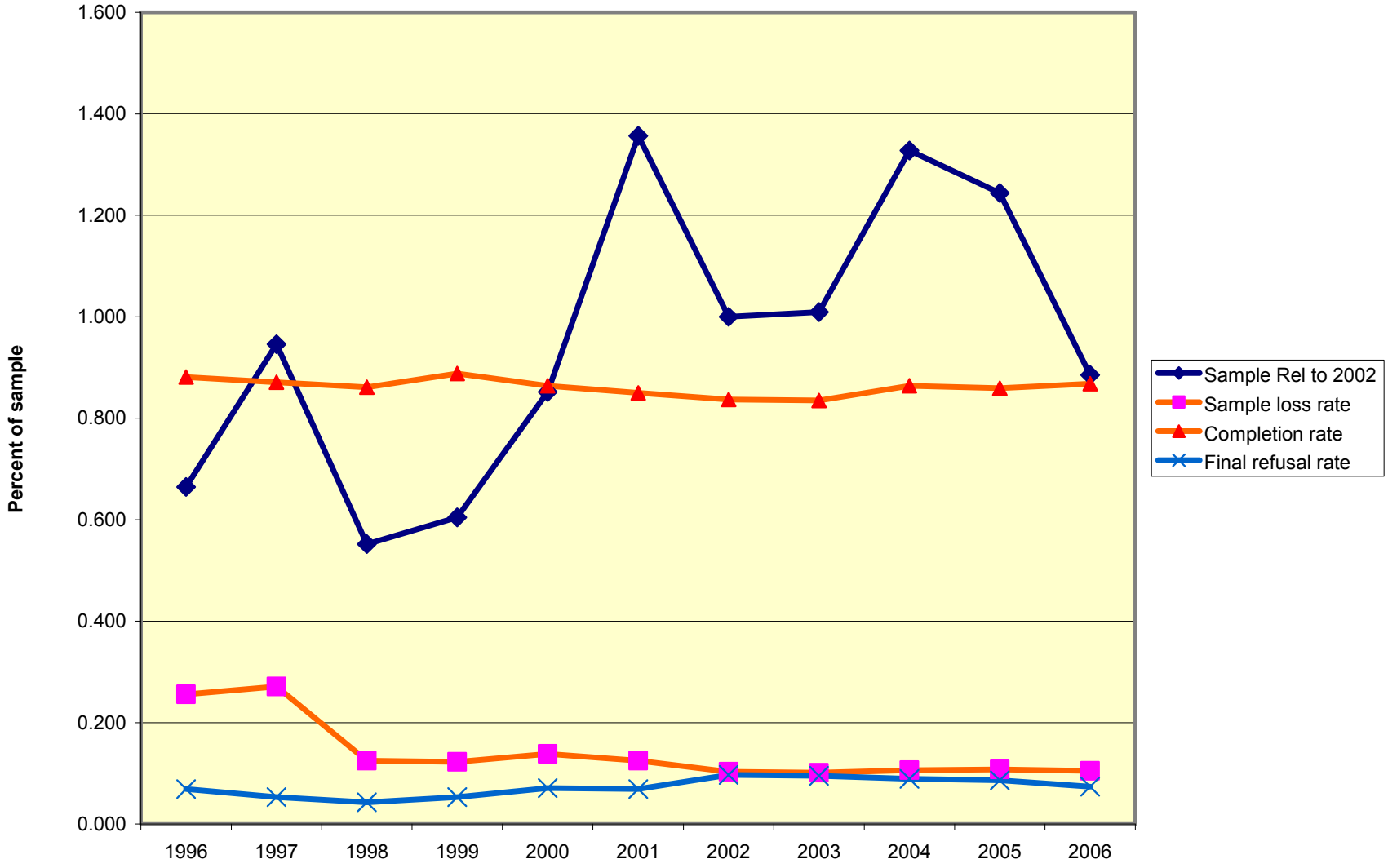


Figure 3-3. SBDs: Response factors over time

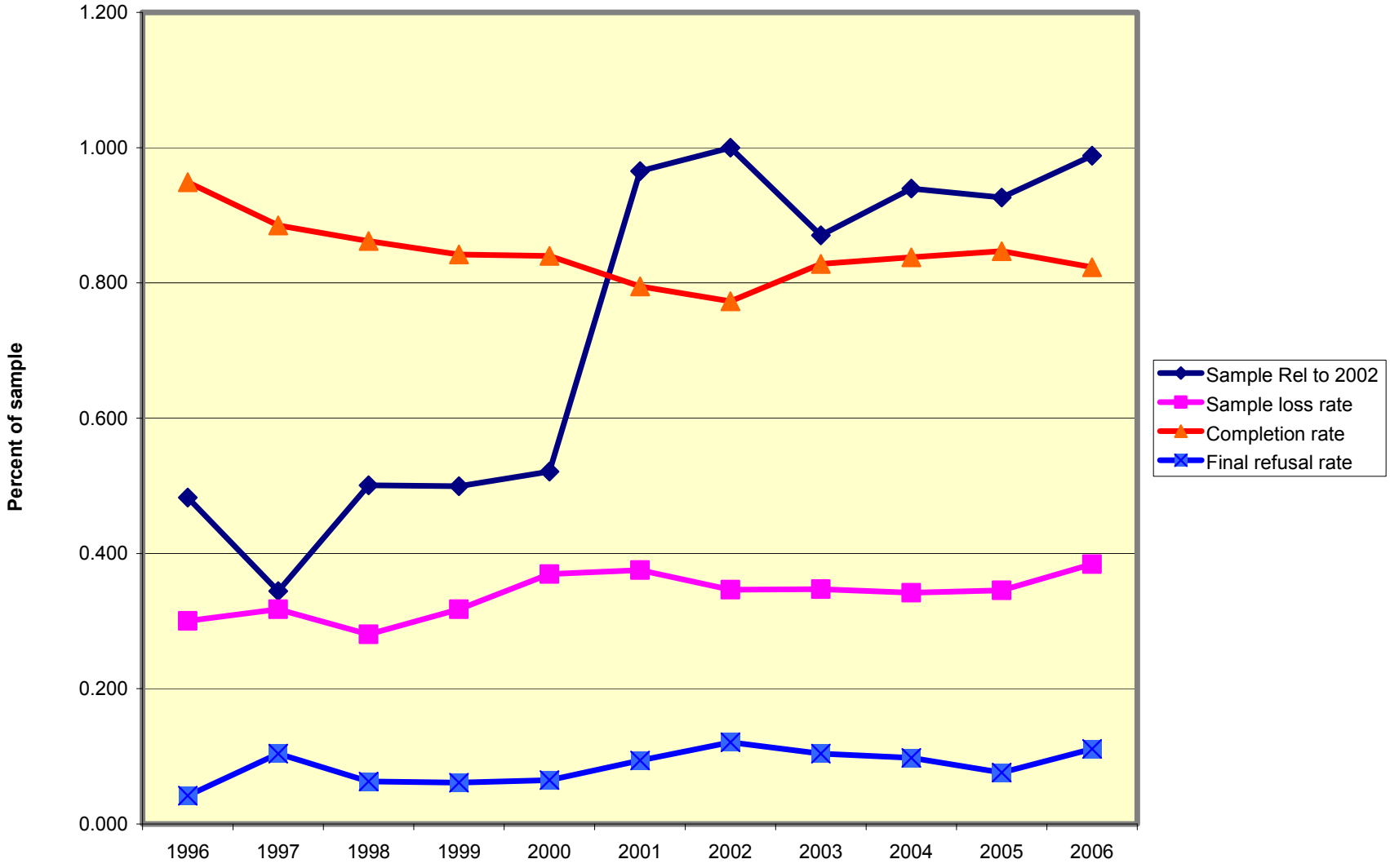
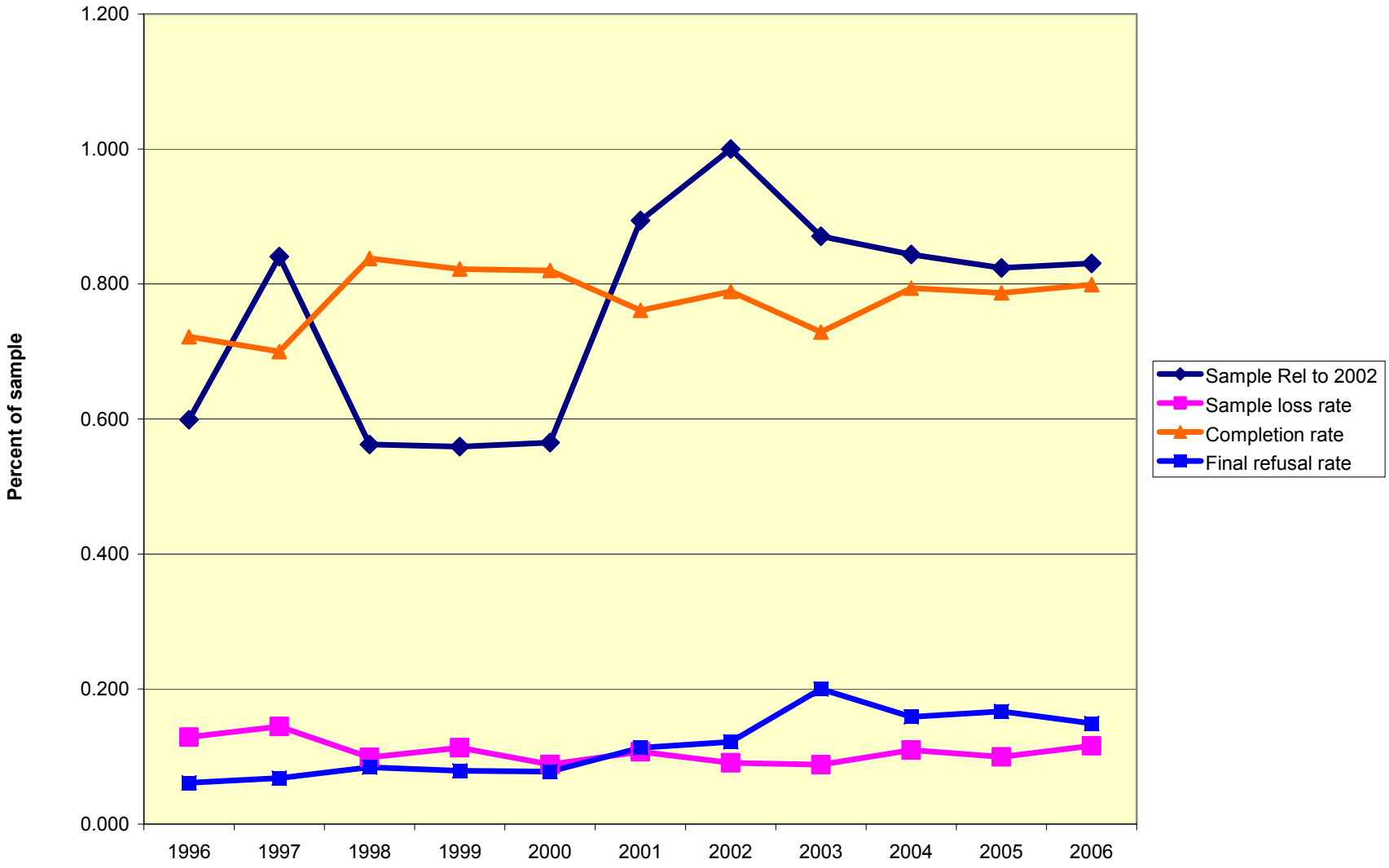


**Figure 3-4. Pharmacy providers: Response factors over time**



results in successful location of the records. Checking under alternative names (e.g., the parent's name for a child, a maiden name) or with the knowledge that the patient received a certain kind of care may lead to the discovery of the records.

A similar checking process occurs when a provider reports knowing a patient but that no services were provided during the target period. These cases are considered "out of scope" for all components.

Table 3-9 summarizes the project's success in converting cases that were ever assigned "patient not known" or "patient known but no services provided" for all components except SBDs. For SBDs, only the "patient not known" classification is reported.

### 3.6.4 Timing

The hours per completed MPC provider-pair shown in Table 3-10 include both interviewing and abstracting hours. The time has steadily increased over the last three years as the percentage of cases requiring abstraction has increased. As shown in Table 3-1 (page 3-13), the project abstracted 91.3 percent (n=6,269) of hospital medical records and 83.8 percent (n=5,752) of patient accounts in 2006 compared to 86.6 % (n=6,042) and 79.2% (n=5,542), respectively, in 2005.While the numerical increase in hospital component abstraction appears small (at just 455), abstracting the additional 455 cases adds approximately 2,000 hours to the process, increasing the hours per complete substantially. For SBDs the percentage increase was far more dramatic with 5,666 cases requiring abstraction in 2006 compared to 1,846 in 2005 adding approximately 5,000 hours to SBD data collection.

Another contributing factor to the increase in hours was the procedural change that required the DCS staff to send patient authorization forms to the provider prior to the release of any personal health information (PHI).This resulted in a minimum of *two* call sequences because DCSs could not verify patients on the telephone, if asked, unless the patient authorization form had been sent. This increase in the minimum number of provider contacts had an effect on components with significant out of scope rates. For example, SBDs have an out of scope rate of over 30 percent and OBDs about 9 percent, prior to this procedural change, a portion of these cases could have been finalized with one call sequence.

Table 3-9. Locating results: Final dispositions for cases coded as "patient not known" at any time during data collection, 2004-2006

| | Ever coded not known | Final not known | | Other out of scope | | Other nonresponse | | Complete | |
|---|---|---|---|---|---|---|---|---|---|
| | (N) | N | Percent | N | Percent | N | Percent | N | Percent |
| 2004 | | | | | | | | | |
| Hospital—medical records | 657 | 492 | 74.90 | 4 | 0.60 | 6 | 0.90 | 155 | 23.60 |
| Office-based providers | 1,587 | 1,272 | 76.60 | 9 | 0.60 | 28 | 1.80 | 278 | 17.50 |
| Pharmacies | 662 | 367 | 48.00 | 7 | 1.10 | 4 | 0.60 | 284 | 42.90 |
| SBDs | 1,565 | 1,072 | 67.10 | 37 | 2.40 | 30 | 1.90 | 426 | 27.20 |
| 2005 | | | | | | | | | |
| Hospital—medical records | 552 | 310 | 56.20 | 7 | 1.30 | 11 | 2.00 | 224 | 40.60 |
| Office-based providers | 1,841 | 929 | 50.50 | 60 | 3.30 | 114 | 6.20 | 738 | 40.10 |
| Pharmacies | 715 | 336 | 47.00 | 8 | 1.10 | 22 | 3.10 | 349 | 48.80 |
| SBDs | 1,781 | 973 | 54.60 | 189 | 10.60 | 97 | 5.40 | 522 | 29.30 |
| 2006 | | | | | | | | | |
| Hospital—medical records | 511 | 348 | 68.10 | 1 | 0.20 | 20 | 3.91 | 142 | 27.79 |
| Office-based providers | 1,063 | 765 | 71.97 | 5 | 0.47 | 58 | 5.46 | 235 | 22.11 |
| Pharmacies | 605 | 260 | 42.98 | 5 | 0.83 | 6 | 0.99 | 334 | 55.21 |
| SBDs | 1,942 | 1,466 | 75.49 | 159 | 8.19 | 31 | 1.60 | 286 | 14.73 |

Note: Cell entries represent "provider-waves," the units used to monitor telephone data collection operations. A provider is counted in each wave of fielded cases in which it appears.

Table 3-10. Hours per completed MPC patient-provider pair, 2004-2006

| Year | Provider type | | | | |
|---|---|---|---|---|---|
| | Hospital | Office-based | Home care | Pharmacy | SBD |
| 2004 | 7.54 | 2.51 | 6.98 | 0.79 | 2.84 |
| 2005 | 7.62 | 2.62 | 5.37 | 0.41 | 3.11 |
| 2006 | 8.41 | 3.33 | 6.53 | 0.56 | 3.56 |

The increase in time per complete for pharmacy is not significant and it is influenced largely by the number of corporate pharmacies requiring centralized contact and the number choosing to send data by disc, which varies considerably year to year. The home health samples are so small that variation from year to year is normal and expected.

# Appendix A

# MPC Data Collection
# Summary Tables 1996-2006

# Appendix A
# MPC Data Collection
# Summary Tables 1996-2006

Table A-1. MPC sample sizes, provider level, 1996-2006

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|
| Hospital | | | | | | |
| Initial sample | 3,301 | 6,045 | 4,844 | 3,520 | 3,760 | 6,801 |
| Sample after subsampling | n/a | 4,065 | 3,468 | n/a | 3,760 | 5,616 |
| Final in-scope sample | 3,330 | 4,163 | 3,247 | 3,284 | 3,467 | 5,201 |
| HMO | | | | | | |
| Initial sample | 296 | 396 | 228 | 247 | 118 | 476 |
| Sample after subsampling | n/a | 350 | 171 | n/a | 118 | 334 |
| Final in-scope sample | 628 | 467 | 155 | 225 | 113 | 287 |
| Institution | | | | | | |
| Initial sample | 59 | 81 | 63 | 52 | 63 | 83 |
| Sample after subsampling | n/a | 80 | 69 | n/a | 63 | 82 |
| Final in-scope sample | 50 | 75 | 65 | 45 | 60 | 76 |
| Home care | | | | | | |
| Initial sample | 415 | 674 | 456 | 393 | 319 | 520 |
| Sample after subsampling | n/a | 653 | 420 | n/a | 319 | 509 |
| Final in-scope sample | 375 | 579 | 384 | 293 | 281 | 436 |
| Office-based physician | | | | | | |
| Initial sample | 10,118 | 14,646 | 10,483 | 9,202 | 12,962 | 26,344 |
| Sample after subsampling | n/a | 9,663 | 8,403 | n/a | 12,962 | 20,651 |
| Final in-scope sample | 7,758 | 7,047 | 7,356 | 8,076 | 11,167 | 18,078 |
| SBD | | | | | | |
| Initial sample | 10,323 | 14,730 | 10,711 | 10,680 | 11,144 | 20,644 |
| Sample after subsampling | n/a | 7,365 | 10,711 | n/a | 11,144 | 20,644 |
| Final in-scope sample | 8,705 | 5,297 | 7,704 | 7,288 | 7,026 | 12,891 |
| Pharmacy | | | | | | |
| Initial sample | 6,109 | 8,547 | 5,734 | 5,703 | 5,762 | 9,118 |
| Sample after subsampling | n/a | 8,547 | 5,734 | n/a | 5,762 | 9,118 |
| Final in-scope sample | 5,321 | 7,335 | 5,168 | 5,058 | 5,152 | 8,141 |

Table A-1. MPC sample sizes, provider level, 1996-2006 (continued)

| | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|
| Hospital | | | | | |
| Initial sample | 8,811 | 7,806 | 7,567 | 7,461 | 7,447 |
| Sample after subsampling | 6,780 | 6,023 | 6,094 | 6,059 | 5,884 |
| Final in-scope sample | 6,325 | 5,580 | 5,671 | 5,600 | 5,484 |
| HMO | | | | | |
| Initial sample | 559 | 607 | 420 | 422 | 333 |
| Sample after subsampling | 290 | 280 | 300 | 301 | 284 |
| Final in-scope sample | 256 | 218 | 250 | 241 | 238 |
| Institution | | | | | |
| Initial sample | 114 | 81 | 92 | 121 | 80 |
| Sample after subsampling | 110 | 81 | 92 | 116 | 80 |
| Final in-scope sample | 103 | 73 | 89 | 108 | 78 |
| Home care | | | | | |
| Initial sample | 631 | 588 | 568 | 606 | 655 |
| Sample after subsampling | 611 | 586 | 556 | 593 | 648 |
| Final in-scope sample | 537 | 527 | 509 | 539 | 602 |
| Office-based physician | | | | | |
| Initial sample | 32,889 | 28,946 | 27,617 | 26,972 | 27,620 |
| Sample after subsampling | 15,222 | 15,361 | 20,212 | 18,933 | 13,473 |
| Final in-scope sample | 13,652 | 13,808 | 18,069 | 16,898 | 12,062 |
| SBD | | | | | |
| Initial sample | 21,385 | 18,613 | 20,094 | 19,810 | 21,126 |
| Sample after subsampling | 21,385 | 18,613 | 20,094 | 19,810 | 21,126 |
| Final in-scope sample | 13,976 | 12,154 | 13,225 | 12,971 | 13,013 |
| Pharmacy | | | | | |
| Initial sample | 10,200 | 8,882 | 8,608 | 8,404 | 8,471 |
| Sample after subsampling | 10,200 | 8,882 | 8,608 | 8,404 | 8,471 |
| Final in-scope sample | 9,268 | 8,101 | 7,663 | 7,568 | 7,489 |

Table A-2. MPC sample sizes, pair level, 1996-2006

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|
| Hospital | | | | | | |
| Initial sample | 6,729 | 11,694 | 7,922 | 6,712 | 7,849 | 11,798 |
| Sample after subsampling | n/a | 8,192 | 6,434 | n/a | 7,849 | 11,377 |
| Final in-scope sample | 6,570 | 7,938 | 5,825 | 6,163 | 7,016 | 10,155 |
| HMO | | | | | | |
| Initial sample | 534 | 809 | 436 | 555 | 382 | 965 |
| Sample after subsampling | n/a | n/a | n/a | n/a | 382 | 791 |
| Final in-scope sample | 924 | 911 | 346 | 472 | 324 | 637 |
| Institution | | | | | | |
| Initial sample | 63 | 85 | 64 | 53 | 66 | 86 |
| Sample after subsampling | n/a | 85 | 70 | n/a | 66 | 86 |
| Final in-scope sample | 53 | 80 | 65 | 45 | 63 | 79 |
| Home care | | | | | | |
| Initial sample | 461 | 750 | 520 | 394 | 367 | 607 |
| Sample after subsampling | n/a | 750 | 491 | n/a | 367 | 601 |
| Final in-scope sample | 385 | 662 | 445 | 340 | 317 | 471 |
| Office-based physician | | | | | | |
| Initial sample | 13,681 | 19,157 | 12,641 | 11,974 | 17,407 | 33,518 |
| Sample after subsampling | n/a | 12,635 | 10,747 | n/a | 17,407 | 26,886 |
| Final in-scope sample | 10,251 | 9,632 | 9,334 | 10,409 | 14,935 | 23,376 |
| SBD | | | | | | |
| Initial sample | 12,488 | 17,394 | 13,658 | 14,906 | 15,955 | 28,905 |
| Sample after subsampling | n/a | 8,697 | 13,658 | n/a | 15,955 | 28,905 |
| Final in-scope sample | 9,187 | 6,301 | 9,691 | 10,100 | 9,893 | 17,529 |
| Pharmacy | | | | | | |
| Initial sample | 14,531 | 20,248 | 12,321 | 13,183 | 14,847 | 22,165 |
| Sample after subsampling | n/a | n/a | n/a | n/a | 14,847 | 22,165 |
| Final in-scope sample | 12,146 | 16,241 | 10,386 | 11,317 | 12,728 | 19,256 |

Table A-2. MPC sample sizes, pair level, 1996-2006 (continued)

| | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|
| Hospital | | | | | |
| Initial sample | 16,481 | 13,876 | 13,175 | 12,933 | 13,071 |
| Sample after subsampling | 14,477 | 13,094 | 12,772 | 12,601 | 11,911 |
| Final in-scope sample | 12,805 | 11,532 | 11,589 | 11,279 | 10,830 |
| HMO | | | | | |
| Initial sample | 1,134 | 939 | 791 | 804 | 694 |
| Sample after subsampling | 567 | 625 | 665 | 685 | 594 |
| Final in-scope sample | 477 | 466 | 514 | 514 | 476 |
| Institution | | | | | |
| Initial sample | 116 | 86 | 94 | 123 | 80 |
| Sample after subsampling | 115 | 85 | 94 | 123 | 80 |
| Final in-scope sample | 107 | 77 | 90 | 113 | 78 |
| Home care | | | | | |
| Initial sample | 713 | 652 | 610 | 689 | 719 |
| Sample after subsampling | 682 | 641 | 610 | 689 | 719 |
| Final in-scope sample | 606 | 579 | 555 | 619 | 661 |
| Office-based physician | | | | | |
| Initial sample | 42,327 | 36,804 | 34,611 | 33,854 | 37,576 |
| Sample after subsampling | 19,309 | 19,731 | 26,392 | 24,517 | 17,139 |
| Final in-scope sample | 17,198 | 17,692 | 23,446 | 21,821 | 15,274 |
| SBD | | | | | |
| Initial sample | 30,780 | 26,965 | 29,271 | 28,930 | 31,058 |
| Sample after subsampling | 30,780 | 26,965 | 29,271 | 28,930 | 31,058 |
| Final in-scope sample | 19,977 | 17,566 | 18,694 | 18,720 | 18,699 |
| Pharmacy | | | | | |
| Initial sample | 26,046 | 22,438 | 21,720 | 21,077 | 20,990 |
| Sample after subsampling | 26,046 | 22,438 | 21,720 | 21,077 | 20,990 |
| Final in-scope sample | 23,057 | 19,649 | 18,571 | 18,159 | 17,418 |

Table A-3. MPC schedule milestones, 1996-2006

| Target year | Provider type | Begin MPC first wave | End household data collection, Round 3/5 | Begin MPC last wave | End MPC | Number of waves fielded |
|---|---|---|---|---|---|---|
| 1996 | Hospital, etc.* | 1/97 | 7/97 | 10/97 | 1/98 | 22 |
| | SBD | 5/97 | 7/97 | 4/98 | 6/98 | 6 |
| | Pharmacy | 8/97 | 7/97 | 11/97 | 6/98 | 10 |
| 1997 | Hospital, etc.* | 6/98 | 7/98 | 10/98 | 2/99 | 4 |
| | SBD | 2/99 | 7/98 | 4/99 | 7/99 | 4 |
| | Pharmacy | 9/98 | 7/98 | 12/98 | 7/99 | 3 |
| 1998 | Hospital, etc.* | 6/99 | 8/99 | 10/99 | 1/00 | 3 |
| | SBD | 1/00 | 8/99 | 4/00 | 7/00 | 3 |
| | Pharmacy | 10/99 | 8/99 | n/a | 4/00 | 1 |
| 1999 | Hospital, etc.* | 5/00 | 8/00 | 10/00 | 1/01 | 2 |
| | SBD | 1/01 | 8/00 | 5/01 | 6/01 | 3 |
| | Pharmacy | 11/00 | 8/00 | n/a | 6/01 | 1 |
| 2000 | Hospital, etc.* | 5/01 | 6/01 | 9/01 | 12/01 | 2 |
| | SBD | 1/02 | 6/01 | 3/02 | 4/02 | 3 |
| | Pharmacy | 9/01 | 6/01 | n/a | 1/02 | 1 |
| 2001 | Hospital, etc.* | 4/02 | 6/02 | 8/02 | 12/02 | 2 |
| | SBD | 1/03 | 6/02 | 3/03 | 5/03 | 3 |
| | Pharmacy | 8/02 | 6/02 | n/a | 12/02 | 1 |
| 2002 | Hospital, etc.* | 3/03 | 6/03 | 8/03 | 12/03 | 2 |
| | SBD | 1/04 | 6/03 | 3/04 | 4/04 | |
| | Pharmacy | 6/03 | 6/03 | 8/03 | 1/04 | 2 |
| 2003 | Hospital, etc.* | 3/04 | 6/04 | 8/04 | 12/04 | 2 |
| | SBD | 11/04 | 6/05 | 2/05 | 4/05 | 3 |
| | Pharmacy | 6/04 | 6/04 | 8/04 | 1/05 | 2 |
| 2004 | Hospital, etc.* | 2/05 | 6/05 | 8/05 | 12/05 | 2 |
| | SBD | 11/05 | 6/05 | 2/06 | 4/06 | 3 |
| | Pharmacy | 5/05 | 6/05 | 8/05 | 1/06 | 2 |
| 2005 | Hospital, etc.* | 2/06 | 6/06 | 7/06 | 12/06 | 2 |
| | SBD | 11/06 | 6/06 | 2/07 | 4/07 | 3 |
| | Pharmacy | 5/06 | 6/06 | 8/06 | 1/07 | 3 |
| 2006 | Hospital, etc.* | 2/07 | 6/07 | 8/07 | 12/07 | 3 |
| | SBD | 11/07 | 6/07 | 3/08 | 4/08 | 5 |
| | Pharmacy | 5/07 | 6/07 | 8/07 | 1/08 | 3 |

* Includes office-based, home care, and institutional providers and health maintenance organizations.

Table A-4. MPC data collection results, provider level, 1996-2006

| | Initial sample | Initial sample after subsampling | Final eligible sample | Response rate | Refusal rate | Other nonresponse rate |
|---|---|---|---|---|---|---|
| 1996 Providers | | | | | | |
| Hospitals | 3,301 | 3,301 | 3,224 | 0.951 | 0.021 | 0.028 |
| Office-based providers | 10,118 | 10,118 | 7,530 | 0.881 | 0.069 | 0.051 |
| HMOs | 296 | 296 | 601 | 0.805 | 0.085 | 0.110 |
| Home care providers | 415 | 415 | 353 | 0.875 | 0.062 | 0.062 |
| Institutions | 59 | 59 | 50 | 0.960 | 0.040 | 0.000 |
| SBDs | 10,323 | 10,323 | 7,223 | 0.949 | 0.042 | 0.009 |
| Pharmacies | 6,109 | 6,109 | 5,321 | 0.722 | 0.061 | 0.217 |
| Total | 30,621 | 30,621 | 24,302 | | | |
| 1997 Providers | | | | | | |
| Hospitals | 4,768 | 4,065 | 4,163 | 0.894 | 0.058 | 0.048 |
| Office-based providers | 10,095 | 9,666 | 7,047 | 0.871 | 0.053 | 0.069 |
| HMOs | 350 | 350 | 467 | 0.717 | 0.090 | 0.193 |
| Home care providers | 653 | 653 | 579 | 0.834 | 0.090 | 0.076 |
| Institutions | 80 | 80 | 75 | 0.827 | 0.107 | 0.067 |
| SBDs | 14,730 | 14,730 | 5,026 | 0.885 | 0.104 | 0.012 |
| Pharmacies | 8,574 | 8,574 | 7,335 | 0.700 | 0.068 | 0.232 |
| Total | 39,250 | 38,115 | 24,692 | | | |
| 1998 Providers | | | | | | |
| Hospitals | 3,468 | 3,468 | 3,247 | 0.939 | 0.025 | 0.037 |
| Office-based providers | 10,483 | 8,403 | 7,356 | 0.861 | 0.043 | 0.096 |
| HMOs | 228 | 171 | 155 | 0.871 | 0.103 | 0.026 |
| Home care providers | 456 | 420 | 384 | 0.820 | 0.089 | 0.091 |
| Institutions | 63 | 69 | 65 | 0.754 | 0.169 | 0.077 |
| SBDs | 10,711 | 10,711 | 7,707 | 0.862 | 0.063 | 0.075 |
| Pharmacies | 5,734 | 5,734 | 5,167 | 0.838 | 0.084 | 0.079 |
| Total | 31,143 | 28,976 | 24,081 | | | |
| 1999 Providers | | | | | | |
| Hospitals | 3,520 | 3,520 | 3,282 | 0.926 | 0.036 | 0.037 |
| Office-based providers | 9,202 | 9,202 | 8,075 | 0.888 | 0.053 | 0.058 |
| HMOs | 247 | 247 | 225 | 0.876 | 0.080 | 0.044 |
| Home care providers | 338 | 338 | 293 | 0.840 | 0.082 | 0.078 |
| Institutions | 52 | 52 | 44 | 0.773 | 0.182 | 0.045 |
| SBDs | 10,680 | 10,680 | 7,289 | 0.842 | 0.061 | 0.097 |
| Pharmacies | 5,703 | 5,703 | 5,058 | 0.822 | 0.079 | 0.099 |
| Total | 29,742 | 29,742 | 24,266 | | | |

Table A-4. MPC data collection results, provider level, 1996-2006 (continued)

| | Initial sample | Initial sample after subsampling | Final eligible sample | Response rate | Refusal rate | Other nonresponse rate |
|---|---|---|---|---|---|---|
| 2000 Providers | | | | | | |
| Hospitals | 3,760 | 3,760 | 3,467 | 0.910 | 0.037 | 0.054 |
| Office-based providers | 12,962 | 12,962 | 11,167 | 0.864 | 0.071 | 0.065 |
| HMOs | 118 | 118 | 113 | 0.929 | 0.035 | 0.035 |
| Home care providers | 319 | 319 | 281 | 0.858 | 0.068 | 0.075 |
| Institutions | 63 | 63 | 60 | 0.850 | 0.067 | 0.083 |
| SBDs | 11,144 | 11,144 | 7,026 | 0.840 | 0.065 | 0.094 |
| Pharmacies | 5,762 | 5,762 | 5,152 | 0.820 | 0.078 | 0.102 |
| Total | 34,128 | 34,128 | 27,266 | | | |
| 2001 Providers | | | | | | |
| Hospitals | 6,801 | 5,616 | 5,201 | 0.912 | 0.038 | 0.050 |
| Office-based providers | 26,344 | 20,651 | 18,078 | 0.850 | 0.069 | 0.081 |
| HMOs | 476 | 334 | 287 | 0.899 | 0.021 | 0.066 |
| Home care providers | 520 | 509 | 436 | 0.851 | 0.060 | 0.046 |
| Institutions | 83 | 82 | 76 | 0.934 | 0.079 | 0.000 |
| SBDs | 20,644 | 20,644 | 12,891 | 0.795 | 0.094 | 0.111 |
| Pharmacies | 9,118 | 9,118 | 8,141 | 0.761 | 0.113 | 0.126 |
| Total | 63,986 | 59,197 | 45,163 | | | |
| 2002 Providers | | | | | | |
| Hospitals | 8,811 | 6,780 | 6,325 | 0.900 | 0.048 | 0.045 |
| Office-based providers | 32,889 | 15,222 | 13,652 | 0.837 | 0.097 | 0.066 |
| HMOs | 559 | 290 | 256 | 0.899 | 0.055 | 0.047 |
| Home care providers | 631 | 611 | 537 | 0.823 | 0.093 | 0.084 |
| Institutions | 114 | 110 | 103 | 0.913 | 0.058 | 0.029 |
| SBDs | 21,385 | 21,385 | 13,976 | 0.773 | 0.121 | 0.106 |
| Pharmacies | 10,200 | 10,200 | 9,268 | 0.790 | 0.122 | 0.088 |
| Total | 74,589 | 54,588 | 44,117 | | | |
| 2003 Providers | | | | | | |
| Hospitals | 7,806 | 6,023 | 5,580 | 0.898 | 0.047 | 0.055 |
| Office-based providers | 28,946 | 15,361 | 13,808 | 0.835 | 0.095 | 0.070 |
| HMOs | 506 | 280 | 218 | 0.876 | 0.032 | 0.092 |
| Home care providers | 607 | 586 | 527 | 0.850 | 0.068 | 0.082 |
| Institutions | 83 | 81 | 73 | 0.945 | 0.027 | 0.027 |
| SBDs | 18,613 | 18,613 | 12,154 | 0.828 | 0.104 | 0.068 |
| Pharmacies | 8,882 | 8,882 | 8,101 | 0.729 | 0.200 | 0.106 |
| Total | 65,443 | 49,826 | 40,461 | | | |

Table A-4. MPC data collection results, provider level, 1996-2006 (continued)

| Provider | Initial sample | Initial sample after subsampling | Final eligible sample | Response rate | Refusal rate | Other nonresponse rate |
|---|---|---|---|---|---|---|
| 2004 Providers | | | | | | |
| Hospitals | 7,567 | 6,094 | 5,671 | 0.92 | 0.027 | 0.053 |
| Office-based providers | 27,617 | 20,202 | 18,069 | 0.864 | 0.076 | 0.060 |
| HMOs | 420 | 300 | 250 | 0.892 | 0.056 | 0.052 |
| Home care providers | 568 | 556 | 509 | 0.809 | 0.108 | 0.083 |
| Institutions | 93 | 92 | 89 | 0.91 | 0.056 | 0.034 |
| SBDs | 20,094 | 20,094 | 13,225 | 0.84 | 0.076 | 0.084 |
| Pharmacies | 8,608 | 8,608 | 7,663 | 0.794 | 0.159 | 0.047 |
| Total | 64,967 | 55,596 | 45,476 | | | |
| 2005 Providers | | | | | | |
| Hospitals | 7,461 | 6,059 | 5,600 | 0.931 | 0.026 | 0.043 |
| Office-based providers | 26,972 | 18,933 | 16,898 | 0.859 | 0.086 | 0.055 |
| HMOs | 422 | 301 | 241 | 0.963 | 0.012 | 0.025 |
| Home care providers | 606 | 593 | 539 | 0.81 | 0.111 | 0.080 |
| Institutions | 121 | 116 | 108 | 0.963 | 0.009 | 0.028 |
| SBDs | 19,810 | 19,810 | 12,971 | 0.846 | 0.075 | 0.077 |
| Pharmacies | 8,404 | 8,404 | 7,568 | 0.787 | 0.167 | 0.046 |
| Total | 63,796 | 54,216 | 43,925 | | | |
| 2006 Providers | | | | | | |
| Hospitals | 7,447 | 5,884 | 5,484 | 0.941 | 0.022 | 0.037 |
| Office-based providers | 27,620 | 13,473 | 12,062 | 0.869 | 0.074 | 0.057 |
| HMOs | 333 | 284 | 238 | 0.92 | 0.042 | 0.038 |
| Home care providers | 655 | 648 | 602 | 0.856 | 0.08 | 0.065 |
| Institutions | 80 | 80 | 78 | 0.808 | 0.115 | 0.077 |
| SBDs | 21,126 | 21,126 | 13,013 | 0.823 | 0.111 | 0.066 |
| Pharmacies | 8,471 | 8,471 | 7,489 | 0.799 | 0.149 | 0.052 |
| Total | | 49,966 | 38,966 | | | |

Table A-5. MPC data collection results, patient-provider pair level, 1996-2006

| | Initial sample | Initial sample after subsampling | Final eligible sample | Response rate | Refusal rate | Other nonresponse rate |
|---|---|---|---|---|---|---|
| 1996 Pairs | | | | | | |
| Hospitals | 6,729 | 6,729 | 6,570 | 0.932 | 0.038 | 0.030 |
| Office-based providers | 13,681 | 13,681 | 10,251 | 0.865 | 0.079 | 0.056 |
| HMOs | 534 | 534 | 924 | 0.803 | 0.105 | 0.092 |
| Home care providers | 461 | 461 | 385 | 0.875 | 0.057 | 0.068 |
| Institutions | 63 | 63 | 53 | 0.943 | 0.057 | 0.000 |
| SBDs | 12,488 | 12,488 | 8,689 | 0.937 | 0.056 | 0.007 |
| Pharmacies | 14,531 | 14,531 | 12,146 | 0.671 | | |
| Total | 48,487 | 48,487 | 39,018 | | | |
| 1997 Pairs | | | | | | |
| Hospitals | 11,694 | 8,192 | 7,938 | 0.874 | 0.070 | 0.056 |
| Office-based providers | 19,157 | 12,635 | 10,062 | 0.862 | 0.062 | 0.076 |
| HMOs | 809 | 809 | 911 | 0.626 | 0.156 | 0.218 |
| Home care providers | 750 | 750 | 662 | 0.823 | 0.095 | 0.082 |
| Institutions | 85 | 85 | 80 | 0.825 | 0.113 | 0.063 |
| SBDs | 17,397 | 8,697 | 5,964 | 0.865 | 0.123 | 0.013 |
| Pharmacies | 20,248 | 20,248 | 16,241 | 0.672 | 0.075 | 0.253 |
| Total | 70,140 | 51,416 | 41,858 | | | |
| 1998 Pairs | | | | | | |
| Hospitals | 7,922 | 6,434 | 5,824 | 0.925 | 0.031 | 0.044 |
| Office-based providers | 12,641 | 10,747 | 9,334 | 0.852 | 0.050 | 0.098 |
| HMOs | 436 | 436 | 346 | 0.832 | 0.133 | 0.035 |
| Home care providers | 520 | 491 | 445 | 0.825 | 0.085 | 0.090 |
| Institutions | 64 | 70 | 65 | 0.754 | 0.169 | 0.077 |
| SBDs | 13,658 | 13,658 | 9,687 | 0.836 | 0.084 | 0.080 |
| Pharmacies | 12,321 | 12,321 | 10,388 | 0.793 | 0.116 | 0.091 |
| Total | 47,562 | 44,157 | 36,089 | | | |
| 1999 Pairs | | | | | | |
| Hospitals | 6,712 | 6,712 | 6,160 | 0.909 | 0.053 | 0.039 |
| Office-based providers | 11,974 | 11,974 | 10,409 | 0.879 | 0.061 | 0.060 |
| HMOs | 555 | 555 | 472 | 0.886 | 0.068 | 0.047 |
| Home care providers | 394 | 394 | 340 | 0.818 | 0.088 | 0.094 |
| Institutions | 53 | 53 | 45 | 0.756 | 0.200 | 0.044 |
| SBDs | 14,907 | 14,907 | 10,101 | 0.808 | 0.091 | 0.100 |
| Pharmacies | 13,183 | 13,183 | 11,317 | 0.788 | 0.099 | 0.113 |
| Total | 47,778 | 47,778 | 38,844 | | | |

Table A-5. MPC data collection results, patient-provider pair level, 1996-2006 (continued)

| | Initial sample | Initial sample after subsampling | Final eligible sample | Response rate | Refusal rate | Other nonresponse rate |
|---|---|---|---|---|---|---|
| 2000 Pairs | | | | | | |
| Hospitals | 7,849 | 7,849 | 7,016 | 0.891 | 0.056 | 0.053 |
| Office-based providers | 17,407 | 17,407 | 14,935 | 0.854 | 0.079 | 0.067 |
| HMOs | 382 | 382 | 324 | 0.873 | 0.059 | 0.068 |
| Home care providers | 367 | 367 | 317 | 0.864 | 0.063 | 0.073 |
| Institutions | 66 | 66 | 63 | 0.825 | 0.095 | 0.079 |
| SBDs | 15,955 | 15,955 | 9,893 | 0.823 | 0.094 | 0.084 |
| Pharmacies | 14,847 | 14,847 | 12,728 | 0.768 | 0.105 | 0.127 |
| Total | 56,873 | 56,873 | 45,276 | | | |
| 2001 Pairs | | | | | | |
| Hospitals | 11,798 | 11,377 | 10,155 | 0.899 | 0.023 | 0.051 |
| Office-based providers | 33,518 | 26,886 | 23,376 | 0.843 | 0.077 | 0.081 |
| HMOs | 965 | 791 | 637 | 0.878 | 0.028 | 0.094 |
| Home care providers | 607 | 601 | 471 | 0.847 | 0.064 | 0.089 |
| Institutions | 86 | 86 | 79 | 0.937 | 0.051 | 0.013 |
| SBDs | 28,905 | 28,905 | 17,529 | 0.778 | 0.127 | 0.095 |
| Pharmacies | 22,165 | 22,165 | 19,256 | 0.703 | 0.144 | 0.153 |
| Total | 98,044 | 90,811 | 71,503 | | | |
| 2002 Pairs | | | | | | |
| Hospitals | 16,481 | 14,477 | 12,805 | 0.895 | 0.061 | 0.045 |
| Office-based providers | 42,327 | 19,309 | 17,198 | 0.832 | 0.104 | 0.065 |
| HMOs | 1,134 | 567 | 477 | 0.870 | 0.052 | 0.078 |
| Home care providers | 713 | 682 | 606 | 0.820 | 0.100 | 0.081 |
| Institutions | 116 | 115 | 107 | 0.907 | 0.056 | 0.037 |
| SBDs | 30,780 | 30,780 | 19,977 | 0.745 | 0.160 | 0.095 |
| Pharmacies | 26,046 | 26,046 | 23,057 | 0.734 | 0.156 | 0.110 |
| Total | 117,597 | 91,976 | | | | |
| 2003 Pairs | | | | | | |
| Hospitals | 13,876 | 13,094 | 11,532 | 0.895 | 0.052 | 0.054 |
| Office-based providers | 36,804 | 19,731 | 17,692 | 0.828 | 0.103 | 0.070 |
| HMOs | 939 | 625 | 466 | 0.852 | 0.054 | 0.094 |
| Home care providers | 652 | 641 | 579 | 0.853 | 0.067 | 0.079 |
| Institutions | 86 | 85 | 77 | 0.948 | 0.026 | 0.026 |
| SBDs | 26,965 | 26,965 | 17,566 | 0.804 | 0.152 | 0.045 |
| Pharmacies | 22,438 | 22,438 | 19,649 | 0.671 | 0.251 | 0.078 |
| Total | 101,760 | 83,579 | 67,561 | | | |

Table A-5. MPC data collection results, patient-provider pair level, 1996-2006 (continued)

| `Patient-provider pair | Initial sample | Initial sample after subsampling | Final eligible sample | Response rate | Refusal rate | Other nonresponse rate |
|---|---|---|---|---|---|---|
| 2004 Pairs | | | | | | |
| Hospitals | 13,175 | 12,772 | 11,589 | 0.922 | 0.028 | 0.05 |
| Office-based providers | 34,611 | 26,392 | 23,446 | 0.858 | 0.084 | 0.058 |
| HMOs | 791 | 665 | 514 | 0.813 | 0.088 | 0.099 |
| Home care providers | 610 | 610 | 555 | 0.805 | 0.115 | 0.080 |
| Institutions | 94 | 94 | 90 | 0.911 | 0.056 | 0.033 |
| SBDs | 29,271 | 29,271 | 18,694 | 0.827 | 0.103 | 0.07 |
| Pharmacies | 21,720 | 21,720 | 18,571 | 0.715 | 0.214 | 0.071 |
| Total | 100,272 | 91,524 | 73,549 | | | |
| 2005 Pairs | | | | | | |
| Hospitals | 12,933 | 12,601 | 11,279 | 0.923 | 0.036 | 0.041 |
| Office-based providers | 33,854 | 24,517 | 21,821 | 0.852 | 0.094 | 0.054 |
| HMOs | 804 | 685 | 514 | 0.955 | 0.014 | 0.031 |
| Home care providers | 689 | 689 | 619 | 0.816 | 0.113 | 0.071 |
| Institutions | 123 | 123 | 113 | 0.965 | 0.009 | 0.027 |
| SBDs | 28,930 | 28,930 | 18,720 | 0.824 | 0.114 | 0.063 |
| Pharmacies | 21,077 | 21,077 | 18,159 | 0.711 | 0.214 | 0.075 |
| Total | 98,410 | 91,976 | 74,227 | | | |
| 2006 Pairs | | | | | | |
| Hospitals | 13,071 | 11,911 | 10,830 | 0.934 | 0.031 | 0.035 |
| Office-based providers | 37,576 | 17,139 | 15,274 | 0.861 | 0.082 | 0.056 |
| HMOs | 694 | 594 | 476 | 0.903 | 0.059 | 0.038 |
| Home care providers | 719 | 719 | 661 | 0.847 | 0.082 | 0.071 |
| Institutions | 80 | 80 | 78 | 0.808 | 0.115 | 0.077 |
| SBDs | 31,058 | 31,058 | 18,699 | 0.807 | 0.144 | 0.049 |
| Pharmacies | 20,990 | 20,990 | 17,418 | 0.734 | 0.196 | 0.07 |
| Total | 52,048 | 91,976 | 74,227 | | | |

Table A-6. Locating effort results, 1998-2006

| | Ever coded not known (N) | Final not known | | Other out of scope | | Other nonresponse | | Complete | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | % | N | % | N | % | N | % |
| 1998 | | | | | | | | | |
| Hospitals—medical records | 259 | 107 | 41.3 | 30 | 11.6 | 7 | 2.7 | 115 | 44.4 |
| Office-based providers | 671 | 356 | 53.1 | 78 | 11.6 | 31 | 4.6 | 206 | 30.7 |
| Pharmacies | 182 | 80 | 44.0 | 27 | 14.8 | 21 | 11.5 | 54 | 29.7 |
| SBDs | 1,561 | 426 | 27.3 | 511 | 32.7 | 91 | 5.8 | 533 | 34.1 |
| 1999 | | | | | | | | | |
| Hospitals—medical records | 260 | 77 | 29.6 | 33 | 12.7 | 22 | 8.5 | 128 | 49.2 |
| Office-based providers | 919 | 317 | 34.5 | 122 | 13.3 | 113 | 12.3 | 367 | 39.9 |
| Pharmacies | 242 | 117 | 48.3 | 46 | 19.0 | 43 | 17.8 | 36 | 14.9 |
| SBDs | 932 | 295 | 31.7 | 334 | 35.8 | 60 | 6.4 | 243 | 26.1 |
| 2000 | | | | | | | | | |
| Hospitals—medical records | 351 | 170 | 48.4 | 36 | 10.3 | 30 | 8.5 | 115 | 32.8 |
| Office-based providers | 975 | 468 | 48.0 | 102 | 15.1 | 102 | 15.1 | 303 | 31.1 |
| Pharmacies | 496 | 244 | 49.2 | 49 | 9.9 | 40 | 8.1 | 163 | 32.9 |
| SBDs | 1,140 | 594 | 52.1 | 267 | 23.4 | 37 | 3.2 | 242 | 21.2 |
| 2001 | | | | | | | | | |
| Hospitals—medical records | 497 | 266 | 53.5 | 36 | 7.2 | 19 | 3.8 | 176 | 35.4 |
| Office-based providers | 1,886 | 1,304 | 69.1 | 118 | 6.3 | 91 | 4.8 | 373 | 19.8 |
| Pharmacies | 438 | 315 | 71.9 | 46 | 10.5 | 25 | 5.7 | 52 | 11.9 |
| SBDs | 2,925 | 1,558 | 53.2 | 543 | 18.6 | 172 | 5.9 | 652 | 22.3 |
| 2002 | | | | | | | | | |
| Hospitals—medical records | 651 | 363 | 55.8 | 65 | 10.0 | 26 | 4.0 | 197 | 30.2 |
| Office-based providers | 1,541 | 850 | 52.2 | 124 | 8.0 | 124 | 8.0 | 443 | 28.8 |
| Pharmacies | 867 | 496 | 57.2 | 40 | 4.6 | 44 | 15.1 | 287 | 33.1 |
| SBDs | 1,547 | 966 | 62.4 | 209 | 13.5 | 36 | 2.3 | 336 | 21.7 |
| 2003 | | | | | | | | | |
| Hospitals—medical records | 796 | 574 | 72.1 | 12 | 1.5 | 9 | 1.1 | 201 | 25.3 |
| Office-based providers | 1,291 | 989 | 76.6 | 6 | 0.5 | 13 | 1.0 | 283 | 21.9 |
| Pharmacies | 1,033 | 496 | 48.0 | 1 | 0.1 | 4 | 0.4 | 532 | 51.5 |
| SBDs | 1,327 | 891 | 67.1 | 164 | 12.4 | 12 | 0.9 | 260 | 19.6 |

See note at end of table.

Table A-6. Locating effort results, 1998-2006 (continued)

| | Ever coded not known (N) | Final not known | | Other out of scope | | Other nonresponse | | Complete | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | % | N | % | N | % | N | % |
| 2004 | | | | | | | | | |
| Hospitals—medical records | 657 | 492 | 74.9 | 4 | 0.6 | 6 | 0.9 | 155 | 23.6 |
| Office-based providers | 1,587 | 1,272 | 80.2 | 9 | 0.6 | 28 | 1.8 | 278 | 17.5 |
| Pharmacies | 662 | 367 | 55.4 | 7 | 1.1 | 4 | 0.6 | 284 | 42.9 |
| SBDs | 1,565 | 1,072 | 68.5 | 37 | 2.4 | 30 | 1.9 | 426 | 27.2 |
| 2005 | | | | | | | | | |
| Hospitals—medical records | 552 | 310 | 56.2 | 7 | 1.3 | 11 | 2. | 224 | 40.6 |
| Office-based providers | 1,841 | 929 | 50.5 | 60 | 3.3 | 114 | 6.2 | 738 | 40.1 |
| Pharmacies | 715 | 336 | 47.0 | 8 | 1.1 | 22 | 3.1 | 349 | 48.8 |
| SBDs | 1,781 | 973 | 54.6 | 189 | 10.6 | 97 | 5.4 | 522 | 29.3 |
| 2006 | | | | | | | | | |
| Hospitals—medical records | 511 | 348 | 68.1 | 1 | .2 | 20 | 3.9 | 142 | 27.8 |
| Office-based providers | 1,063 | 765 | 72.0 | 5 | .5 | 58 | 5.5 | 235 | 22.1 |
| Pharmacies | 605 | 260 | 43.0 | 5 | .8 | 6 | 1.0 | 334 | 55.2 |
| SBDs | 1,942 | 1,466 | 75.5 | 159 | 8.2 | 31 | 1.6 | 286 | 14.7 |

Note: Cell entries represent "provider-waves," the units used to monitor telephone data collection operations. A provider is counted in each wave of fielded cases in which it appears.

Table A-7. Refusal conversion outcomes, 1998-2006*

| | | Ever coded refusal | | Final disposition of refusals | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Out of scope | | Final refusal | | Other nonresponse | | Complete | |
| | Initial sample (N) | N | Percent of initial sample | N | Percent of refusals | N | Percent of refusals | N | Percent of refusals | N | Percent of refusals |
| 1998 | | | | | | | | | | | |
| Hospitals—medical records | 4,723 | 466 | 9.9 | 30 | 6.4 | 99 | 21.2 | 7 | 1.5 | 330 | 70.8 |
| Hospitals—patient accounts | 4,723 | 142 | 3.0 | 2 | 1.4 | 11 | 7.7 | 1 | 0.7 | 128 | 90.1 |
| Hospitals—admin offices | 4,723 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Office-based providers | 8,701 | 775 | 8.9 | 54 | 7.0 | 245 | 31.6 | 44 | 5.7 | 432 | 55.7 |
| Pharmacies | 6,450 | 97 | 1.5 | 2 | 2.1 | 46 | 47.4 | 2 | 2.1 | 47 | 48.5 |
| SBDs | 11,394 | 1,477 | 13.0 | 203 | 13.7 | 585 | 39.6 | 63 | 4.3 | 626 | 42.4 |
| 1999 | | | | | | | | | | | |
| Hospitals—medical records | 4,794 | 468 | 9.8 | 34 | 7.3 | 68 | 14.5 | 10 | 2.1 | 356 | 76.1 |
| Hospitals—patient accounts | 4,794 | 146 | 3.0 | 2 | 1.4 | 16 | 11.0 | 1 | 0.7 | 127 | 87.0 |
| Hospitals—admin offices | 4,794 | 19 | 0.4 | 0 | - | 3 | 15.8 | 0 | 0.0 | 16 | 84.2 |
| Office-based providers | 9,586 | 1,041 | 10.9 | 41 | 3.9 | 356 | 34.2 | 41 | 3.9 | 603 | 57.9 |
| Pharmacies | 5,703 | 239 | 4.2 | 10 | 4.2 | 144 | 60.3 | 13 | 5.4 | 72 | 30.1 |
| SBDs | 11,555 | 641 | 5.5 | 102 | 15.9 | 259 | 40.4 | 27 | 4.2 | 253 | 39.5 |
| 2000 | | | | | | | | | | | |
| Hospitals—medical records | 5,078 | 481 | 9.5 | 31 | 6.4 | 84 | 17.5 | 21 | 4.4 | 345 | 71.7 |
| Hospitals—patient accounts | 5,078 | 203 | 4.0 | 13 | 6.4 | 17 | 8.4 | 9 | 4.4 | 164 | 80.8 |
| Hospitals—admin offices | 5,078 | 72 | 1.4 | 10 | 13.9 | 15 | 20.8 | 2 | 2.8 | 45 | 62.5 |
| Office-based providers | 13,723 | 1,300 | 9.5 | 78 | 6.0 | 544 | 41.8 | 58 | 4.5 | 620 | 47.7 |
| Pharmacies | 5,762 | 523 | 9.1 | 18 | 3.4 | 306 | 58.5 | 21 | 4.0 | 178 | 34.0 |
| SBDs | 11,889 | 1,074 | 9.0 | 177 | 16.5 | 454 | 42.3 | 92 | 8.6 | 351 | 32.7 |
| 2001 | | | | | | | | | | | |
| Hospitals—medical records | 8,023 | 883 | 11.0 | 57 | 6.5 | 150 | 17.0 | 22 | 2.5 | 654 | 74.1 |
| Hospitals—patient accounts | 8,023 | 272 | 3.4 | 8 | 2.9 | 22 | 8.1 | 8 | 2.9 | 234 | 86.0 |
| Hospitals—admin offices | 8,023 | 45 | 0.6 | 1 | 2.2 | 8 | 17.8 | 2 | 4.4 | 34 | 75.6 |
| Office-based providers | 21,438 | 2,708 | 12.6 | 177 | 6.5 | 980 | 36.2 | 125 | 4.6 | 1,426 | 52.7 |
| Pharmacies | 9,118 | 762 | 8.4 | 26 | 3.4 | 529 | 69.4 | 19 | 2.5 | 188 | 24.7 |
| SBDs | 22,234 | 2,299 | 10.3 | 335 | 14.5 | 1,188 | 51.7 | 101 | 4.4 | 675 | 29.4 |

*See note at end of table.

Table A-7. Refusal conversion outcomes, 1998-2006* (continued)

| | Initial sample (N) | Ever coded refusal | | Final disposition of refusals | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Out of scope | | Final refusal | | Other nonresponse | | Complete | |
| | | N | Percent of initial sample | N | Percent of refusals | N | Percent of refusals | N | Percent of refusals | N | Percent of refusals |
| 2002 | | | | | | | | | | | |
| Hospitals—medical records | 9,257 | 1,922 | 20.8 | 95 | 5.0 | 385 | 20.0 | 58 | 3.0 | 1,384 | 72.0 |
| Hospitals—patient accounts | 9,257 | 946 | 10.2 | 31 | 3.3 | 204 | 21.5 | 16 | 1.7 | 695 | 73.5 |
| Hospitals—admin offices | 9,257 | 216 | 2.3 | 18 | 8.3 | 122 | 56.5 | 3 | 1.4 | 73 | 33.8 |
| Office-based providers | 15,954 | 3,360 | 21.1 | 187 | 5.6 | 1,421 | 42.3 | 119 | 3.5 | 1,633 | 48.6 |
| Pharmacies | 11,689 | 1,710 | 14.6 | 78 | 4.6 | 830 | 48.5 | 101 | 5.9 | 701 | 41.0 |
| SBDs | 23,068 | 3,311 | 14.4 | 443 | 13.4 | 1,958 | 59.1 | 48 | 1.4 | 862 | 26.0 |
| 2003 | | | | | | | | | | | |
| Hospitals—medical records | 8,392 | 1,050 | 12.5 | 70 | 6.7 | 310 | 29.5 | 29 | 2.8 | 641 | 61.0 |
| Hospitals—patient accounts | 8,392 | 754 | 8.9 | 26 | 3.4 | 179 | 23.7 | 8 | 1.1 | 541 | 71.8 |
| Hospitals—admin offices | 8,392 | 184 | 2.2 | 7 | 3.0 | 115 | 62.5 | 1 | 0.05 | 61 | 33.2 |
| Office-based providers | 16,116 | 2,556 | 15.9 | 107 | 4.2 | 1,303 | 50.9 | 51 | 2.0 | 1,095 | 42.9 |
| Pharmacies | 10,570 | 908 | 8.6 | 45 | 4.9 | 434 | 47.8 | 19 | 2.1 | 410 | 45.1 |
| SBDs | 20,160 | 2,285 | 11.3 | 333 | 14.6 | 1,126 | 49.9 | 28 | 1.2 | 798 | 34.9 |
| 2004** | | | | | | | | | | | |
| Hospitals—medical records | 8,377 | 1,260 | 15.0 | 74 | 5.9 | 241 | 19.1 | 42 | 3.3 | 903 | 71.7 |
| Hospitals—patient accounts | 8,377 | 1,016 | 12.1 | 37 | 3.6 | 241 | 23.7 | 22 | 2.2 | 716 | 70.5 |
| Hospitals—admin offices | 8,377 | 345 | 4.1 | 2 | *** | 241 | 69.9 | 12 | 3.5 | 90 | 26.1 |
| Office-based providers | 21,487 | 3,367 | 15.7 | 154 | 4.5 | 1,504 | 44.7 | 85 | 2.5 | 1,624 | 48.2 |
| Pharmacies | 10,204 | 2,081 | 20.4 | 68 | 3.3 | 1,548 | 74.4 | 22 | 1.1 | 443 | 21.3 |
| SBDs | 21,578 | 3,368 | 15.6 | 416 | 12.4 | 1,429 | 42.4 | 15 | *** | 1,508 | 44.7 |
| 2005** | | | | | | | | | | | |
| Hospitals—medical records | 8,380 | 1,026 | 12.2 | 80 | 7.8 | 240 | 23.4 | 45 | 4.4 | 661 | 64.4 |
| Hospitals—patient accounts | 8,380 | 1,040 | 12.4 | 59 | 5.7 | 240 | 23.1 | 14 | 1.3 | 727 | 69.9 |
| Hospitals—admin offices | 8,380 | 365 | 4.4 | 66 | 18.1 | 240 | 65.8 | 5 | 1.4 | 54 | 14.8 |
| Office-based providers | 19,936 | 3,332 | 16.7 | 189 | 5.7 | 1,554 | 46.6 | 84 | 2.5 | 1,505 | 45.2 |
| Pharmacies | 9,983 | 2,004 | 20.1 | 54 | 2.7 | 1,602 | 79.9 | 19 | *** | 329 | 16.4 |
| SBDs | 21,292 | 3,476 | 16.3 | 655 | 18.8 | 1,317 | 37.9 | 34 | 1.0 | 1,470 | 42.3 |

*See note at end of table.

Table A-7. Refusal conversion outcomes, 1998-2006* (continued)

| | | | | Final disposition of refusals | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ever coded refusal | | Out of scope | | Final refusal | | Other nonresponse | | Complete | |
| | Initial sample (N) | N | Percent of initial sample | N | Percent of refusals | N | Percent of refusals | N | Percent of refusals | N | Percent of refusals |
| 2006 | | | | | | | | | | | |
| Hospital–medical records | 8,041 | 944 | 11.7 | 60 | 6.4 | 209 | 22.1 | 18 | 1.9 | 657 | 69.6 |
| Hospital–patient accounts | 8,041 | 1,123 | 14.0 | 47 | 4.2 | 208 | 18.5 | 15 | 1.3 | 853 | 76.0 |
| Hospital–admin offices | 8,041 | 266 | 3.3 | 32 | 12.0 | 199 | 74.8 | 2 | 0.8 | 33 | 12.4 |
| Office-based providers | 14,058 | 2,565 | 18.2 | 148 | 5.8 | 948 | 37.0 | 57 | 2.2 | 1,412 | 55.0 |
| Pharmacies | 10,917 | 1,929 | 17.7 | 73 | 3.8 | 1,509 | 78.2 | 31 | 1.6 | 316 | 16.4 |
| SBDs | 23,399 | 3,602 | 15.4 | 771 | 21.4 | 1,785 | 49.6 | 9 | 0.2 | 1,037 | 28.8 |

*Cell entries represent "provider-waves," the units used to monitor telephone data collection operations. A provider is counted in each wave of fielded cases in which it appears.

**The denominator for "ever coded refusal" includes provider-wave cases ever coded an interim refusal (2* or 3*) or a final refusal (H* or R*) without being coded an interim refusal.

***Less than one percent.