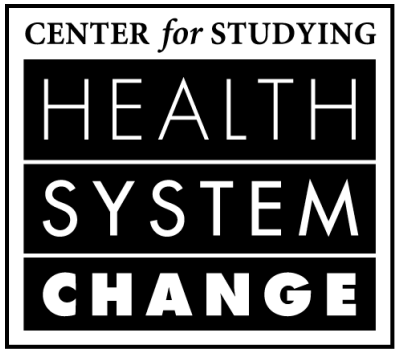
Community Tracking Study

2004-05 Physician Survey Restricted Use File: User's Guide

(Release 1)



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Community Tracking Study (CTS)
2004-05 Physician Survey
Fact Sheet

Survey Details	
Sample	6,628 physicians in the contiguous U.S. providing direct patient care for at least 20 hours per week, excluding federal employees, specialists in fields in which the primary focus is not direct patient care, and foreign medical school graduates who are only temporarily licensed to practice in the U.S. The sample is clustered in 60 communities. Among the 6,628 physicians, 4,428 also appeared in the data from the Round Three (2000-01) survey, providing a panel sample (for users of the Restricted Use File only).
Time period	June 2004 – July 2005
Content	Basic information on practice, specialty, and board certification Career satisfaction Physician time allocation, productivity Patient case mix: chronic conditions, race, ethnicity Practice arrangements and ownership Availability of IT in practice Care management strategies and gatekeeping Hospital safety Ability to provide quality care Inability to obtain needed services for patients Cost sharing Acceptance of new patients Practice revenue Compensation Race/ethnicity Importance of factors that may limit quality care
Differences between the 2004-05 (Round Four) and 2000-01 (Round Three) surveys	While core items were retained, the instrument was revised substantially. The main differences are listed below. See Chapter 2 for details on other differences. Appendix B lists which variables are available for each year. Some questions dropped for the 2004-05 survey: • Number of practices • Board eligibility • Medical information obtained by patients from other sources • Other owners of practice • Number of nurse practitioners, etc. • Practice acquired in last two years • Practice preferences • Internet access • Effect of profiling, patient satisfaction surveys on practice of medicine • PCP change in scope of care (Specialists' views) • Specialist scope of care questions • Level of communication with specialists/PCPs • Whether practice is accepting new capitated patients • Whether profiles are risk-adjusted • Percent income from bonuses

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Survey Details *(continued)*	
Differences between the 2004-05 (Round Four) and 2000-01 (Round Three) surveys - *continued*	Some questions added for the 2004-05 survey: • Number of patient visits in different settings (PCPs only) • Location of charity care • Case mix: chronic conditions, race/ethnicity group, language communication problems • Level of nursing support • Clinical data exchange with hospitals and labs • Use of IT for information on drug interactions • Percent of prescriptions written electronically • CPOE, medical error reporting • Percent hospitalized patients served by hospitalist • Inability to obtain specific services (revised base question) • Cost-sharing for privately insured patients • Reasons not accepting new Medicare or Medicaid patients • Importance of factors, including financial performance of practice, on compensation • Importance of factors that may limit quality care
Terminology	The CTS Physician Survey has been conducted periodically since 1996-97. "Round One" refers to the 1996-97 survey. "Round Two" refers to the 1998-99 survey. "Round Three" refers to the 2000-01 survey. "Round Four" refers to the 2004-05 survey.
Types of Estimates	
Geographic areas represented	These data are designed to allow the user to calculate nationally representative estimates. In addition, users of the Restricted Use File can calculate estimates for the 60 selected communities.
Estimates for 2004-05	These data can be used for calculating cross-sectional estimates representing the period 2004-05.
Change estimates (cross-sectional and panel)	The data from the 2004-05 survey can be combined with data from the earlier rounds (1996-97, 1998-99, and 2000-01) to calculate the difference across rounds. In addition, users of the Restricted Use File can combine the 2004-05 data with data from the 2000-01 survey to calculate estimates of change at the physician level for the panel sample of physicians.
Pooled estimates	To benefit from increased sample size, data from multiple years of the Physician Survey can be combined to calculate a single "pooled" estimate.

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Using the Data Files	
Obtaining the data files and documentation	The data files and documentation are available through the Inter-University Consortium for Political and Social Research (ICPSR). The web site is www.icpsr.umich.edu. The Public Use File can be downloaded at no cost directly from the ICPSR web site. The Restricted Use File is available to approved users only and is available at no or nominal fee. ICPSR provides the restricted data file on CD. To obtain permission to use the Restricted Use File, users must comply with conditions listed in the CTS Physician Survey Restricted Data Use Agreement, such as limiting data access to people specified in the agreement and destroying the data upon completion of the specified research project. Copies of the agreement and a description of the application process are available from the ICPSR web site.
Differences between the Public Use File and the Restricted Use File	The Public Use File contains less detailed information than the Restricted Use File in order to preserve the confidentiality of the survey respondents. The two files contain the same number of observations, but the Public Use File has fewer variables, some of which have undergone more extensive editing than those on the Restricted Use File. The Public Use File doesn't contain information on the geographical area of the physician's practice. It also doesn't contain the information necessary for using statistical software programs that account for the complex survey design, which means that it cannot be used for calculating standard errors and is therefore appropriate only for preliminary analysis. Lastly, only the Restricted Use File contains information that allows the user to identify physicians that are part of both the 2004-05 (Round Four) and 2000-01 (Round Three) samples.
Contacting the CTS help desk	**ctshelp@hschange.org**

PREFACE

The Community Tracking Study (CTS) provides information to help policy makers and health care leaders make sound decisions. The CTS collects information on how the health system is evolving in 60 communities across the United States and the effects of those changes on people. Funded by the Robert Wood Johnson Foundation, the study is being conducted by the Center for Studying Health System Change (HSC).

The CTS relies on periodic site visits and surveys of households and physicians, with occasional surveys of employers and health insurance plans. One component of the CTS, the Physician Survey, provides information about source of practice revenue, problems physicians face in practicing medicine, how they are compensated, and what effect various care management strategies have on their practices, as well as questions about their practice arrangements. This user's guide gives researchers the information necessary for using the public use version of the data file containing information from the 2004-05 Physician Survey.

Data collection for the 2004-05 Physician Survey began in June 2004 and was completed in July 2005. Earlier versions of the survey were conducted in 1996-97, 1998-99, and 2000-01. Each survey was designed to allow separate cross-sectional estimates. Researchers can use each year of the CTS Physician Survey for separate cross-sectional analyses or combine the years to study changes in the health care system over time.

This user's guide presents background information about the CTS and the 2004-05 Physician Survey, explains how to calculate nationally representative estimates from the data, and discusses the correct approach to estimating variances. This discussion is followed by a description of variable construction and editing and other information about the data file. The appendices contain additional information (the survey instrument and a list of the variables on the Physician Survey data files by year). The codebook (*Community Tracking Study 2004-05 Physician Survey Public Use File: Codebook)* provides more detail on the data file, including frequencies and definitions of variables.

ACKNOWLEDGMENTS

The Center for Studying Health System Change (HSC) would like to express its great appreciation to its contractors, Mathematica Policy Research, Inc. (MPR) and Social and Scientific Systems, Inc. (SSS), for their collaboration in the production of this user's guide and the accompanying codebook and data file.

OBTAINING AND USING THE RESTRICTED USE FILE

In order to obtain and use this Restricted Use File, researchers must apply for access to the data and agree to the strict terms and conditions contained in the *Community Tracking Study Physician Survey Restricted Use Data Agreement.* Information about the application process and the data use agreement are available from the ICPSR website (www.icpsr.umich.edu).

Before applying to use the CTS Physician Survey Restricted Use File, researchers should consider whether the Public Use File would serve their analytic needs. The public use and restricted use versions differ in the amount of geographic detail provided and the confidentiality masking applied to some variables. The Restricted Use File contains site, state and county-level identifiers for each observation, while the Public Use File does not. The Restricted Use File also provides more detailed information on physician specialty/subspecialty, income, type of employer, ownership status, and race/ethnicity than is provided on the Public Use File. Moreover, information necessary for using statistical software programs that account for the survey design is not included on the Public Use File. Lastly, only the Restricted Use File contains information that allows the user to identify physicians that are part of the 1996-97, 1998-99, 2000-01 and 2004-05 Physician Survey samples.

In addition to the public use and restricted use files, there is a 2004-05 Physician Survey Summary File that provides site-level means. Whereas the public use and restricted use files provide physician-level data, such as each physician's age and gender, the Summary File combines the physician-level data into site-level measures for the 60 sites, such as the average age of physicians in a site or the percentage of physicians in a site who are males. The 2004-05 Summary File reflects information collected in the 2004-05 Physician Survey. For each of the selected attributes from the Physician Survey, the Summary File includes the average or percentage and the standard errors of the estimates. The Summary File does not have restrictions on its use and therefore allows researchers to incorporate site-level data in their analyses without having to apply for permission to use the Restricted Use File.

Information on the Public Use File is available in *Community Tracking Study Physician Survey Public Use File: User's Guide* and *Community Tracking Study Physician Survey Public Use File: Codebook,* available from the ICPSR web site (www.icpsr.umich.edu). Information on the Summary File is also available from the ICPSR web site, in *Community Tracking Study Physician Survey Summary File: User's Guide and Codebook*.

OBTAINING TECHNICAL ASSISTANCE

Information on the CTS Physician Survey, and the CTS in general, can be obtained through the HSC Internet home page at http://www.hschange.org. The public use and restricted use files, as well as the documentation, are available through the Inter-university Consortium for Political and Social Research at http://www.icpsr.umich.edu.

Technical assistance on issues related to the data file can be obtained by contacting the CTS Help Desk by e-mail at ctshelp@hschange.org or fax (202-863-1763).

VISIT THE HSC WEB SITE

www.hschange.org

For users of the CTS data files, the HSC Web site can be a valuable resource. In addition to HSC technical publications and descriptions of the different CTS data collection activities, it has these useful features.

> ***CTSonline user-specified tables.*** CTSonline is an interactive Web-based system that allows users to request a wide variety of tables with estimates from the CTS Physician Survey and the CTS Household Survey.
>
> ***Lists of papers published from the public use and restricted use data files.*** In the section of the Web site that discusses the public and restricted use data, you can view a list of journal articles that have been published by users of the CTS public use and restricted use data files. If you have a paper based on the CTS data that is not included on the list, please let us know by sending an email to CTSonline@hschange.org.

Email list for updates on the CTS data. If you would like to receive email announcements when new versions of the CTS data files are released, go to the Web site and click on "Sign up for email alerts." Then fill out the sign-up form and check the box specific to CTS email.

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CHAPTER 1

OVERVIEW OF THE COMMUNITY TRACKING STUDY AND THE PHYSICIAN SURVEY

This guide is intended to assist researchers in using the Community Tracking Study (CTS) 2004-05 Physician Survey Public Use File. The CTS is a national study of the rapid changes in the health care market and the effects of those changes on people.[1] Funded by the Robert Wood Johnson Foundation, the study is being conducted by the Center for Studying Health System Change (HSC). Additional documentation and detailed information on the file layout and content are available in *Community Tracking Study 2004-05 Physician Survey Public Use File: Codebook.* Information about other aspects of the CTS is available from HSC at www.hschange.org. Technical assistance on issues related to the data file may be obtained by contacting the CTS Help Desk by e-mail at ctshelp@hschange.org or fax (202-863-1763).

1.1. CTS OBJECTIVES

The CTS is designed to provide a sound information base for decisions made by health care leaders by collecting information on how the health system is evolving in 60 communities across the United States and the effects of those changes on people. Underway since 1996, the CTS is a longitudinal project that relies on periodic site visits and surveys of households and physicians.[2] While many studies have examined leading markets in California and Minnesota and analyzed local or selected data, there has been no systematic study of change in a broad cross-section of U.S. markets or analysis of the effects of those changes on service delivery, cost and quality. The Community Tracking Study is designed to provide sound empirical evidence that will inform the debate about health system change. The study addresses two broad questions that are important to public and private health decision-makers:

How is the health system changing? How are hospitals, health plans, physicians, safety net providers and other provider groups restructuring, and what key forces are driving organizational change?

How do these changes affect people? How are insurance coverage, access to care, use of services, health care costs and perceived quality of health care changing over time?

Focusing on communities is central to the design of the CTS. Understanding market changes requires studying local markets, including their culture, history, and public policies relating to health care. HSC researchers randomly selected 60 communities to provide a representative profile of change across the United States (see Table 1.1 and Appendix C). Of these communities ("sites"), 12 have been studied in depth, with site visits ("case studies") and survey samples large enough to draw conclusions about change in each community. These 12 communities are referred to as the "high-intensity sites." Because of cost constraints, however, the 2004-05 Physician Survey sample design did not include oversampling of the 12 "high-

[1] An overview of the Community Tracking Study is contained in Kemper et al. (1996).
[2] Surveys of employers and insurance plans have also been conducted.

intensity" sites, unlike previous rounds.[3] As a result, the small number of cases within some sites means that estimates for individual sites may not be reliable or suitable for publication.

1.2. ANALYTIC COMPONENTS OF THE COMMUNITY TRACKING STUDY

The CTS has both quantitative and qualitative components. The quantitative component consists of surveys, and the qualitative component consists of site visits.

In all 60 sites, HSC has conducted independent surveys of households and physicians, enabling researchers to explore relationships among purchasers, providers, and consumers of health care. The Household Survey has been conducted in 1996-97, 1998-99, 2000-01, and 2003. The Physician Survey has also been conducted in 1996-97, 1998-99, 2000-01, and 2004-05.

In addition to the household and physician surveys, the quantitative component of the CTS has also included two other surveys. The Followback Survey was conducted as a supplement to the 1996-97 Household Survey and the 1998-99 Household Survey. For this survey, the privately financed health insurance policies covering Household Survey respondents were "followed back" to the organization that administered the policy. The purpose of the Followback Survey was to obtain more detailed and accurate information about those private policies than Household Survey respondents could provide. A CTS survey of employers that was sponsored by the Robert Wood Johnson Foundation was conducted by RAND in 1996 and 1997.[4]

Case studies in the 12 high-intensity sites make up the qualitative component of the CTS. The first four rounds of comprehensive case studies of the health systems in the 12 communities are completed. The first round was conducted in 1996-97, the second in 1998-99, the third in 2000-01, and the fourth in 2002-03. The fifth round was conducted in 2005. The findings are available from HSC.[5]

[3] The exclusion of the oversampling of the 12 "high intensity" sites and the reallocation of the sample among all 60 sites resulted in a more efficient sampling design and the reduction in the overall sample size was largely offset by this increased sample efficiency. The precision afforded by this reduced sample size is only slightly less than that available from the larger samples in the prior surveys

[4] The household and physician surveys were conducted by HSC. The Employer Survey was conducted by RAND in collaboration with HSC. The surveys are available separately as both public and restricted use files. While these three surveys were conducted in the same communities, they were independent of one another and do not allow for the linking of persons, employers, or physicians.

[5] Community reports from each round are available through the HSC web site at www.hschange.org.

TABLE 1.1

SITES SELECTED FOR THE COMMUNITY TRACKING STUDY

High-Intensity Sites	Low-Intensity Sites	
Metro areas >200,000 population	Metro areas >200,000 population	Metro areas <200,000 population
01-Boston (MA)	13-Atlanta (GA)	49-Dothan (AL)
02-Cleveland (OH)	14-Augusta (GA/SC)	50-Terre Haute (IN)
03-Greenville (SC)	15-Baltimore (MD)	51-Wilmington (NC)
04-Indianapolis (IN)	16-Bridgeport (CT)	
05-Lansing (MI)	17-Chicago (IL)	Nonmetropolitan Areas
06-Little Rock (AR)	18-Columbus (OH)	
07-Miami (FL)	19-Denver (CO)	52-West Central Alabama
08-Newark (NJ)	20-Detroit (MI)	53-Central Arkansas
09-Orange County (CA)	21-Greensboro (NC)	54-Northern Georgia
10-Phoenix (AZ)	22-Houston (TX)	55-Northeastern Illinois
11-Seattle (WA)	23-Huntington (WV/KY/OH)	56-Northeastern Indiana
12-Syracuse (NY)	24-Killeen (TX)	57-Eastern Maine
	25-Knoxville (TN)	58-Eastern North Carolina
	26-Las Vegas (NV/AZ)	59-Northern Utah
	27-Los Angeles (CA)	60-Northwestern Washington
	28-Middlesex (NJ)	
	29-Milwaukee (WI)	
	30-Minneapolis (MN/WI)	
	31-Modesto (CA)	
	32-Nassau (NY)	
	33-New York City (NY)	
	34-Philadelphia (PA/NJ)	
	35-Pittsburgh (PA)	
	36-Portland (OR/WA)	
	37-Riverside (CA)	
	38-Rochester (NY)	
	39-San Antonio (TX)	
	40-San Francisco (CA)	
	41-Santa Rosa (CA)	
	42-Shreveport (LA)	
	43-St. Louis (MO/IL)	
	44-Tampa (FL)	
	45-Tulsa (OK)	
	46-Washington (DC/MD)	
	47-West Palm Beach (FL)	
	48-Worcester (MA)	

Notes:
1) The numbers listed above are site identifiers and are provided in the Restricted Use data file as the variable SITEID.
2) "High-Intensity Sites" were not oversampled in the 2004-05 Physician Survey.

1.3. THE PHYSICIAN SURVEY

The Physician Surveys, funded by the Robert Wood Johnson Foundation, were conducted under the direction of HSC. The Gallup Organization was the primary data collection contractor. Mathematica Policy Research, Inc. (MPR) managed the Gallup subcontract for HSC and was responsible for sample design, weighting, variance estimation and tracing of physicians who could not be located. Project Hope and CODA, Inc. assisted in developing the original survey instrument (for 1996-97), including cognitive testing. Gallup and MPR assisted in the development of new items for subsequent surveys, including cognitive testing. Social and Scientific Systems, Inc. (SSS) was instrumental in converting the raw survey data into a data file suitable for analysis. MPR, SSS, and HSC collaborated to prepare the documentation for the public and restricted use files.

The Physician Survey instrument collected information on physician supply and specialty distribution; practice arrangements and physician ownership; physician time allocation; sources of practice revenue; level and determinants of physician compensation; provision of charity care; physicians' perception of their ability to deliver care and of career satisfaction; effects of care management strategies; and various aspects of physicians' practice of medicine. Appendix A provides a copy of the questionnaire. Differences between the questionnaires for 2000-01 (Round Three) and 2004-05 (Round Four) are described in Chapter 2.

The survey was administered completely by telephone, using computer-assisted telephone interviewing technology. Interviews with 6,628 physicians were completed between June 2004 and July 2005.

The sample frame was developed by combining lists of physicians from the American Medical Association (AMA) and the American Osteopathic Association (AOA). The sample consisted of a combination of those who were part of the 2000-01 sample and physicians that had not been included in earlier samples. There were 4,428 physicians who responded to both the 2000-01 and 2004-05 surveys.[6]

1.4. PHYSICIAN SURVEY PUBLIC USE FILE AND RESTRICTED USE FILE

Two versions of the CTS Physician Survey physician-level data files are available to researchers: the Restricted Use File and the Public Use File. The ***Restricted Use File*** may be used only under the conditions listed in the *Community Tracking Study Physician Survey Restricted Data Use Agreement.* This agreement provides details on ownership of the data, when the data may be obtained and by whom, how the data may be used, the data security procedures that must be implemented, and the sanctions that will be imposed in the case of data misuse. Researchers must specifically apply for use of the Restricted Use File. Copies of the agreement and a description of the application process are available from the Inter-University Consortium for Political and Social Research (ICPSR) web site at www.icpsr.umich.edu.

[6] Refer to the Round Four Methodology Report for more information on the survey sample (HSC Technical Report No 70).

The Restricted Use File is provided to researchers for use on only a specific research project (new applications would be required for subsequent analyses using the data) and for a limited time period, after which all copies of the data must be destroyed. Moreover, researchers using the Restricted Use File may be required to undertake costly or inconvenient security measures. Researchers are encouraged to review documentation for both the public and restricted use files, available from ICPSR at www.icpsr.umich.edu, as well as the requirements of the *Community Tracking Study Physician Survey Restricted Data Use Agreement,* before deciding which file will meet their needs.

The ***Public Use File*** is available from ICPSR and can be downloaded directly from the ICPSR Web site. Researchers need not specifically apply for use of the Public Use File. Unlike the Restricted Use File, the Public Use File does not contain information on physician practice location (i.e., which of the 60 CTS sites) and so does not support analysis at the site level or analysis that uses site-level information. Although it contains all of the same observations as the Restricted Use File, several variables have been deleted or modified slightly for data confidentiality reasons (see below). Note that, unlike the Restricted Use File, the Public Use File does not contain information that allows the user to identify the panel sample of physicians who are part of both the 2000-01 and 2004-05 samples. Moreover, information necessary for using statistical software programs that account for the survey design is not included in the Public Use File. This means that **the Public Use File does not allow researchers to calculate standard errors and perform significance tests correctly**. The primary purpose of the Public Use File is to do preliminary investigation of the data in order to determine whether it is worthwhile to obtain the Restricted Use File to pursue an analysis further.

Researchers who are interested only in means for Physician Survey variables for the 60 sites should obtain the ***Physician Survey Summary File***. The data file and documentation can be downloaded directly from the ICPSR Web site.

As stated above, the Public Use File does not contain certain data that are available on the Restricted Use File. Other variables on the Public Use File were modified somewhat to ensure the confidentiality of survey respondents. These modifications are described in Chapter 5. Appendix B lists the variables available on the public and restricted use versions of the data files for all the years of the Physician Survey. In that list, a different name for the same variable on the public and restricted use files indicates that the data for this variable underwent additional editing for confidentiality in the public use version.

CHAPTER 2

THE STRUCTURE AND CONTENT OF THE COMMUNITY TRACKING STUDY PHYSICIAN SURVEY

This chapter describes the CTS Physician Survey sample design, the process of conducting the survey, the survey content, and survey administration and processing. The Physician Survey was administered to a sample of physicians in the 60 CTS sites. The survey's two-tiered sample design makes it possible to develop estimates at the national and community (site) levels.

For the first three rounds of the CTS Physician Survey, interviews were administered to physicians in the 60 CTS sample sites and to an independent national sample of physicians, referred to as the "national supplement." To reduce the cost of the Round Four 2004-05 Physician Survey, the national supplement was eliminated and the sample among the 60 CTS sites was reallocated among the sites more closely proportional to the number of physicians represented by each site. In addition, the sample allocation was adjusted to achieve approximately equal samples of primary care providers and specialists. Otherwise, the design of the 2004-05 sample was similar to prior rounds, retaining a nationally representative 60-site sample design.

The analysis of survey data from the CTS's sample design is more complex than it would be if a simpler sample design were used. Chapter 3 explains how to choose the sample and weighting variables appropriate for your analysis.

2.1. THE PHYSICIAN SURVEY SAMPLE

We randomly selected physicians within each CTS site. In the 1996-97 (Round One) Physician Survey, the AMA and the AOA constructed the sample frames and drew the samples based on specifications provided to them. Physicians were also randomly selected in this manner for the supplemental sample. In the later surveys, we obtained sample frames from the AMA and the AOA but selected the sample ourselves.
We randomly selected physicians within each CTS site. In the 1996-97 (Round One) Physician Survey, the AMA and the AOA constructed the sample frames and drew the samples based on specifications provided to them. Physicians were also randomly selected in this manner for the supplemental sample. In the later surveys, we again obtained sample frames from the AMA and the AOA but we selected the sample ourselves because of the greater complexity introduced by establishing a panel survey component to the sample design.

In the 2004-05 Physician Survey, the sample design involved randomly selecting both physicians who were part of the 2000-01 survey and physicians who were not. Our goals in sampling the previous survey's physicians were to improve precision for estimates of overall change between the two rounds and to reduce costs. Furthermore, by sampling the previous survey's physicians, we were able to create a panel, allowing us to track changes for individual physicians between the two rounds. . Because of our goal for cross-sectional analysis for each survey, we included physicians who were not part of the previous survey's sample frame (as well as physicians who were part of the previous survey's sample, but did not complete the interview) to ensure

representation of all eligible physicians. In the final sample of physicians for 2004-05, about 70 percent were included in the 2000-01 survey sample.

2.1.1. Eligible Physicians

As the source for our sampling frame, we obtained the November 2003 version of the AMA Masterfile (which includes nonmembers) and the AOA membership file. To meet the initial eligibility criteria for sampling, physicians on the frame had to have completed their medical training,[7] be practicing in the contiguous United States, and be providing direct patient care for at least 20 hours per week.[8] Among those deemed initially eligible, the following types of physicians were specifically designated as ineligible for this survey and were removed from the frame:

- Specialists in fields in which the primary focus is not direct patient care[9]
- Federal employees
- Graduates of foreign medical schools who are only temporarily licensed to practice in the United States

We did not attempt to survey those who specifically requested to the AMA that their names not be released to outsiders. These physicians were later classified as nonrespondents for the purpose of weighting adjustments for nonresponse.

2.1.2. Stratification of Physician Sample Frames

Once we constructed our list of eligible physicians, we classified each physician on the list as either a primary care physician (PCP) or a non-primary care physician (non-PCP). PCPs were defined as those with a primary specialty of family practice, general practice, general internal medicine, internal medicine/pediatrics, or general pediatrics. All others with survey-eligible specialties were classified as non-PCPs. The physician's location for sampling purposes was determined by the AMA/AOA preferred mailing address. We included only those physicians whose preferred mailing address fell within the boundary of one of the 60 sites. Within each site, we selected a probability sample of PCPs and a probability sample of non-PCPs, further stratified by status and disposition relative to the 2000-01 survey, and the plan resulted in 8 strata in each site.[10] The sample allocated to each site was more directly proportional to the number of

[7] Residents, interns, and fellows were considered to be still in training.

[8] This criteria resulted in the exclusion of inactive physicians and physicians who were not office- or hospital-based (teachers, administrators, researchers, etc.).

[9] For example: radiology (including diagnostic, nuclear, pediatric, neuro-, radiation oncology, radiological physics, vascular, and interventional); anesthesiology; pain management; pain medicine; palliative medicine; pathology (including anatomic, clinical, dermato-, forensic, neuro-, chemical, cyto-, immuno-, pediatric, radioisotophic, selective); medical toxicology; aerospace medicine and undersea medicine; allergy and immunology/diagnostic laboratory; bloodbanking/transfusion medicine; clinical and laboratory dermatological immunology; forensic psychiatry; hematology; legal medicine; medical management; public health and general preventive medicine; nuclear medicine; clinical pharmacology; sleep medicine; other specialty; unspecified specialty.

[10] The eight strata were defined by two categories for physician type (PCP and specialist) and four categories for disposition in the previous survey (not in the 2000-01 sample frame; in the 2000-01 sample frame but not sampled

physicians represented by each site and with two restrictions: (a) each site was allocated a sample size expected to result in at least 100 completed interviews among physicians practicing in the site or (b) if the number of physicians in a site was small, all physicians were included in the sample.

2.1.3. Physicians Excluded from the Survey

Some physicians thought to be eligible based on the sample frame information were later classified as ineligible based on survey responses. This happened if it turned out that the physician was still in training, provided direct patient care for less than 20 hours per week, practiced in an excluded specialty, was a federal employee, or was deceased. These ineligible physicians are not included on the file.

2.2. MOVERS

The goal of the sample design was to stratify physicians based on the location of their main practice. Operationally, physicians listed on the AMA or AOA sample frame were classified geographically by the county of their "preferred mailing address." This is the most complete and up-to-date address on these files; however, in some cases, it is the physician's home address rather than his or her main practice location. In other cases, the physician's practice has moved since the last file update or since the physician first entered the sample frame. But even if the actual current practice location did not match the preferred mailing address on the AMA or AOA file, the two addresses were, in most cases, within the same site or geographical stratum.

There were a number of physicians, however, who crossed site according to their survey response regarding practice location. Some crossed from one survey site to another. Others ended up being outside the boundaries of the 60 sites. These cases are referred to as *movers*, even though the preferred mailing address of many of these physicians was simply a home address located in a different site than the main practice. The counts of movers and non-movers is displayed in Table 2.1.

For analytical purposes, the site where the physician practices is of interest, rather than the site from which the physician was originally sampled (which is important for weight construction only). The practice location site is provided on the Restricted Use File (variable SITEID). The variable PRACLOC indicates whether the physician's practice location falls within the 60 CTS sites. The values of PRACLOC are illustrated in Figure 2.1. While all physicians sampled were selected from within the 60 sites (based on their latest preferred mailing address), 855 of them turned out to be practicing in an area outside of the 60 sites. Chapter 3 contains a complete discussion of how weights were assigned to movers and of the circumstances under which these individuals should be included in site-specific and national estimates.

(continued)

for the 2000-01 survey; sampled for 2000-01 but did not complete the 2000-01 interview; and completed the 2000-01 interview).

TABLE 2.1

NUMBER OF PHYSICIANS INTERVIEWED
FOR THE 2004-05 PHYSICIAN SURVEY,
BY LOCATION WHEN SAMPLED AND LOCATION OF PRACTICE

Site/Geographic Area	Full Sample	
	Sampled Location	Practice Location
TOTAL (See Note)	6,628	6,628
1 - Boston	233	219
2 - Cleveland	121	107
3 - Greenville	101	96
4 - Indianapolis	116	101
5 - Lansing	111	79
6 - Little Rock	110	88
7 - Miami	105	94
8 - Newark	129	106
9 - Orange County	116	96
10 - Phoenix	104	99
11 - Seattle	106	111
12 - Syracuse	111	87
13 - Atlanta	97	110
14 - Augusta	100	75
15 - Baltimore	146	123
16 - Bridgeport	117	92
17 - Chicago	212	201
18 - Columbus	104	79
19 - Denver	107	102
20 - Detroit	147	134
21 - Greensboro	109	93
22 - Houston	127	120
23 - Huntington	99	72
24 - Killeen	105	69
25 - Knoxville	101	84
26 - Las Vegas	86	84
27 - Los Angeles	168	173
28 - Middlesex	90	77
29 - Milwaukee	100	86
30 - Minneapolis	99	91
31 - Modesto	89	75

TABLE 2.1

NUMBER OF PHYSICIANS INTERVIEWED
FOR THE 2004-05 PHYSICIAN SURVEY,
BY LOCATION WHEN SAMPLED AND LOCATION OF PRACTICE
(Continued)

Site/Geographic Area	Full Sample	
	Sampled Location	Practice Location
32 - Nassau	120	87
33 - New York City	177	203
34 - Philadelphia	218	197
35 - Pittsburgh	101	87
36 - Portland	91	88
37 - Riverside	82	74
38 - Rochester	106	92
39 - San Antonio	111	96
40 - San Francisco	112	92
41 - Santa Rosa	98	82
42 - Shreveport	105	78
43 - St. Louis	103	94
44 - Tampa	93	87
45 - Tulsa	100	79
46 - Washington DC	160	168
47 - W Palm Beach	108	89
48 - Worchester	104	79
49 - Dothan	72	62
50 - Terre Haute	70	51
51 - Wilmington	101	80
52 - W-Cen Alabama	24	15
53 - Cen Arkansas	73	68
54 - N Georgia	98	76
55 - NE Illinois	83	72
56 - NE Indiana	70	58
57 - E Maine	95	77
58 - E North Car	93	80
59 - N Utah	97	59
60 - NW Washington	97	80
Areas other than CTS Sites	Not applicable	855

FIGURE 2.1

THE 2004-05 PHYSICIAN SURVEY
SAMPLE AND PRACTICE LOCATIONS

FULL SAMPLE
(6,628 physicians)

Practice Location: **Site 1** **Site 2** **Site 3** **...** **Site 60** (5,773 physicians) *PRACLOC = 'A'*
Practice Location: **Other areas** (855 physicians) *PRACLOC = 'B'*

2.3. SURVEY CONTENT

Table 2.2 shows the topics covered in the survey in more detail. Detailed documentation for the computer-assisted telephone interview program, the equivalent of a survey instrument, is provided as Appendix A. No proxy respondents were allowed for the Physician Survey. All physicians responded to the interview for themselves.

TABLE 2.2

CONTENTS OF THE 2004-05 PHYSICIAN SURVEY

Topic	Description
Basic Practice Information / Specialty and Certification / Career Satisfaction (Questionnaire Section A)	
Eligibility for survey	Federal employee Less than 20 hours/week Excluded specialty
Practice information	Location of primary practice Year began medical practice
Specialty and certification	Primary specialty Board certification
Satisfaction	Current level of satisfaction with overall career in medicine
Physician Time Allocation / Case Mix (Questionnaire Section B)	
Weeks worked	Number of weeks practiced medicine in 2003
Hours worked during last complete week of work	Hours worked in medicine during last complete week of work Hours spent in direct patient care during last complete week of work Number of patient visits in office, outpatient clinics, etc. (PCPs)
Charity care in the last month	Hours spent in charity care in the last month Location of charity care
Case mix	Percentage of patients with chronic conditions Race/ethnicity of patients Difficulty communicating due to language differences
Practice Arrangements and Ownership (Questionnaire Section C)	
Ownership of practice	Respondent ownership
Practice description	Type of practice Quality/level of nursing support
Financial incentives and competitive situation	Effect of financial incentives on quantity of services Competitive situation of practice

See Appendix B for a list of specific variables available on the public use and restricted use data files.

TABLE 2.2

CONTENTS OF THE 2004-05 PHYSICIAN SURVEY
(Continued)

Computer Use / Medical Care Management Strategies / Gatekeeping (Questionnaire Section D)	
Access to clinical IT in medical practice	Access to computers or other forms of information technology: Treatment guidelines Formularies Preventive service reminders Patient notes Prescriptions Exchange of clinical data with other physicians Exchange of clinical data with labs, hospitals Email patients Identify drug interactions Percentage of prescriptions written electronically
Medical care management	Percentage of patients with prescription drug formulary Effect of practice guidelines on practice of medicine Computerized order system for tests and medications in hospital Anonymous medical error reporting system in hospital Percentage of hospitalized patients with hospitalist
PCP Scope of Care	Percentage of patients for whom physician acts as gatekeeper Change in severity or complexity of patients' conditions for which care is provided without referral to specialists Change in number of referrals made
Practice Styles of Primary Care Physicians (Questionnaire Section E)	
No Section E in the 2004-05 survey.	

See Appendix B for a list of specific variables available on the public use and restricted use data files.

TABLE 2.2

CONTENTS OF THE 2004-05 PHYSICIAN SURVEY
(Continued)

Ability to Provide Care / Ability to Obtain Needed Services for Patients / Acceptance of New Patients (Questionnaire Section F)	
Perceptions of ability to provide quality care	Adequate time to spend with patients Freedom to make clinical decisions Providing high-quality care Making clinical decisions without negative effect on income Maintaining continuing patient relationships
Inability to obtain needed services for patients	Inability to obtain: Referrals Hospital admissions Diagnostic imaging Outpatient mental health care Reasons for difficulties obtaining: Referrals Hospital admissions Outpatient mental health care
Cost sharing (privately insured patients)	Impact of insured patient out-of-pocket costs on: Prescription of generic vs. name brand drugs Diagnostic tests Selection of out-patient vs. in-patient care
Acceptance of new patients	Practice accepts: New Medicare patients New Medicaid patients New privately insured patients New uninsured patients unable to pay Reasons practice not accepting all or most: New Medicare patients New Medicaid patients
Practice Revenue (Questionnaire Section G)	
Public programs	Percentage of practice revenue from Medicare Percentage of practice revenue from Medicaid or other public insurance
Managed care	Percentage of practice revenue that is capitated/prepaid Number of managed care contracts Percentage of practice revenue from managed care

See Appendix B for a list of specific variables available on the public use and restricted use data files.

TABLE 2.2

CONTENTS OF THE 2004-05 PHYSICIAN SURVEY
(Continued)

Topic	Description
Physician Compensation and Race/Ethnicity (Questionnaire Section H)	
Physician compensation	Whether physician is salaried Physician eligible to earn bonus or incentive income Factors used by practice to determine compensation Importance of factors in determining compensation
Income	Net income from practice of medicine in 2003
Race/ethnicity	Hispanic origin Race
Ability to provide care	Factors affecting ability to provide high quality care: Inadequate time with patients during office visits Patients inability to pay for needed care Rejections of care decisions by insurance companies Lack of qualified specialists in area Not getting timely reports from other physicians/facilities Difficulties communicating due to language/cultural barriers

See Appendix B for a list of specific variables available on the public use and restricted use data files.

2.3.1. Changes in the Physician Survey Questionnaire

The questionnaire used for the 2004-05 survey was generally similar to the ones used in the earlier surveys. The user's guides for the earlier public and restricted use data files describe the differences between those surveys while the main changes made for the 2004-05 survey are listed below. In addition, Appendix B provides a table listing which variables are on the data files for which years.

Items dropped from the 2004-05 survey

- Number of practices; board eligibility [Section A]
- Information brought by patients [Section B]
- Other owners of practice; number of nurse practitioners, etc.; practice acquired in last two years; practice preferences [Section C]
- Internet access; effect of profiling and patient satisfaction surveys on practice of medicine; effect of care management tools on ability to provide efficient and high quality of care; PCP change in scope of care; specialist scope of care [Section D]
- Level of communication with specialists/PCPs; acceptance of new capitated patients [Section F]
- Whether profiles are risk adjusted; eligibility for bonuses/percent income from bonuses [Section H]

Items added to the 2004-05 survey

- Number of patient visits in different settings (PCPs); location of charity care; case mix: chronic conditions, race/ethnicity group, language communication problems [Section B]
- Level of nursing support compared to three years ago [Section C*]
- IT clinical data exchange with hospitals and labs; IT used to obtain information on drug interactions; percentage of prescriptions written electronically; CPOE, Medical errors (asked of specialists and also PCPs with hospital visits); percent hospitalized patients with hospitalist [Section D]
- Inability to obtain specific services (and reasons); cost sharing; reasons not accepting new Medicare/Medicaid patients [Section F]
- End of year compensation adjustments; role of overall financial performance of practice on compensation; importance of factors affecting compensation; importance of factors that may limit ability to provide high quality care [Section H*]

* Also, some questions moved from other sections; changes in skip patterns

2.4. SURVEY ADMINISTRATION AND PROCESSING

The survey was administered completely by telephone, using computer-assisted telephone interviewing technology. As described earlier, all physicians were selected from list frames received from the AMA and the AOA. The survey was fielded between June 2004 and July 2005.

The total number of completed interviews was 6,628 with a weighted response rate among eligibles of 52.4 percent.

Physicians were sent advance letters from the Robert Wood Johnson Foundation and were offered a $25 honorarium for participating in the survey.

CHAPTER 3

USING THE PHYSICIAN SURVEY RESTRICTED USE FILE

The Physician Survey is made up of different subgroups, each of which is appropriate for certain types of analyses. In this chapter, we explain how to choose the appropriate subgroup and weight variable according to various possible "analytic scenarios."[11] Each scenario involves a different combination of the population of interest, the type of model (whether it includes site characteristics), and the type of estimate (cross-sectional or panel). We also explain how to do analyses that combine data from the 2004-05 Physician Survey with data from the earlier Physician surveys.

As background to this discussion, the analytic samples in the Physician Survey are summarized in Table 3.1.

3.1. CHOOSING A SAMPLE AND A WEIGHT VARIABLE

As shown in Table 3.2, the analytic sample and weight variable we recommend for an analysis depend on your population of interest (site or national), the variables included in your estimation model (any site information), and the type of estimate (cross-sectional or panel).

3.1.1 Cross-Sectional Estimates for Site Populations

If your population of interest is physicians within a site (that is, you want to examine the characteristics of physicians within a CTS site or to compare characteristics across sites), you should use the in-site sample (PRACLOC = A) and the weight WTPHY1. The in-site sample consists of respondents practicing in a given site.

As noted previously, the sample allocation for the 2004-05 survey was different than that used in the prior surveys. In the prior surveys, a specific target sample size of completed interviews was assigned to each "high intensity" site and to each "low intensity" site with regard to the proportion of physicians represented by the site[12] For the 2004-05 survey, the sample allocation to each site was more directly proportional to the number of physicians represented by each site and with two restrictions: (a) each site was allocated a sample size expected to result in at least 100 completed interviews among physicians practicing in the site or (b) if the number of physicians in a site was small, all physicians were included in the sample. The sample allocation took into account the expected response rate and the expected proportion of "movers." As seen in Table 2.1, minimum number of completed interviews by sampled location is close to 100 for most sites with substantially more than 100 completed interviews in the sites

[11] Refer to *Community Tracking Study Physician Survey Methodology Report, 2004-05,* HSC Technical Publication No. 70 for more details on the definitions and construction of the weight variables, including probabilities of selection and adjustments for physician nonresponse. There is also a confidential version of this report that will be available to authorized users of the CTS Physician Survey Restricted Use File through the CTS Help Desk at ctshelp@hschange.org.

[12] The proportion of physicians represented by a site is based on the weighted estimate of the number of physicians (computed from the count of physician in the sample frame and the inverse of the probability of selection of the site) divided by the total number of physicians in the sample frame. The sum of the weighted estimate of the number of physicians across the 60 sites is equal to the total number of physicians in the sample frame.

corresponding to the larger metropolitan areas (e.g., New York City, Los Angeles, Chicago, and Philadelphia). In general, the number of completed interviews by survey location is less than the number of number of completed interviews by sampled location for most sites since 855 (13 percent) of the completed interviews were in areas other than the 60 sites (except for New York City and Los Angeles, which picked up sample from neighboring sites of Newark and Orange County CA).

In general, samples for the sites corresponding to the larger metropolitan areas are generally adequate for reasonably precise estimates, although relatively precise estimates can be obtained for physicians for groups of sites corresponding to the smaller metropolitan areas. On the other hand, for some sites with relatively small sample count of completed interviews, the number of completed interviews may represent a substantial proportion of all physicians practicing in a site (for example, site 52, West Central Alabama). For such sites, the precision for a site-level estimates may be better than for a site with a larger sample size, because for estimating the precision the sample is treated as selected without replacement and the finite population adjustment is used. Note that the Physician Survey data should not be used for estimating the total number of physicians in a site. Various issues related to sample selection make those particular estimates unreliable, even though other site-level estimates (e.g., means and proportions) are usable.

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TABLE 3.1

ANALYTIC SAMPLES IN THE 2004-05 PHYSICIAN SURVEY

Analytic Sample	Description	File Definition
In-Site sample	Physicians from the physician sample whose practice location lies within the 60 CTS sites.	All records with PRACLOC = A (N = 5,773 physicians)
Full sample	All physicians from the physician sample, including those physicians practicing outside the 60 CTS sites.	All records with PRACLOC = A or B (N = 6,628 physicians)
Full panel sample	Physicians from the physician sample who responded to both the 2000-01 and 2004-05 surveys (including those physicians practicing outside the 60 sites).	All records with PRACLOC = A or B that also have a positive value for R3PHYIDX (N=4,428 physicians)

TABLE 3.2

APPROPRIATE SAMPLES AND WEIGHTS FOR PHYSICIAN-LEVEL ANALYSES

Type of Model	Recommended Analytic Sample	Recommended Weight Variable
Population of Interest: Site Populations (cross-sectional estimates)		
Any model	In-Site sample	WTPHY1
Population of Interest: National Population (cross-sectional estimates)		
Model includes site characteristics	In-Site sample	WTPHY5
Model does not include site characteristics	Full sample	WTPHY4
Population of Interest: National Population (panel estimates)		
Any model	Full panel sample	WTPAN2

Note: See Table 3.1 for details on the samples that correspond to each set of weights.

3.1.2. Cross-Sectional Estimates for National Population

If you are conducting analyses that involve the study of physicians nationwide (including analyses of subgroups, such as PCPs or non-PCPs, U.S.- or foreign-trained physicians, or physicians in large cities), we generally recommend the full sample and the weight WTPHY4. This sample has the greatest number of observations and hence will produce the most precise estimates. However, if your estimation model contains explanatory variables that are site characteristics (e.g., site-level means from any CTS component survey), then you should use the in-site sample and the weight WTPHY5 to produce national estimates. This is because site information is not available for members of the in-site sample whose practice location falls outside the 60 CTS sites.

3.1.3. Panel Estimates for National Population

As described in Chapter 2, there are some physicians who were interviewed for both the 2000-01 and 2004-05 surveys. For this subgroup, researchers can analyze physician-level changes between those two periods.

Only national estimates are possible with the panel sample, since there were no weights developed for site-specific analysis. One would use the full panel sample and the weight WTPAN2 for these national estimates.

Section 3.3 below has more information that you need to know for doing panel analysis.

3.2. MOVERS AND THE WEIGHTING PROCESS

As described in Chapter 2, some physicians were found to practice in locations other than those they were sampled from. We refer to these physicians as "movers." Because the location of the physician's practice, rather than the sampling location, is of primary interest to researchers, the Restricted Use File indicates the practice site (variable SITEID) but not the sampling location. Because the identity of the sampling site offers no analytic value and may compromise data confidentiality, it is not included in the Restricted Use File. However, both the sample and practice locations were considered when the weights were constructed. Details concerning weight construction are contained in the survey methodology report.[13]

[13] See *Community Tracking Study Physician Survey Methodology Report, 2004-05,* HSC Technical Report No. 70.

3.3. USING DATA FROM MULTIPLE ROUNDS

This section discusses how to use multiple rounds of the CTS Physician Survey data to calculate estimates of change between two rounds, to combine data from multiple rounds to get larger sample sizes for an analysis, and to analyze changes for the panel sample of physicians who were interviewed in both the 2000-01 and 2004-05 surveys.

3.3.1. Identifying Physicians in Multiple Rounds of the Physician Survey

The cases in which you will want or need to identify the physicians who are in multiple rounds of the Physician Survey are discussed below in the sections on estimating changes, pooling data, and analyzing the panel sample. You cannot simply use the physician identification number (the variable PHYSIDX), because those identifiers were assigned independently in each round.

On the Round Four (2004-05) data file, the variable R3PHYIDX indicates the Round Three (2000-01) physician identifier for those physicians in both rounds. For example, if the Round Four variable R3PHYIDX has a value of 123456, this same physician is on the Round Three data file with PHYSIDX=123456. There are analogous variables (R1PHYIDX and R2PHYIDX) on the Round Two and Three data files that allow you to identify physicians who were interviewed for the earlier surveys.

3.3.2. Estimating Changes Between Rounds

To estimate the change in an attribute between any two years of the Physician Survey (e.g., the change between 2000-01 and 2004-05), you could calculate separate means for each of the two surveys and then compare them using the sampling variances computed separately for each year. However, that approach does not allow you to use the information on the linkages between the two surveys in order to get better estimates of the standard error of the change estimate.[14]

We recommend combining the data from the two rounds in order to estimate change. Specifically, combine the two rounds of data (e.g., 2000-01 and 2004-05) into a single data set, with a separate record for each physician in each round of data. Let Y_i represent the analytical variable of interest for each observation *i*, and let the variable $SURVEY4_i$ indicate whether the observation comes from the 2004-05 survey ($SURVEY4_i = 0$ if observation i comes from 2000-01, $SURVEY4_i = 1$ if observation i comes from 2004-05). Then run the following weighted regression model.[15]

$$Y_i = a + b(SURVEY4_i) + e_i$$

The resulting estimate of *a* represents the mean for 2000-01, and the sum *(a + b)* represents the mean for 2004-05. Therefore, the estimate of change in Y between the two time periods is b,

[14] Accounting for which observations come from the same sites and strata across rounds may help control for more random noise, and so the estimates are likely to be more precise.

[15] If the analytical variable Y is continuous, you would run a linear regression model. If dichotomous, you would run a logistic regression model. If the variable has three or more categories, you would run a multinomial logistic regression model.

which will generally have lower variance than the change estimate that you would get from calculating the means for the two periods separately and then estimating the variance of the change estimate from the sum of the sampling variances for the respective years.

Note that this approach to calculating change allows you the option to include whatever additional independent variables you think are appropriate. For example, you could add to the right hand side of the equation other explanatory variables and interactions among those variables, as well as interactions of *SURVEY4* with those explanatory variables. You could also include a dummy variable indicating whether the physician is represented in both rounds of data (as discussed in Section 3.3.1), in order to potentially decrease further the variance of the change estimate. With additional independent variables in the model, *b* should be interpreted as an estimate of the difference between the two rounds after accounting for those additional factors.

3.3.3. Pooling Data to Increase Sample Size

The purpose of combining or "pooling" data from multiple survey years is to increase sample size and therefore the precision of a cross-sectional estimate, which is especially desirable for analyses of certain smaller subgroups. This approach is appropriate only if you can assume that the variable of interest either did not change substantially between the survey years that are being pooled or exhibited a clear pattern of change (i.e., a change that can be controlled for by including an independent variable indicating the survey year in a regression model). If your pooled analysis uses a regression model, then you can include a dummy variable indicating whether the physician is represented in multiple rounds of data (as discussed in Section 3.3.1), which may help decrease the variance of the estimated mean.

3.3.4. Making Use of the Panel

The panel sample consists of physicians who were interviewed in both the 2000-01 (Round Three) and 2004-05 (Round Four) surveys, allowing you to analyze physician-level changes at the national level between those two periods. To do this, you need to merge the Round Three and Round Four data files, creating a data file with one record per physician by matching the physician identification number on the Round Three file (PHYSIDX) with the variable on the Round Four file that indicates the Round Three identification number (R3PHYIDX). The resulting data file will contain 4,428 records, with each record representing a physician who was interviewed in both rounds.[16]

As discussed in the preceding section, you might want to "pool" data from multiple years to increase sample size and therefore the precision of your estimates. In the context of panel analysis, you can pool the panel sample of physicians from the 2004-05 and 2000-01 surveys (4,428 physicians) with the panel sample of physicians from the 2000-01 and 1998-99 surveys (8,527 physicians) and the panel sample of physicians from the 1998-99 and 1996-97 surveys (7,092 physicians).

[16] When merging the data, note that the variable names are the same across rounds, and so you need to rename the variables in order to distinguish between rounds.

The following are issues that you should keep in mind when doing panel analysis:

- Imputation was performed for some variables with missing values (see Chapter 5 for more information on imputation). For only some of these imputed variables (listed in Chapter 5) did the imputation procedure for the panel sample take into account the value for the variable from the previous survey. For any imputed variable where the previous value was not used in imputation, the change in that variable for an individual physician between two surveys might not be particularly meaningful (depending on whether either of the values was imputed). Therefore, we suggest that you avoid using the difference between surveys for those variables in your panel analysis. If the difference between surveys for any of those variables is crucial for your analysis, then you should consider re-imputing the missing values yourself using a procedure that takes into account the values from the previous survey.

- If your analysis uses site characteristics, you should know that there are some physicians in the panel sample who practiced in different sites in 2000-01 (Round Three) and 2004-05 (Round Four). Because the panel weights were based on the Round Three population, we recommend that those physicians be considered associated with their Round Three practice site for panel analyses using site characteristics.

Note that the panel of physicians is by nature more stable than the entire population of physicians. The panel weight WTPAN2 was adjusted to minimize the differences between characteristics of the panel sample and the characteristics of the full samples from each round.

3.3.5. Variance Estimation with Data from Multiple Rounds

For correct variance estimation with multiple rounds of Physician Survey data, all statistical analysis should be done using specialized statistical software and the parameters appropriate to the type of estimate and model being run (see Chapter 4). Because the underlying design is the same for each round, the sampling parameters are generally identical and were given identical variable names across rounds.

3.4. Differences in Available Weights Between Rounds Three and Four

As noted above, Rounds One, Two and Three of the Physician Survey included an independent national sample of physicians referred to as the "national supplement." This national supplement was eliminated for Round Four. Consequently, some of the analytic samples and corresponding weights developed for use with the earlier rounds are not available for use in Round Four. The Round Three weight variable WTPHY3, intended for use with cases from the Round Three supplemental sample, is not relevant for Round Four because there is no Round Four supplemental sample.

One of the Round Three panel weights, WTPAN1, allowed the use of supplemental sample respondents appearing in both Rounds Two and Three. In the absence of the supplemental sample for Round Four, only the panel weight variable WTPAN2 is available.

Researchers should be cognizant of these changes when replicating earlier analyses using Round Four data or when using pooled data.

CHAPTER 4

DERIVING APPROPRIATE VARIANCE ESTIMATES

Some element of uncertainty is always associated with sample-based estimates of population characteristics because the estimates are not based on the full population. This sampling error is generally measured in terms of the standard error of the estimate, or its sampling variance, which is an indicator of the precision of an estimate.[17] Estimates of the standard errors are necessary to construct confidence intervals around estimates and to conduct hypothesis tests.

Specialized techniques are required for estimating sampling variances in the CTS Physician Survey because of the complex sample design. Like many other large national surveys, the sample design for the CTS Physician Survey uses stratification, clustering, and oversampling. Specialized techniques are therefore required to estimate sampling variances when using the Physician Survey data. This chapter discusses the use of specialized statistical software to estimate standard errors that account for the sample design.

In the user's guides accompanying the public and restricted use data files for the 1996-97 and 1998-99 surveys, the only software package discussed was SUDAAN. We provided the sampling parameters necessary for making estimates using SUDAAN and showed how to set up the relevant SUDAAN statements. The emphasis on SUDAAN was a result of the fact that SUDAAN was and continues to be the only commonly used statistical software package that can accommodate the major features of the Physician Survey sample design when calculating standard errors for site and national estimates.[18]

Because of user interest in software other than SUDAAN, we examined how the CTS standard error estimates from other commonly used statistical software packages (Stata and SAS survey procedures) compared with those from SUDAAN. The resulting report, which is summarized in Section 4.3, identifies situations when alternative software packages could be reasonably used and also those situations when they should not be used. **Researchers who are considering using software other than SUDAAN are strongly encouraged to obtain the full report.**[19] For situations when using Stata or SAS is a reasonable option, we have provided the necessary sampling parameters for those packages in the 2000-01 and the 2004-05 data files.[20] Use of other software besides SUDAAN is discussed in more detail below in Section 4.3.

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[17] The sampling variance, which is the square of the standard error, is a measure of the variation of an estimator attributable to having sampled a portion of the full population of interest using a specific probability-based sampling design. The classical population variance is a measure of the variation among the population, whereas a sampling variance is a measure of the variation of the *estimate* of a population parameter (for example, a population mean or proportion) over repeated samples. The population variance is different from the sampling variance in the sense that the population variance is a constant, independent of any sampling issues, whereas the sampling variance becomes smaller as the sample size increases. The sampling variance is zero when the full population is observed, as in a census.

[18] The exception was national estimates from the supplemental sample, which had a simpler sample design.

[19] The report, Schaefer et al. (2003), is available from the HSC web site (www.hschange.org).

[20] See Appendix D for information on constructing the analogous sampling parameters for the 1996-97 and 1998-99 surveys.

4.1. THE LIMITATION OF STANDARD STATISTICAL SOFTWARE

Some standard statistical packages compute variances using formulas that are based on the assumption that the data are from a simple random sample taken from an infinite population. Although the simple random sample variance may approximate the sampling variance in some surveys, it is likely to substantially underestimate the sampling variance in a survey with a design like that of the CTS Physician Survey. The Physician Survey has a design-based sampling variance, meaning that the sampling variance estimate is a function of the sample design and the population parameter being estimated.

Departures from a simple random sample design result in a "design effect" (*Deff*), which is defined as the ratio of the sampling variance (*Var*) given the actual survey design to the sampling variance of a hypothetical simple random sample (*SRS*) with the same number of observations. Thus:

$$Deff = \frac{Var\ (actual\ design\ with\ n\ cases)}{Var\ (SRS\ with\ n\ cases)}.$$

A design effect equal to one means that the design did not increase or decrease the sampling variance relative to a simple random sample. A design effect of greater than one means that the design increased the sampling variance; that is, it caused the estimate to be less precise. A design effect of less than one means that the design decreased the sampling variance; that is, it made the estimate more precise. The standard error of an estimate can be expressed as the standard error from a simple random sample with the same number of observations, multiplied by the square root of the design effect.

Because most of the variables in the CTS Physician Survey have a design effect of greater than 1.0, we explain how you can use specialized statistical software packages to calculate standard errors.

(continued)

4.2. SPECIFYING THE SAMPLE DESIGN FOR SUDAAN

The CTS data files contain a set of fully adjusted sampling weights and information on analysis parameters (that is, stratification and analysis clusters) necessary for estimating the sampling variance for a statistic. When you run one of the specialized software programs, you should specify the appropriate analysis weight (see Chapter 3) as well as the stratification and clustering variables. This section provides guidelines for which design variables to specify in SUDAAN statements for different types of estimates. (See Section 4.3 for information on using other statistical software packages besides SUDAAN.) Appendix C provides sample SUDAAN code.

- See Section 4.2.1 and Table 4.1 for estimates based on 2004-05 data only.
- See Section 4.2.2 and Table 4.2 for estimates based on data from the 2004-05 survey combined with one or more earlier surveys.
- See Section 4.2.3 and Table 4.3 for estimates based on the panel sample.

4.2.1. Using SUDAAN and Data from the 2004-05 Survey Only

If your analysis involves data from the 2004-05 Physician Survey only, see Table 4.1 for information on how to specify the sample design in SUDAAN. The following discussion provides more detailed information on the SUDAAN statements and the sample design variables.

The DESIGN statement, found in the first row of Table 4.1, tells SUDAAN the nature of the sampling strategy, that is, whether the sample was selected with replacement (where units can be selected more than once) or without replacement, and whether the selection probabilities were equal across all sampling units. Specifying a without-replacement design and equal probabilities of selection (DESIGN=WOR) implies that the first stage units are assumed to have been selected without replacement and with equal probabilities within stratum. This design specification is appropriate for site-specific estimates based on the in-site sample because, generally speaking, the first stage of selection in these samples was the site, and the second stage was the physician. Specifying a without-replacement design and unequal probabilities of selection (DESIGN=UNEQWOR) implies that the first-stage units are assumed to have been selected without replacement and with unequal probabilities within strata. The UNEQWOR specification also assumes equal probabilities of selection at subsequent stages in the sampling process. This design specification is appropriate for national estimates based on the full sample or the in-site sample because, generally speaking, the first stage of selection in these samples was the site, and the second stage was the physician.

The NEST statement, found in the second row of Table 4.1, tells SUDAAN which variables contain the sampling structure, that is, the stratification and clustering variables.

NEST statement stratification

- For site-specific estimates, the stratification variable is SITEPCP. This variable specifies the site and whether the physician is PCP or non-PCP.
- For national estimates based on the full sample, the first-stage sampling stratum variable (PSTRATA) has 20 values: 1 for each of 9 sites selected with certainty, 10 strata used to classify the remaining metropolitan sites, and 1 to classify the nonmetropolitan sites. For these national estimates, it is also necessary to specify a second-stage sampling stratum variable: SECSTRA. For metropolitan sites in the in-site sample, SECSTRA is equivalent to SITEPCP as defined above. For nonmetropolitan sites in the in-site sample, SECSTRA is set to a constant.
- For national estimates based on the in-site sample, the first and second stage sampling stratum variables are ASTRATA and ASECSTRA. The values of these variables are identical to PSTRATA and SECSTRAdescribed above.

NEST statement clustering variables

- For site-specific estimates, the clustering or primary sampling unit (PSU) variable is FSU, which represents the physician.
- For national estimates based on the full sample, the first-stage PSU variable is PPSU. For metropolitan sites, PPSU represents the site. For nonmetropolitan sites, PPSU is set to a constant. For these national estimates, it is also necessary to specify in the NEST statement a second-stage clustering variable (NFSU) after the second-stage stratification variable. For metropolitan sites, NFSU represents the physician; for nonmetropolitan sites, it represents the site.
- For national estimates based on the in-site sample, the first and second stage clustering variables are APSU and AFSU.

For national estimates based on the full in-site sample, we recommend that you utilize the MISSUNIT option within the NEST statement. This option should not be used for site-specific estimates based on the in-site sample.

In order for SUDAAN to account for the without-replacement design in its variance estimates, there are one or two more statements that must be specified: the TOTCNT statement and, in some cases, the JOINTPROB statement. The TOTCNT statement provides the frame counts (or indicates stratification) at each stage of the sample design specified in the NEST statement. The JOINTPROB statement names the variables that contain single-inclusion probabilities for each site and joint-inclusion probabilities[21] for each possible pair of sites in each first-stage stratum. (This is expressed in the form of an *n x n* matrix, where *n* is the number of PSUs in each stratum.)

TOTCNT and JOINTPROB statements

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- For site-specific estimates, the TOTCNT statement is required, but the JOINTPROB statement is not because the specified design (WOR) assumes equal selection probabilities at the first stage. When site-specific estimates are made, the TOTCNT statement is specified as FRAME _ZERO_. The variable FRAME contains sample frame counts. The term _ZERO_ is a reserved SUDAAN keyword meaning, in this case, that it is a final level of sampling and therefore has no variance contribution.
- For the national estimates based on the full sample, the TOTCNT statement is specified as PSTRTOT3 _ZERO_ _MINUS1_ _ZERO_. PSTRTOT3 specifies the variable containing population counts at the first stage of selection. For metropolitan sites selected without certainty, this is the number of sites in the sampling stratum. For all other sites, this is set equal to 1. _MINUS1_ is a reserved SUDAAN keyword. (Note that this specification is slightly different from the SUDAAN specifications for the 1996-97 and 1998-99 surveys.[22]) The first occurrence of the SUDAAN keyword _ZERO_ means that the corresponding NEST variable (in this case, SECSTRA) is a stratification variable. The second occurrence of _ZERO_ means it is a final level of sampling and therefore has no variance contribution. The JOINTPROB statement is specified as the variables P1X P2X P3X P4X P5X P6X P7X, which together represent the matrix containing single and joint inclusion probabilities as described above.
- For national estimates based on the in-site sample, the TOTCNT statement is specified as ASTRTOT _ZERO_ _MINUS1_ _ZERO_. (Note that this specification is slightly different from the SUDAAN specification for the 1998-99 survey.[23]) The JOINTPROB statement is specified as the variables AP1 through AP7.

In SUDAAN, the default denominator degrees of freedom can be overridden using the DDF option. We recommend that you use this option (setting DDF to 2900) when running significance tests on national estimates based on the in-site sample or on the full sample. In

[21] The joint inclusion probability for a pair of sites is the probability that those two sites will occur in the same sample.

[22] The SUDAAN specifications for the Physician Survey for 1996-97 and 1998-99 use the variable NFRAME instead of the keyword _MINUS1_. NFRAME indicates the second stage frame counts for without-replacement selection at the second stage. The 2000-01 and 2004-05 surveys use _MINUS1_ because it has little effect on the standard error estimates (compared to using NFRAME) and simplifies the analysis of multiple years of the survey.

[23] The SUDAAN specifications for the Physician Survey for 1998-99 use the variable ASECTOT instead of the keyword _MINUS1_. ASECTOT indicates the second stage frame counts for without-replacement selection at the second stage. The 2000-01and 2004--05 surveys use _MINUS1_ because it has little effect on the standard error estimates (compared to using ASECTOT) and simplifies the analysis of multiple years of the survey.

SUDAAN, the default denominator degrees of freedom is the difference between the number of PSUs and the number of first-stage strata, which is appropriate for most surveys. Because the CTS design includes some sites with certainty, the SUDAAN default count is substantially smaller than the actual count for these national estimates. This undercount would result in significance tests that would be too conservative. See Appendix C for examples using the DDF option.

4.2.2. Using SUDAAN and Data from the 2004-05 Survey Combined with Other Years

As discussed in Chapter 3, two reasons that you would want to combine the 2004-05 data with data from earlier surveys are to estimate change over time (see Section 3.3.2) and to increase your sample size (see Section 3.3.3). This section provides information on the SUDAAN parameters to use when doing those types of analyses.

See Table 4.2 for the SUDAAN set-up that you should use for each type of estimate. Appendix C provides relevant examples of the SUDAAN code.

4.2.2.1. Site-Specific Estimates

For site-specific estimates, the specification in Table 4.2 differs from the specification in Table 4.1 (for estimates using only 2004-05 data) only with respect to the NEST stratification variable (SITEPCP2 instead of SITEPCP). SITEPCP2 is provided on the data file for 2004-05 (SITEPCP2 = 4000000 + SITEPCP), but you will need to construct it for the earlier data as follows:

- For 1996-97: SITEPCP2 = 1000000 + SITEPCP
- For 1998-99: SITEPCP2 = 2000000 + SITEPCP
- For 2000-01: SITEPCP2 = 3000000 + SITEPCP

The reason for using SITEPCP2 instead of SITEPCP is to make sure that physicians from different rounds of the survey are not considered to be in the same stratum, which would affect variance estimation.[24] Because the values of SITEPCP in each round have five or fewer digits, the definition of SITEPCP2 indicated above preserves the strata indicated by SITEPCP within each round of the survey and ensures that the values for SITEPCP2 are unique to each round.

[24] For example, some values of SITEPCP in the 1996-97 survey are also values of SITEPCP in the 1998-99 survey. If the 1996-97 and 1998-99 data are combined, using SITEPCP instead of SITEPCP2 would mean that physicians from either round with the same value for SITEPCP would be treated as though they were in the same stratum.

4.2.2.2. National Estimates from the Site or Full Sample

For national estimates from the full sample, the specifications in Table 4.2 are the same as the specifications in Table 4.1 (for estimates using only 2004-05 data). They are noted separately here because they are slightly different from the specifications for the 1996-97 and 1998-99 surveys, which might cause some confusion without further explanation.

The differences between the specifications for 1996-97 and 1998-99 and the specifications for 2000-01 and 2004-05 in Tables 4.1 and 4.2 are only in the TOTCNT statement:

- In the TOTCNT statement for national estimates based on the full sample, the SUDAAN specifications for the Physician Survey for 1996-97 and 1998-99 use the variable NFRAME instead of the keyword _MINUS1_. NFRAME indicates the second stage frame counts for without-replacement selection at the second stage. The 2000-01 survey uses _MINUS1_ because it has little effect on the standard error estimates (compared to using NFRAME) and simplifies the analysis of multiple years of the survey.

- In the TOTCNT statement for national estimates based on the in-site sample, the SUDAAN specifications for the Physician Survey for 1998-99 use the variable ASECTOT instead of the keyword _MINUS1_. ASECTOT indicates the second stage frame counts for without-replacement selection at the second stage. The 2000-01 and 2004-05 surveys use _MINUS1_ because it has little effect on the standard error estimates (compared to using ASECTOT) and simplifies the analysis of multiple years of the survey.

In short, you should use the SUDAAN specifications in Table 4.2 when combining the 2004-05 data with data from the previous surveys, regardless of the SUDAAN specifications for those earlier surveys. Because _MINUS1_ is a SUDAAN keyword and not a variable, it is not a problem that there is no variable called _MINUS1_ on the data files for the earlier surveys.

4.2.3. Using SUDAAN and Data from the Panel Sample

Chapter 3 discussed how to use the panel sample of physicians who responded to both the 2000-01 survey and the 2004-05 survey. As explained there, when using the physician panel sample, you will be working with a merged file; that is, a file that is created by merging the Round Four (2004-05) file with the Round Three (2000-01) file by the Round Three physician identifier (PHYSIDX on the Round Three file and R3PHYIDX on the Round Four file). This file will have one record per physician in the panel. Note that you will need to re-name the variables on one of the files before carrying out this merge so that they do not overwrite one another. You will then create new variables indicating the difference between the Round Three value and the Round Four value for your variables of interest.

The relevant SUDAAN parameters for panel analysis are provided in Table 4.3. The SUDAAN specification is for national panel estimates based on the full panel sample. Other than the weight variable, the SUDAAN parameters match those for national estimates based on the full sample using 2004-05 data only (Table 4.1).

The specifications in Table 4.3 also apply to estimates for which you have pooled the panel sample of physicians from the 2004-05 and 2000-01 surveys with the panel sample of physicians from the 2000-01 and 1998-99 surveys.

TABLE 4.1

GUIDELINES FOR SPECIFICATION OF
DESIGN VARIABLES IN SUDAAN WHEN USING
2004-05 PHYSICIAN SURVEY DATA ONLY

SUDAAN Statements	Site-Specific Estimates (In-site sample only)	National Estimates (In-site sample only)	National Estimates (Full sample)
DESIGN=	WOR	UNEQWOR	UNEQWOR
NEST	SITEPCP FSU	ASTRATA APSU ASECSTRA AFSU	PSTRATA PPSU SECSTRA NFSU
NESTING OPTIONS	not applicable	MISSUNIT	MISSUNIT
TOTCNT	FRAME _ZERO_	ASTRTOT _ZERO_ _MINUS1_ _ZERO_	PSTRTOT3 _ZERO_ _MINUS1_ _ZERO_
JOINTPROB	not applicable	AP1 AP2 AP3 AP4 AP5 AP6 AP7	P1X P2X P3X P4X P5X P6X P7X
WEIGHT	WTPHY1	WTPHY5	WTPHY4
DDF=	not applicable	2900	2900

Note: Chapter 6 includes a discussion of how “missing” (inapplicable) values for these variables were coded. Sample SUDAAN code is contained in Appendix C.

TABLE 4.2

GUIDELINES FOR SPECIFICATION OF
DESIGN VARIABLES IN SUDAAN WHEN USING
2004-05 PHYSICIAN SURVEY DATA COMBINED WITH
2000-01, 1998-99 AND/OR 1996-97 DATA

SUDAAN Statements	Site-Specific Estimates (In-site sample only)	National Estimates (In-site sample only)	National Estimates (Full sample)
DESIGN=	WOR	UNEQWOR	UNEQWOR
NEST	SITEPCP2 FSU	ASTRATA APSU ASECSTRA AFSU	PSTRATA PPSU SECSTRA NFSU
NESTING OPTIONS	not applicable	MISSUNIT	MISSUNIT
TOTCNT	FRAME _ZERO_	ASTRTOT _ZERO_ _MINUS1_ _ZERO_	PSTRTOT3 _ZERO_ _MINUS1_ _ZERO_
JOINTPROB	not applicable	AP1 AP2 AP3 AP4 AP5 AP6 AP7	P1X P2X P3X P4X P5X P6X P7X
WEIGHT	WTPHY1	WTPHY5	WTPHY4
DDF=	not applicable	2900	2900

Note: Chapter 6 includes a discussion of how “missing” (inapplicable) values for these variables were coded. Sample SUDAAN code is contained in Appendix C.

TABLE 4.3

GUIDELINES FOR SPECIFICATION OF
DESIGN VARIABLES IN SUDAAN WHEN USING
2004-05 PHYSICIAN SURVEY PANEL SAMPLE
(PHYSICIANS IN BOTH 2000-01 AND 2004-05 SAMPLES)

SUDAAN Statements	National Panel Estimates (Full panel sample only)
DESIGN=	UNEQWOR
NEST	PSTRATA PPSU SECSTRA NFSU
NESTING OPTIONS	MISSUNIT
TOTCNT	PSTRTOT3 _ZERO_ _MINUS1_ _ZERO_
JOINTPROB	P1X P2X P3X P4X P5X P6X P7X
WEIGHT	WTPAN2
DDF=	2900

Note: Chapter 6 includes a discussion of how "missing" (inapplicable) values for these variables were coded. Sample SUDAAN code is contained in Appendix C.

4.3. USE OF OTHER STATISTICAL SOFTWARE BESIDES SUDAAN

As Table 4.4 indicates, SUDAAN is currently the only commonly used statistical software package that can produce variance estimates correctly for all the samples in the CTS Physician Survey.[25] Other statistical software packages for the analysis of data with complex sample designs do not work as well as SUDAAN for computing sampling variances for site-specific estimates and national estimates because they cannot accommodate without-replacement (WOR) sampling.[26] (Although Stata has some capability to do without-replacement estimation, that capability is not sufficient to accommodate the sample design for the CTS Physician Survey estimates that require the without-replacement assumption.)

Nevertheless, there still may be situations where researchers would like to use other software packages besides SUDAAN. For example, some people might not have access to SUDAAN or might be interested in statistical procedures that are not available in SUDAAN. For these situations, we investigated how standard error estimates for the CTS surveys differed among SUDAAN, Stata, and SAS. In particular, we identified situations in which statistical software other than SUDAAN would provide reasonable estimates of sampling variances (or at least "conservative" estimates, i.e., estimates that reduce the likelihood of finding a result to be statistically significant). This section provides a summary of the resulting report, as well as information on obtaining and using the sampling parameters in other software packages.[27]

[25] All survey data analysis software (and many statistical software packages) will produce correct weighted point estimates (such as for means, proportions, regression coefficients etc.). The limitations relate only to computing the sampling variance for these weighted point estimates.

[26] They assume with-replacement sampling instead. In other words, standard error estimates for the Physician Survey from Stata and SAS are the same as standard error estimates from SUDAAN when using the SUDAAN specification for with-replacement instead of without-replacement.

[27] The report, Schaefer et al. (2003), is available from the HSC web site (www.hschange.org).

TABLE 4.4

SUMMARY OF SOFTWARE VARIANCE ESTIMATION CAPABILITIES FOR THE CTS PHYSICIAN SURVEY

Estimates and samples	Optimal sampling assumption	Analysis population	Ability to produce correct variance estimates for the CTS Physician Survey	
			SUDAAN	Stata and SAS special procedures for the analysis of complex survey data[a]
Site-specific estimates from in-site sample	WOR	Full population or subpopulation	yes	no[b]
National estimates from full sample or in-site sample	WOR	Full population	yes	no, but acceptable[c] (with caution)
		Subpopulation	yes	no (not advisable)[d]
National estimates from panel samples	WOR	Full population or subpopulation	yes	no[b]

WR = with replacement
WOR = without replacement

[a] This column also applies to other statistical software packages that use Taylor series linearization procedures for variance estimation and can accommodate WR sample selection but have no or limited ability to accommodate WOR sample selection.

[b] For Physician Survey site-specific estimates and national estimates from the panel samples, only SUDAAN can estimate variances correctly. For those types of estimates, investigation of whether and how Stata and SAS variance estimates differ systematically from SUDAAN estimates has not been done, and so we currently cannot provide guidance for using any other statistical software packages besides SUDAAN.

[c] For national estimates for the full population, the variance estimates from Stata and SAS tend to be greater than those from SUDAAN. In other words, the variance estimates from Stata and SAS are "conservative" in that they decrease the likelihood of finding a result to be statistically significant. However, researchers should note that whether a particular estimate is being overstated or understated by Stata and SAS (relative to SUDAAN) cannot be known with certainty without specifically calculating that estimate under the two sampling assumptions (i.e., using the WR and WOR assumptions in SUDAAN).

[d] The effect of using the WR assumption instead of WOR can vary greatly from one subpopulation to another. Use of WR estimation for analysis of a subpopulation is not advisable unless a comparison of WR and WOR estimation specifically for that subpopulation has been done (i.e., using the WR and WOR assumptions in SUDAAN).

4.3.1. Results of Comparison of Statistical Software Packages

The results discussed here are based on a comparison of standard error estimates from SUDAAN, Stata, and SAS. Because Stata and SAS generate the same estimates, they are grouped together in this discussion. The standard error estimates were calculated for national estimates from the full sample, although there is no particular reason to think that the overall conclusions would differ for national estimates from the in-site sample.

First we considered descriptive estimates (specifically, estimates of proportions) for the full population in the Physician Survey. The standard error estimates from Stata and SAS were usually but not always larger than the estimates from SUDAAN. Specifically, for estimates of the percentage of the population with particular attributes, 90 percent of the standard error estimates (28 out of 31 estimates) from Stata and SAS were larger than the SUDAAN estimates. Most of the Stata and SAS estimates (74 percent, i.e., 23 out of 31 estimates) were in the range of 10 to 40 percent larger.

We also considered standard error estimates of proportions for five subpopulations: primary care physicians, specialists, physicians in practices with high managed care revenue, physicians in solo or two-physician practices, and physicians in group practices. Except for physicians in solo or two-physician practices, the results for all the subpopulations were generally similar to those for the full population. However, for the subpopulation of physicians in solo or two-physician practices, the results were markedly different. Only 56 percent of the Stata and SAS estimates were larger than the SUDAAN estimates.

In multivariate analysis, we found similar results. For the full population, standard error estimates from Stata and SAS tended to be larger than those from SUDAAN. The Stata and SAS estimates were also larger for physicians in solo or two-physician practices but not by as much as for the full population.

4.3.2. Summary and Recommendations

For researchers who use the CTS Physician Survey for national estimates from the full sample, the in-site sample, and the panel samples, only SUDAAN can account for the main features of the sample design. In particular, SUDAAN assumes without-replacement (WOR) selection at the first stage, whereas using Stata or SAS for those estimates is equivalent to assuming with-replacement (WR) selection.

Statistical theory says that the sampling variance using the with-replacement estimation assumption (e.g., Stata and SAS) tends to be greater than the sampling variance using the without-replacement assumption (SUDAAN). This appears to be generally true for data from the CTS Physician Survey, although the differences between the results using with-replacement and without-replacement definitely vary by subpopulation.[28]

The fact that the results based on with-replacement estimation tend to differ from those based on without-replacement estimation means that researchers should be cautious when using Stata or SAS (or any other software package that assumes with-replacement sampling) for national estimates from the Physician Survey data. For the full population, where the with-replacement estimates tend to overstate the standard errors, there is a decreased likelihood of finding a result to be statistically significant, which decreases the probability of making a Type I error (rejecting the null hypothesis when it is true). There is also an increased likelihood of finding that a result is not statistically significant, which increases the probability of making a Type II error (accepting the null hypothesis when it is false). In these cases, the with-replacement estimation from Stata and SAS can be considered to yield "conservative" results because the probability of a Type I error, which researchers typically regard as a more serious concern, is reduced.

However, our analysis suggests that the bias that can be expected from with-replacement estimation can vary markedly by subpopulation. For subpopulations where with-replacement estimation tends to understate the standard errors, using Stata or SAS results in a possibly substantial increase in the likelihood of making a Type I error. Therefore, **we do not recommend using Stata or SAS (or any other software package that uses the with-replacement assumption) for subpopulations in the Physician Survey** unless you have investigated the bias in the standard error estimates specifically for that subpopulation.

[28] Geographic clustering is one sample characteristic that might be important.

4.3.3. Obtaining and Using Sampling Parameters for Other Software Packages

Sampling parameters for use with Stata and SAS are provided on the restricted use data file for the 2004-05 Physician Survey. Table 4.5 shows which parameters should be used for which types of estimates, and Appendix F provides specific examples of how those parameters are used in Stata and SAS. These sampling parameters were constructed directly from the SUDAAN parameters that are described in Section 4.2 (see Appendix E if you are interested in the exact definitions).

If you would like to use Stata or SAS with data from the 1996-97 and/or 1998-99 surveys, then you will need to construct the sampling parameters for the earlier surveys, since they are not provided on the data files. This can be done using the SUDAAN parameters that already are included in the 1996-97 and 1998-99 data files. Instructions on how to construct the new parameters are provided in Appendix D of the 2000-01 Physician Survey Restricted Use File User's Guide. 2000-01 sampling parameters for Stata and SAS are already included on the 2000-01 Restricted Use File.

TABLE 4.5

GUIDELINES FOR SPECIFICATION
OF DESIGN VARIABLES IN STATA AND SAS

Stata Statements	SAS Statements	Site-Specific Estimates	National Estimates (Full Sample)	National Estimates (In-Site Sample)	National Estimates (Panel sample)
strata	stratum	Not available[a]	STRATAWR	PSTRAWR	Not available[a]
psu	cluster	Not available[a]	PSUWR	PPSUAWR	Not available[a]
pweight	weight	WTPHY1	WTPHY4	WTPHY5	WTPAN2

[a] For Physician Survey site-specific estimates and national estimates from the panel sample, only SUDAAN can estimate variances correctly. For those types of estimates, investigation of whether and how Stata and SAS variance estimates differ systematically from SUDAAN estimates has not been performed and we cannot provide guidance for using any other statistical software packages besides SUDAAN.

CHAPTER 5

VARIABLE CONSTRUCTION AND EDITING

The CTS Physician Survey Restricted Use File contains three types of variables: unedited variables, edited variables, and constructed variables created from edited or unedited variables.[29] This chapter provides a general description of the types of constructed and edited variables in the file, as well as additional details on selected variables.

The information in this chapter supplements the information provided in the "Description" field of the file's codebook. Users are encouraged to review this information along with the questionnaire provided in Appendix A for a better understanding of the questionnaire structure, skip patterns, and other characteristics of the variables reported on the file.

5.1. EDITED VARIABLES

The CTS Physician Survey data were collected via computer-assisted telephone interviewing (CATI). The CATI editing functions included consistency checks and editing of some skip patterns and outlier values. This section describes the editing that followed the CATI data collection, including logical editing, imputation of missing values, and editing for confidentiality. Verbatim text responses were also reviewed and coded.

5.1.1. Logical Editing

Logical editing was performed to resolve inconsistencies among related variables and to resolve skip pattern inconsistencies. For example, question A6 (YRBGN), pertaining to the year the physician began practicing medicine, was asked of all physicians. There were cases where the reported year in which the physician began to practice was before his/her reported year of medical school graduation. In these cases, the value for YRBGN was changed to make it three years later than the graduation year (for primary care physicians) or five years later than the graduation year (for specialists).

Logical editing also included review and resolution of inconsistencies after data imputation was performed.

[29] In general, unedited variables are those that contain the original response to a single questionnaire item.

5.1.2. Imputation of Missing Values

Missing values for selected variables were imputed using unweighted and weighted sequential hot-deck imputation.[30] Variables were selected for imputation according to their level of missing data and analytic importance. For some variables, the imputation process for physicians in the panel sample made use of data for those physicians from the 2000-01 survey.[31] Table 5.1 lists the variables selected for imputation and their nonresponse rates.

An imputation flag is included for variables with imputed values. A value of "1 Imputation" for the imputation flag indicates that the value of the corresponding variable was imputed.

The definition of the imputation flag for PMC (the percent of practice revenue from managed care) has been changed for Round Four. In prior rounds, the imputation flag identified imputed values for practices that received managed care revenues but did not report managed care contracts. The Round Four definition was expanded to also identify imputed values for practices that reported having managed care contracts. The change was made to make the imputation flag _PMC consistent with the percentage revenue variable PMC.

5.1.3. Editing for Confidentiality

With the exception of one variable (INCOMET), data in the Restricted Use File have not been manipulated or edited for confidentiality. Income was masked by top-coding (at $400,000), and therefore we do not recommend calculating mean income.

5.1.4. Editing Verbatim Responses

For several questionnaire items, respondents were allowed to provide "other" verbatim responses when none of the existing response categories seemed to apply. Although these verbatim responses are excluded from the Restricted Use File, many of them were reviewed and coded into an appropriate existing or new categorical value.

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[30] In sequential hot-deck imputation, persons with missing values, or "recipients," are linked to persons with available values, or "donors," to fill in the missing data. The donors and recipients are first classified into strata and then sorted within each strata using classification/sort variables such as gender, PCP status, and year when physician began practicing medicine. (The number of strata is limited by a minimum donor-to-recipient ratio that must be satisfied within each stratum). Donors are then assigned to recipients with similar characteristics within their stratum. In weighted hot-decking, donor and recipient weights are used to help determine the assignment of donors to recipients so that means and proportions calculated using the imputed data will equal means and proportions obtained using only donor data. In general, weighted hot-decking was performed for data with more than 5 percent missing values.

[31] On the Restricted Use File, those variables are PMCAID, PMCARE, HRFREE, PMC, and PCAPREV.

TABLE 5.1

IMPUTED VARIABLES ON THE 2004-05 PHYSICIAN SURVEY RESTRICTED USE FILE

Description	Variable Name	Nonresponse Rate[a]
Section B:		
Weeks worked	WKSWRKC	< 1%
Hours worked in medical activities	HRSMED	< 1%
Hours worked in patient care	HRSPAT	< 1%
Hours worked in charity	HRFREE	9%
Percent of patients that are Asian or Pacific Islander	ASIAPT	1%
Percent of patients that are African-American or Black	BLCKPT	1%
Percent of patients that are Hispanic	HISPPT	1%
Location of charity care	LOCFREE	6%
Section C:		
Ownership status	OWNPR	< 1%
Number of physicians	NPHYS	<1%
Influence of financial incentives on services	INCENT	4%
Setting for seeing patients	SETTING	1%
Section D:		
Percent of patients for whom physician is gatekeeper	PCTGATE	3%
Patients with prescription coverage with formulary	FORMLRY	12%
Awareness of formal written guidelines	AWRGUID	12%
Percent of hospitalized patients with hospitalist	HSPLST	3%
Section F:		
Accepting Medicare patients	NWMCARE	9%
Accepting Medicaid patients	NWMCAID	3%
Accepting privately insured patients	NWPRIV	3%
Accepting uninsured patients unable to pay	NWNPAY	5%
Section G:		
Percent Medicare revenue	PMCARE	17%
Percent Medicaid revenue	PMCAID	15%
Percent captitated revenue	PCAPREV	17%
Number of managed care contracts	NMCCON	33%
Percent of practice revenue from managed care	PMC	20%
Section H:		
Income	INCOMET	18%

[a] Imputation rate among applicable cases for that variable.

5.2. CONSTRUCTED VARIABLES

Constructed variables include the following:

- Weights and other sampling variables
- Other variables constructed for analytical value. These are variables that combine one or more original question items for the convenience of analysts.

Constructed variables are indicated in the file's codebook by a value of "N/A" (Not Applicable) in the "Question" field. Information on how they were constructed appears in the "Description" field. Table 5.2 contains additional background on some of the more complex constructions.

5.3. IDENTIFICATION, GEOGRAPHIC, AND FRAME VARIABLES

Not all variables on the Restricted Use File were obtained directly from survey respondents via the CATI questions. Additional variables include the physician identifier and other survey administration variables relating to demographic information from the sample frame.

- The physician identifier variable on the Restricted Use File is called PHYSIDX. For the panel sample, the variable that indicates the identifier (PHYSIDX) for each physician in the Round Three (2000-01) survey is R3PHYIDX.

- The following variables contain demographic information from the sample frame from the American Medical Association (AMA) and the American Osteopathic Association (AOA): DOCTYP (MD or osteopath), IMGSTAT and IMGUSPR (foreign medical school graduate), GRAD_YR (year graduated from medical school), GENDER (gender), BIRTH (year of birth), and AMAPRIM (the frame definition of primary care physicians).

The Restricted Use File has these geographic identifiers:

- SITEID identifies the physician's practice location. A value of 0 indicates that the physician's practice location is outside of the 60 sites. Values 1 to 60 indicate those with a practice location within one of the 60 sample sites. (See Chapter 2 for a discussion of the sample design.)

- FIPS is the state and county code for the physician's practice location.

- MSACAT is the type of metropolitan area in which the physician practices (large metro, small metro, and nonmetro). MSACAT reflects the strata used in selection of the sites, and therefore the distinction between "large" and "small" is based on whether the population count for the Metropolitan Statistical Area (MSA) in 1992 was greater or less than 200,000. (See Chapter 2 for a discussion of site selection.)

5.4. ADDITIONAL DETAILS ON SELECTED SURVEY VARIABLES

Table 5.2, organized by questionnaire section, provides "helpful hints" about variables (singly or in sets), discusses a variable's relationship with other variables, and suggests when to use a specific variable. This information supplements the variable-specific details contained in the file's codebook.

There has been a major change to one series of questions and associated variables included in both the 2000-01 and the 2004-05 surveys: the base question regarding the respondent's ability to obtain needed services (referrals, non-emergency hospital care, diagnostic imaging, outpatient mental health services) was changed significantly. Comparisons between 2004-05 estimates and previous rounds are not meaningful for these variables. We have changed the 2004-05 variable names to prevent confusion. Moreover, the change in the base question also means that the universe of respondents asked about reasons for not being able to obtain a given service (referrals, non-emergency hospital care, outpatient mental services) is different in 2004-05 than previously. Even though the variable names in 2004-05 are similar to those in 2000-01, comparisons between rounds are also not meaningful for these variables.

To find out whether there were any minor changes to a variable that you are using, you should review the codebooks.

TABLE 5.2

ADDITIONAL INFORMATION ON SURVEY QUESTIONS
BY QUESTIONNAIRE SECTION

Variable	Additional Information
Section A Variables: Introduction	
YRBGN	YRBGN comes from question A6, which asks for the year that the physician began medical practice. Examination of certain responses to this question indicates that some respondents replied with the number of years in practice rather than the actual year commencing practice. For these cases, YRBGN was set to the interview year minus the initial response to question A6. For physicians who did not respond to this question or for whom his/her medical school graduation year occurred after the reported value for YRBGN, YRBGN was reset to graduation year + 3 for primary care physicians and graduation year + 5 for specialists. If graduation year was also missing, then YRBGN was set to be BIRTH + 30 for primary care physicians and BIRTH + 32 for specialists.
PCPFLAG	PCPFLAG is a constructed flag variable that indicates whether the physician is a primary care physician (PCPFLAG=1) or a specialist (PCPFLAG=0). The variable is constructed based on responses to questions A8, A10, A9, A9a, and A9b PCPFLAG=1 if the physician's specialty (A8 or A10) is one of the following: Family practice (019) Geriatric medicine (020, 043) General practice (023) Adolescent medicine (085, 133) OR if the physician's specialty (A8) is one of the following: Internal medicine (042) Pediatrics (088) Internal medicine – pediatrics (137) Internal medicine – family practice (195) AND the physician spends most of his/her time in one of those specialties [(A9=1) or (A9=2 and A10 = 042, 088, 137, or 195)] OR if the physician is an adult specialist and spends more time practicing general internal medicine than his/her subspecialty (A9a=2 or 3) OR if the physician is a pediatric specialist and spends more time practicing general pediatrics than his/her subspecialty (A9b=2 or 3) PCPFLAG is the survey definition for primary care physician. There is another flag on the file, AMAPRIM, which also indicates primary care status based on the AMA/AOA sample frame data. AMAPRIM=1 for primary care physicians and 0 for specialists and may differ from PCPFLAG.

TABLE 5.2

ADDITIONAL INFORMATION ON SURVEY QUESTIONS,
BY QUESTIONNAIRE SECTION
(Continued)

Variable	Additional Information
SPECX	SPECX is a constructed variable based on responses to questions A8 (physician's specialty) and A10 (physician's subspecialty). The two survey questions are combined into one variable and then divided into categories according to the type of specialty. The grouping of specialties is as follows. The numbered codes were created for the survey based on AMA and AOA physician specialty classifications. The following specialty codes are new for the 2004-05 survey: 401, 403, 404, 406 and 408. 1: Internal Medicine 042: Internal medicine 043: Geriatric medicine 085: Adolescent medicine - family practice 195: Internal medicine – family practice 2: Family/General Practice 019: Family practice 020: Geriatrics-general/family 023: General practice 403: Family medicine 3: Pediatrics 088: Pediatrics 133: Adolescent medicine 137: Internal med- pediatrics *(continued on next page)*

TABLE 5.2

ADDITIONAL INFORMATION ON SURVEY QUESTIONS,
BY QUESTIONNAIRE SECTION
(Continued)

Variable	Additional Information
SPECX	*(continued from previous page)* 4: Medical Specialties 001: Allergy 002: Allergy & Immunology 004: Immunology 007: Pain Management 008: Critical care-Anesthesiology 009: Cardiovascular Disease-Cardiology 012: Dermatology 015: Emergency Medicine 016: Sports Medicine-Emergency Medicine 017: Pediatric Emergency Medicine 021: Sports Medicine-Family/GeneralPractice 022: Gastroenterology 024: Preventive Medicine 035: Diabetes 036: Endocrinology 037: Hematology 038: Hepatology 039: Cardiac Electrophysiology 040: Infectious Diseases 041: Clinical & Laboratory Immunology 044: Sports Medicine 045: Nephrology 046: Nutrition 047: Oncology 048: Rheumatology 049: Clinical Biochemical Genetics 050: Clinical Cytogenetics 051: Clinical Genetics 052: Clinical Molecular Genetics 053: Medical Genetics 054: Child Neurology 055: Clinical Neurophysiology 056: Neurology 068: Occupational Medicine 086: Pediatric Intensive Care 087: Neonatology 089: Pediatric Allergy 090: Pediatric Endocrinology 091: Pediatric Pulmonology 092: Pediatric Gastroenterology 093: Pediatric Hematology/Oncology 094: Clinical & Laboratory Immunology 095: Pediatric Nephrology 096: Pediatric Rheumatology 097: Sports Medicine (Pediatrics) 098: Pediatric Cardiology 100: Physical Medicine & Rehab 116: Pulmonary Diseases 120: Neuroradiology 123: Radiation Oncology 128: Critical Care-Medicine 136: Hematology & Oncology 142: Pain Medicine [AMA]-Psychosomatic Medicine [AOA] 143: Palliative Medicine 144: Pediatric Emergency Medicine 145: Pediatric Infectious Diseases 147: Pulmonary-Critical Care 149: Sleep Medicine 150: Spinal Cord Injury 155: Osteo Manipulative Treat 156: Spec Prof in Osteo Manip Med 157: Sports Medicine-OMM 158: Osteo Manipulative Medicine 159: Proctology 165: Vascular Medicine 193: Pediatric Emergency Medicine 194: Interventional Cardiology 196: Internal Medicine-Preventive Medicine 197: Otology-Neurotology 200: Physical Medicine and Rehabilitation (Pediatrics) 201: Hospitalists 202: AIDS/HIV Specialist 210: Developmental Medicine 308: Internal Medicine – Emergency Medicine 309: Sports Medicine (Phys Med & Rehab) [AMA], Geriatrics-Internal Medicine [AOA] 311: Neurology – Physical Medicine & Rehabilitation 404: Neurodevelopmental Disability *(continued on next page)*

TABLE 5.2

ADDITIONAL INFORMATION ON SURVEY QUESTIONS,
BY QUESTIONNAIRE SECTION
(Continued)

Variable	Additional Information
SPECX	*(continued from previous page)* 5. Surgical Specialties 011: Colon & Rectal Surgery 026: Abdominal Surgery 027: Critical Care Surgery 029: General Surgery 030: Head & Neck Surgery 031: Hand Surgery 032: Pediatric Surgery 033: Traumatic Surgery 034: Vascular Surgery 058: Critical Care-Neurosurgery 059: Neurological Surgery 060: Pediatric Neurosurgery 061: Gynecological Oncology 063: Maternal & Fetal Medicine 066: Critical Care-Obstetrics & Gynecology 067: Reproductive Endocrinology 069: Ophthalmology 070: Hand Surgery 071: Adult Reconstructive Orthopedics 072: Musculoskeletal Oncology 073: Pediatric Orthopedics 074: Orthopedic Surgery 075: Sports Medicine (Orthopedic Surgery) 076: Orthopedic Surgery of the Spine 077: Orthopedic Trauma 078: Facial Plastic Surgery 079: Otology 080: Otolaryngology 081: Pediatric Otolaryngology 101: Hand Surgery 102: Plastic Surgery 124: Cardiothoracic Surgery 125: Urology 126: Pediatric Urology 134: Foot & Ankle Orthopedics 146: Pediatric Ophthalmology 151: Surgical Oncology 152: Transplant Surgery 153: MOHS Micrographic Surgery 154: Hair Transplant 164: Dermatologic Surgery 190: Cardiovascular Surgery 198: Pediatric Cardiothoracic Surgery 401: Cosmetic Surgery 406: Oral and Maxillofacial Surgery 408: Plastic Surgery with the Head and Neck 6: Psychiatry 010: Pediatric Psychiatry 082: Psychiatry 083: Psychoanalysis 084: Geriatric Psychiatry 127: Addictive Diseases 132: Addiction Psychiatry 192: Pediatrics – Psychiatry – Child and Adolescent 312: Psychiatry – Family Practice 7: Obstetrics/Gynecology 062: Gynecology 064: Obstetrics & Gynecology 065: Obstetrics

TABLE 5.2

ADDITIONAL INFORMATION ON SURVEY QUESTIONS,
BY QUESTIONNAIRE SECTION
(Continued)

Variable	Additional Information
Section B Variables: Utilization of Time	
HRSMED	HRSMED is a constructed variable that defines the number of hours (during the past week) spent in medically related activities. This question could be asked up to three times in three different ways by the CATI system, checking for data consistency each time. HRSMED is constructed from responses to survey questions B2, B3c, and B4. If HRSPAT (the number of hours spent in direct patient activities) was greater than HRSMED, then HRSMED was imputed.
HRSPAT	HRSPAT is a constructed variable that defines the number of hours (during the past week) spent in direct patient care activities. This question could be asked up to three times in three different ways by the CATI system, checking for data consistency each time. HRSPAT is constructed from responses to survey questions B3, B3d, and B5. If HRSPAT was greater than HRSMED (after imputation of both variables) then HRSPAT was set equal to HRSMED.

TABLE 5.2

ADDITIONAL INFORMATION ON SURVEY QUESTIONS,
BY QUESTIONNAIRE SECTION
(Continued)

Variable	Additional Information
Section C Variables: Type and Size of Practice	
TOPOWN TOPOWNC	TOPOWN (type of practice ownership) is a variable that comes from survey question C2. TOPOWNC is a constructed variable that is a corrected version of TOPOWN. It is "corrected" or edited by incorporating the response to question C9 that asks if the practice is a group model HMO (or exclusively provides services to a group model HMO). If the physician indicated (from the response to question C9) that he/she works in a practice that is a group model HMO, then TOPOWNC was set equal to "9: Group model HMO".
TOPEMP TOPEMPC TOPEMPA	TOPEMP (type of employer) is a variable that comes from survey question C3. TOPEMPC is a constructed variable that is a corrected version of TOPEMP. It is "corrected" or edited by incorporating the response to question C9 that asks if the practice is a group model HMO (or exclusively provides services to a group model HMO). If the physician indicated (from the response to question C9) that he/she works in a practice that is a group model HMO, then TOPEMPC was set equal to "9: Group model HMO". TOPEMPA is a constructed variable that combines the responses of TOPEMPC and survey question C3b (EMPTYP). The following values for TOPEMPC and EMPTYP were coded to "1: Other" in TOPEMPA: 1: Other 11: Other insurance 14: City, county, state government 15: Integrated health 16: Freestanding clinic 17: Physician practice management 18: Community health center 19: Management services organization (MSO) 20: Physician hospital organization (PHO) 21: Locum tenens 22: Foundation 25: Independent contractor 26: Industry clinic

TABLE 5.2

ADDITIONAL INFORMATION ON SURVEY QUESTIONS,
BY QUESTIONNAIRE SECTION
(Continued)

Variable	Additional Information
PRCTYPE	PRCTYPE is a constructed variable that summarizes the type of practice in which the physician works. It combines information about ownership and employment and is constructed as follows: 1: Solo/two physician practice — TOPOWNC=solo or two-physician practice OR TOPEMPA=solo or two-physician practice 2: Group>=three physicians — TOPOWNC=three or more physicians OR TOPEMPA=three or more physicians 3: HMO — TOPOWNC=Group model HMO or staff Model HMO OR TOPEMPA=Group model HMO or staff Model HMO 4: Medical school — TOPEMPA=Medical school or university 5: Hospital based — TOPEMPA=Nongovernment hospital OR TOPEMPA=City, county, state government AND OTHSET(C3a)=hospital 6: Other — All other responses Note that all physicians who work for a state or local government hospital are classified as "Hospital Based" in PRCTYPE but as "Other" in TOPEMPA.
GRTYPE	GRTYPE is a constructed variable that combines responses to questions C2a, C2b, C2c, C3aa, C3ab, C3ac, C3ca, C3cb, and C3cc for physicians working in a group practice of 3 or more physicians. If the physician's response to C2a , C3aa, or C3ca is that he/she is working in a single-specialty practice, then the practice is considered a single specialty practice. Otherwise, the practice is considered a multi-specialty practice. Information from the other questions listed above is used to determine the type of physician – PCP or specialist – within the single or multi-specialty practice.

TABLE 5.2

ADDITIONAL INFORMATION ON SURVEY QUESTIONS,
BY QUESTIONNAIRE SECTION
(Continued)

Variable	Additional Information
Section G Variables: Practice Revenue	
PCAPREV	PCAPREV is a constructed variable indicating the percent of the practice's total patient care revenue paid on a capitated or other prepaid basis. PCAPREV is constructed from responses to: G3, G7b, G8c, and G8g (questions that asked about percentage of practice revenue paid on a capitated or other prepaid basis). Post imputation edits were performed on this variable as follows: Capitated revenue is a subset of managed care revenue. Therefore, if PCAPREV>PMC (percent managed care revenue) and both PCAPREV and PMC were imputed, then PCAPREV was edited to be equal to PMC. If there is only one managed care contract and all managed care revenue is capitated revenue, then the capitated revenue must be equal to all managed care revenue. Therefore, if NMCCON (number of managed care contracts)=1 **AND** PCAPREV was imputed and PMC was not imputed then PCAPREV was edited to be equal to PMC.
PMC	PMC is a constructed variable indicating the percentage of the practice's total patient care revenue obtained from managed care. PMC is constructed from responses to: G7, G7a, G8, G8b, and G8f (questions that asked about percentage of practice's revenue that comes from managed care). Capitated revenue is a subset of managed care revenue. Therefore, this variable was edited in the following way: a. If PCAPREV (percent capitated revenue)>PMC , then PMC was edited to be equal to PCAPREV. In addition, a post-imputation edit was performed: b. If PCAPREV>PMC AND PMC was imputed, but PCAPREV was not imputed, then PMC was edited to be equal to PCAPREV.

CHAPTER 6

FILE DETAILS

This chapter provides an overview of the file content and technical specifications for programmers. It also describes the variable naming and coding conventions that were used on the file and that appear in the file's codebook.

6.1. FILE CONTENT AND TECHNICAL SPECIFICATIONS

The CTS Physician Survey Restricted Use File contains 6,628 person records. The unique record identifier and sort key is the variable PHYSIDX. Variables are positioned on the file in the following order:

- Survey administration variables: this group includes identifiers and other variables associated with conducting the survey
- Variables from Sections A-H of the Physician Survey questionnaire: Variables are ordered within each section by related questionnaire item number
- Weight variables and variables indicating sample design

The Restricted Use File is provided as an ASCII-formatted file with the following technical specifications:

File name:	CTSR4PR1.TXT
Number of observations:	6,628
Number of variables:	203
Logical record length:	644 bytes

The file contains a two-byte carriage return/line feed at the end of each record. When you are converting to a PC-SAS file, use the LRECL option to specify the record length to avoid the default PC-SAS record length. If the RECFM=V option is used, the LRECL option must be specified as the logical record length (644). If RECFM=F is used, the LRECL value must be specified as the logical record length plus two (646). Note that if the RECFM option is omitted, then the default option of RECFM=V will be used, and LRECL must be specified as the logical record length (644). When you are converting to an SPSS file, use the "FIXED" option of the DATA LIST command, and read values according to column location specified by the column position after each variable name.

The record layout for this file is provided in the file's codebook.

6.2. VARIABLE NAMING CONVENTIONS

In general, a variable name reflects the content of the variable. For the following groups of variables, a naming convention was used to provide additional information on variable content:

- ***Imputation Flags.*** These flags indicate whether a record has an imputed value for the corresponding variable. The flag variable has the same name as the variable it describes, and includes the prefix "_". When reading the data into SPSS, imputation flags contain the prefix "I" because SPSS does not recognize the "_" character. For example, _PMC (or IPMC) is the imputation flag corresponding to the variable PMC. Refer to Chapter 5 for more information on imputation and other types of editing procedures used on the file.
- ***Weight.*** The prefix "WT" is used for the weight variable name.
- ***Masked Variables***. Names of variables that were masked for confidentiality reasons end with the value "X.[32]" The variable descriptions contained in the file's codebook indicate whether the variable was masked and provide brief details as to the type of masking performed.

6.3. VARIABLE CODING CONVENTIONS

The following coding conventions are used on the file:

-1 Inapplicable	Question was not asked because of skip pattern (or physician's response to the question indicated that it was not applicable).
-7 Refused	Question was asked and respondent refused to answer.
-8 Don't Know	Question was asked and respondent did not know the answer.
-9 Not Ascertained	Value was not assigned for any other reason.

[32] The one masked variable that doesn't end in "X" is INCOMET. The reason is to distinguish it from INCOMEX on the Public Use File, which has more masking than INCOMET.

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HSC Technical Publications are available on the HSC Web site.
www.hschange.org

Appendix A

The CTS 2004-05 Physician Survey Instrument

CRT

HARD COPY REQUIRED

FINANCE,RWJ59687
F687
ROUND #4

FIELD FINAL - MAY 26, 2004
(Columns are ABSOLUTE)
(Revisions 7/13, 9/2)

THE GALLUP ORGANIZATION

PROJECT REGISTRATION #140157
THE CENTER FOR STUDYING HEALTH SYSTEM CHANGE (RWJ)
City Center: Washington, D.C.
Physicians Study - Round #4
Larsen/McComb/Richter
Brenda Sonksen, Specwriter
July, 2004 n=7,000

X APPROVED BY CLIENT

X APPROVED BY PROJECT MANAGER

I.D.#: _____(1-6)

**AREA CODE AND TELEPHONE NUMBER:

_____ _____
_____ (649 - 658)

**INTERVIEW TIME:

_____ _____
_____ (716 - 721)

(NOTE: All interviews are recorded. The recording begins when the respondent answers the phone. This statement is read after the "Continue" response is entered after the Introduction and before the first question) This call will be recorded for quality assurance.

1 (Continue)
2 (Refused) - **(Thank and Terminate)** _____(984)

SPECIALTY: **(Code from fone file) **(SURVENT NOTE: Show on Introduction screen)**

SPCLTY

_____ _____
_____ (55 - 57)

STATE: **(Code from fone file)

01	Alabama - SC	30	Montana - W
02	Alaska - W	31	Nebraska - NC
04	Arizona - W	32	Nevada - W
05	Arkansas - SC	33	New Hampshire - NE
06	California - W	34	New Jersey - NE
08	Colorado - W	35	New Mexico - W
09	Connecticut - NE	36	New York - NE
10	Delaware - SC	37	North Carolina - SC
11	Washington D.C. - SC	38	North Dakota - NC
12	Florida - SC	39	Ohio - NC
13	Georgia - SC	40	Oklahoma - SC
15	Hawaii - W	41	Oregon - W
16	Idaho - W	42	Pennsylvania - NE
17	Illinois - NC	44	Rhode Island - NE
18	Indiana - NC	45	South Carolina - SC
19	Iowa - NC	46	South Dakota - NC
20	Kansas - NC	47	Tennessee - SC
21	Kentucky - SC	48	Texas - SC
22	Louisiana - SC	49	Utah - W
23	Maine - NE	50	Vermont - NE
24	Maryland - SC	51	Virginia - SC
25	Massachusetts - NE	53	Washington - W
26	Michigan - NC	54	West Virginia - SC
27	Minnesota - NC	55	Wisconsin - NC
28	Mississippi - SC	56	Wyoming - W
29	Missouri - NC		

_____ _____
_____ (58) (59)

COUNTY: **(Code from fone file)

_____ _____
_____ (60 - 62)

SECTION A
INTRODUCTION AND SCREENING; LOCATION; BOARD CERTIFICATION; SATISFACTION

S1. DOCTOR TYPE: **(Code from fone file)**
DOCTYP

1 MD
2 DO _____(63)

S1b. REPLICATE NUMBER: **(Code from fone file)**
REPLICAT

[SET BY JOHN SELIX]

S1c. PANEL: **(Code from fone file)**
PANEL

1 New
2 Re-interview
3 Non-respondent _____(64)

(There are no questions S1d-S1f)

S2. DOCTOR NAME: **(Code from fone file)**

_____ _____
_____ (65 - 105)

S3. PRIMARY SPECIALTY: **(Code from fone file)**

_____ _____
_____ (55 - 57)

S4. SITE NUMBER: **(Code from fone file)**

_____ _____
_____ (148 - 150)

S5. SITE TYPE: **(Code from fone file)**
STYPE

1 High intensity
2 Low intensity/National _____(150)

S6. ZIP CODE: **(Code from fone file)**
ZIP

_____ (151 - 155)

S6a. PRESEND CHECK EXPERIMENT: **(Code from fone file)**

PRECHK

1 Yes
2 No _____(156)

(Question Sa deleted)

(Question Si deleted) HOLD _____(1101-1102)

(SURVENT NOTE: Display Doctor's name at top of screen)

**(If code 1 or 3 in S1c, Continue;
Otherwise, Skip to Introduction #2)**

INTRODUCTION #1
HELLO1

Hello, Dr. **(name from fone file)**, my name is _____, from The Gallup Organization. A short time ago, you should have received a letter from the Robert Wood Johnson Foundation indicating that Gallup is conducting a national survey of physicians for the Foundation. The survey is part of a study of changes in the health care system in communities across the nation. It concerns how such changes are affecting physicians, their practices, and the health care they provide to their patients.

The interview will take about 20 minutes and we are providing an honorarium of $25 as a small token of our appreciation. All the information you provide will be kept strictly confidential. It will be used in statistical analysis and reported only as group totals. I can conduct the interview now or at any time that's convenient for you.

0 Gatekeeper soft refusal

1 Respondent available - **(Skip to A1)**

2 Gatekeeper not available - **(Set time to call back)**

3 No longer works/Lives here - **(Skip to S8)**

4 Never heard of respondent - **(Skip to S7)**

5 Gatekeeper hard refusal

6 Answering service/Can't ever reach physician at this number - **(Skip to S11)**

7 Physician not available - **(Set time to call back)**

8 Physician soft refusal

9 Physician hard refusal _____(1052)

INTRODUCTION #2

HELLO2

Hello, Dr. **(name from fone file)**, my name is _____, from The Gallup Organization. You should have received a letter from the Robert Wood Johnson Foundation indicating that Gallup would be calling you again to participate in the fourth round of the study of changes in the health care systems in communities across the nation. The study concerns how these changes are affecting physicians, their practices, and the health care they provide to their patients.

The interview will take about twenty minutes, and we are again providing an honorarium of $25 as a small token of our appreciation. All the information you provide will be kept strictly confidential. It will be used in statistical analysis and reported only as group totals. I can conduct the interview now, or at any time that's convenient for you.

0 Gatekeeper soft refusal

1 Respondent available - **(Skip to A1)**

2 Gatekeeper not available - **(Set time to call back)**

3 No longer works/Lives here - **(Skip to S8)**

4 Never heard of respondent - **(Continue)**

5 Gatekeeper hard refusal

6 Answering service/Can't ever reach physician at this number - **(Skip to S11)**

7 Physician not available - **(Set time to call back)**

8 Physician soft refusal

9 Physician hard refusal _____(1052)

S7. **(If code 4 in Introduction, ask:)** I would like to verify that I have reached **(phone number from fone file)**.

VPHONE

1 Yes - **(Thank and Terminate; Skip to S11)**

2 No - **(READ:)** I am sorry to have bothered you. - **(Reset to Introduction)**

3 (DK) **(Thank and Terminate; Skip to Directory Assistant)**

4 (Refused) **(Thank and Terminate; Skip to Directory Assistant)** _____(2418)

S8. **(If code 3 in Introduction, ask:)** Dr. **(response in S2)** is a very important part of a medical study for the Robert Wood Johnson Foundation. Do you have the address or telephone number where I can reach (him/her)?

DIFFADR

1 Yes - **(Skip to S10)**

2 No/Unknown **(Continue)**
3 (DK) **(Continue)**
4 (Refused) **(Continue)**

5 (Retired) - **(Thank and Terminate)** _____(2419)

S9. **(If code 2, 3, or 4 in S8, ask:)** Do you happen to know if the doctor is still in this area, or is (he/she) in another city?

WHERE

1 Same area - **(Thank and Terminate; Skip to S11)**

2 Different city - **(Continue)**

3 (DK) **(Thank and Terminate; Skip to S11)**
4 (Refused) **(Thank and Terminate; Skip to S11)** _____(2420)

S10. **(If code 2 in S9 OR code 1 in S8:)** ENTER PHONE NUMBER AND ADDRESS OR AS MUCH OF IT AS POSSIBLE.

NWPHONE

WORK PHONE NUMBER:

_____ _____
(2421 - 2430)

_____

NWHPHON

HOME PHONE NUMBER:

_____ _____
(2441 - 2450)

_____

NWADDR

STREET ADDRESS:

_____ _____
(2892 - 2931)

_____

NWCITY

CITY:

_____ _____
(2591 - 2620)

_____

NWSTATE

STATE:

_____ _____
(2431) (2432)

_____

NWZIP

ZIP CODE:

_____ _____
(2433 - 2437)

_____

**(All in S10, Thank and Terminate;
Call new number and Reset to Introduction;
If BLANK in WORK PHONE NUMBER and
HOME PHONE NUMBER in S10, Continue)**

S11. ***(FDIRECTA)*** **(If code 1, 3, or 4 in S7, OR code 6 in Introduction, OR code 1, 3, or 4 in S9, OR BLANK in WORK PHONE NUMBER and HOME PHONE NUMBER in S10:) (Call directory assistance for most recent city or area code. Ask for directory assistance using full name from fone file.)**

(Original phone number from fone file)

(Original city from fone file) or **(CITY from S10)**

(Name from fone file)

DIRPHONE

1 New number - **(Enter on next screen)**

2 No number/Match - **(Thank and Terminate; Save Case ID)** _____(894)

(All in S11, call new number, and Reset to Introduction)

CLOCK:

_____ _____
_____ (-)

A1. Are you currently a full-time employee of a federal agency such as the U.S. Public Health Service, Veterans Administration, or a military service? **(Probe:)** Do you receive your paychecks from a federal agency? **(If respondent works part-time for a Federal Agency, ask:)** Do you consider this (Federal Agency) your main practice?

FEDEMP

1 Yes - **(Continue)**

2 No - **(Skip to A2)**

3 Retired - **(Thank and Terminate, and Set to "Failed Screener")**

4 Out of country **(Thank and Terminate, and Set to "Failed Screener")**

5 Institutionalized **(Thank and Terminate, and Set to "Failed Screener")**

8 (DK) **(Thank and Terminate)**
9 (Refused) **(Thank and Terminate)** _____(1053)

(If code 1 in A1, READ:) In this survey, we will not be interviewing physicians who are Federal employees. So it appears that we do not need any further information from you at this time, but we thank you for your cooperation. - **(Thank and Terminate)**

A2. Are you currently a resident or fellow?

RESFEL

1 Yes - **(Continue)**

2 No - **(Skip to A3)**

8 (DK) **(Thank and Terminate)**
9 (Refused) **(Thank and Terminate)** _____(1054)

(If code 1 in A2, READ:) In this survey, we will not be interviewing physicians who are residents or fellows. So it appears that we do not need any further information from you at this time, but we thank you for your cooperation. - **(Thank and Terminate)**

A3. During a TYPICAL week, do you provide direct patient care for at least twenty hours a week? **(INTERVIEWER NOTE:) (If necessary, say:)** Direct patient care includes seeing patients and performing surgery. **(If necessary, say:)** INCLUDE time spent on patient record-keeping, patient-related office work, and travel time connected with seeing patients. EXCLUDE time spent in training, teaching, or research, any hours on-call when not actually working, and travel between home and work at the beginning and end of the work day.

FULLTIM

1 Yes - **(Skip to Note before A5)**

2 No - **(Continue)**

8 (DK) **(Thank and Terminate)**
9 (Refused) **(Thank and Terminate)** _____(1055)

(If code 2 in A3, READ:) In this survey, we will not be interviewing physicians who typically provide patient care for less than 20 hours a week. So it appears that we do not need any further information from you at this time, but we thank you for your cooperation. - **(Thank and Terminate)**

[Deleted Note]

(Questions A3a-A4a deleted)

(If BLANK in **COUNTY, Skip to A5a; Otherwise, Continue)

A5. We'd like you to think about the practice location at which you spend the greatest amount of time in direct patient care. Is this practice located in **(county and state from fone file)**? **(INTERVIEWER NOTE: Surgeons should give the location of their office, not the hospital where they perform surgery.)**

LOCCHK

1 Yes - **(Skip to Note before A5b)**

2 No **(Continue)**
8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____(2634)

A5a. **(If code 2, 8, or 9 in A5 OR If BLANK in **COUNTY, ask:)**
In what county and state is the practice located. (Open ended) **(VERIFY SPELLING)**

DK (DK)
RF (Refused)

SCNTY

COUNTY:

_____ _____
_____ (2834 - 2858)

SSTATE

STATE:

_____ _____
_____ (2859) (2860)

(If code 15 or 02 in A5a - State, Continue; Otherwise, Skip to A5b)

(READ:) We are not interviewing physicians in your state at this time. So it appears that we do not need any further information from you, but we thank you for your cooperation. - **(Thank and Terminate)**

A5b. What is the zip code of your practice? (Open ended **and code all five digits of zip code)**

SZIP

99998 (DK)
99999 (Refused)

_____ _____
_____ (1618 - 1622)

(If code 2 in S1c, Skip to A7; Otherwise, Continue)

A6. In what year did you begin medical practice after completing your undergraduate and graduate medical training? **(INTERVIEWER NOTE: A residency or fellowship would be considered graduate medical training.)** (Open ended **and code all four digits of year)** **(SURVENT NOTE: Force interviewers to enter FOUR DIGITS)**

YRBGN

DK (DK)
RF (Refused)

_____ _____
_____ (1623 - 1626)

(If code 999 in S3, Skip to A8; Otherwise, Continue)

A7. We have your primary specialty listed as **(response in S3)**. Is this correct? **(If necessary, say:)** We define primary specialty as that in which the most hours are spent weekly.

SPCCOR

1 Yes - **(Autocode response in S3 into A8)**

2 No - **(Continue)**

8 (DK) **(Thank and Terminate)**
9 (Refused) **(Thank and Terminate)** _____(1065)

A8. **(If code 2 or BLANK in A7, ask:)** What is your primary specialty? **(If necessary, say:)** We define primary specialty as that in which the most hours are spent weekly. (Open ended **and code from hard copy)**
(INTERVIEWER NOTE: Probe for codeable response)

NWSPEC

(If code 1 in S1 [MD-AMA LIST])

301	Abdominal Radiology	(AR)
202	AIDS/HIV Specialist	
001	Allergy	(A)
133	Adolescent Medicine Pediatrics	(ADL)
127	Addiction Medicine	(ADM)
132	Addiction Psychiatry	(ADP)
002	Allergy & Immunology	(AI)
003	Allergy & Immunology/ Diagnostic Laboratory Immunology	(ALI)
005	Aerospace Medicine	(AM)
085	Adolescent Medicine (Internal Medicine)	(AMI)
006	Anesthesiology	(AN)
007	Pain Management	(APM)
026	Abdominal Surgery	(AS)
103	Anatomic Pathology	(ATP)
104	Bloodbanking/Transfusion Medicine	(BBK)
190	Cardiovascular Surgery	(CDS)
008	Critical Care Medicine (Anesthesiology)	(CCA)
050	Clinical Cytogenetics	(CCG)
191	Craniofacial Surgery	(CFS)
128	Critical Care Medicine (Internal Medicine)	(CCM)
086	Critical Care Pediatrics	(CCP)
027	Critical Care Surgery	(CCS)
009	Cardiovascular Disease	(CD)
051	Clinical Genetics	(CG)
054	Child Neurology	(CHN)
010	Child & Adolescent Psychiatry	(CHP)
049	Clinical Biochemical Genetics	(CCG)
105	Clinical Pathology	(CLP)
052	Clinical Molecular Genetics	(CMG)
055	Clinical Neurophysiology	(CN)
011	Colon & Rectal Surgery	(CRS)
401	Cosmetic Surgery	(CS)
124	Cardiothoracic Surgery	(CTS)
012	Dermatology	(D)
164	Dermatologic Surgery	(DS)
013	Clinical & Laboratory Dermatological Immunology	(DDL)
035	Diabetes	(DIA)

A8. (Continued:)

106	Dermatopathology	(DMP)
014	Diagnostic Radiology	(DR)
015	Emergency Medicine	(EM)
308	Internal Medicine/Emergency Medicine	(MEM)
036	Endocrinology, Diabetes & Metabolism	(END)
302	Epidemiology	(EP)
016	Sports Medicine (Emergency Medicine)	(ESM)
402	Endovascular Surgical Neuroradiology	(ESN)
140	Medical Toxicology (Emergency Medicine)	(ETX)
303	Flex Residents	(FLX)
403	Family Medicine	(FM)
018	Forensic Pathology	(FOP)
019	Family Practice	(FP)
020	Geriatric Medicine (Family Practice)	(FPG)
078	Facial Plastic Surgery	(FPS)
021	Sports Medicine (Family Practice)	(FSM)
022	Gastroenterology	(GE)
061	Gynecological Oncology	(GO)
023	General Practice	(GP)
024	General Preventive Medicine	(GPM)
029	General Surgery	(GS)
062	Gynecology	(GYN)
037	Hematology	(HEM)
038	Hepatology	(HEP)
107	Hematology Pathology	(HMP)
030	Head & Neck Surgery	(HNS)
136	Hematology/Oncology	(HO)
070	Hand Surgery Orthopedics	(HSO)
101	Hand Surgery Plastic	(HSP)
031	Hand Surgery	(HSS)
201	Hospitalists	(HOS)
039	Clinical Cardiac Electrophysiology	(ICE)
040	Infectious Diseases	(ID)
004	Immunology	(IG)
041	Clinical & Laboratory Immunology (IM)	(ILI)
042	Internal Medicine	(IM)
194	Interventional Cardiology	(IC)
043	Geriatric Medicine (IM)	(IMG)
044	Sports Medicine	(ISM)
309	Sports Medicine (Physical Medicine and Rehabilitation) (IM)	(PMM)
129	Legal Medicine	(LM)
138	Medical Management	(MDM)
063	Maternal & Fetal Medicine	(MFM)
304	Maxillofacial Radiology	(MXR)
053	Medical Genetics	(MG)
108	Medical Microbiology	(MM)
195	Internal Medicine/Family Practice	(IFP)

A8. (Continued:)

137	Internal Medicine/Pediatrics	(MPD)
099	Public Health & General Preventive Medicine	(MPH)
056	Neurology	(N)
310	Internal Medicine/Neurology	(MN)
311	Neurology/Physical Medicine and Rehabilitation	(NPR)
058	Critical Care Medicine (Neurosurgery)	(NCC)
404	Neurodevelopmental Disability	(NDN)
045	Nephrology	(NEP)
057	Nuclear Medicine	(NM)
109	Neuropathology	(NP)
087	Neonatal/Perinatal Medicine	(NPM)
117	Nuclear Radiology	(NR)
305	Neurology/Diagnostic Radiology/ Neuroradiology	(NRN)
059	Neurological Surgery	(NS)
060	Pediatric Neurosurgery	(NSP)
046	Nutrition	(NTR)
405	Neuropsychiatry	(NUP)
071	Adult Reconstructive Orthopedics	(OAR)
064	Obstetrics & Gynecology	(OBG)
065	Obstetrics	(OBS)
066	OB Critical Care Medicine	(OCC)
134	Foot & Ankle Orthopedics	(OFA)
068	Occupational Medicine	(OM)
406	Oral and Maxillofacial Surgery	(OMF)
072	Musculoskeletal Oncology	(OMO)
047	Medical Oncology	(ON)
073	Pediatric Orthopedics	(OP)
069	Ophthalmology	(OPH)
074	Orthopedic Surgery	(ORS)
028	Other Specialty	(OS)
075	Sports Medicine (Orthopedic Surgery)	(OSM)
076	Orthopedic Surgery of the Spine	(OSS)
079	Otology	(OT)
197	Otology/Neurotology	(NO)
080	Otolaryngology	(OTO)
077	Orthopedic Trauma	(OTR)
082	Psychiatry	(P)
312	Psychiatry/Family Practice	(FPP)
313	Internal Medicine/Psychiatry	(MP)
130	Clinical Pharmacology	(PA)
147	Pulmonary Critical Care Medicine	(PCC)
110	Chemical Pathology	(PCH)
111	Cytopathology	(PCP)
088	Pediatrics	(PD)
089	Pediatric Allergy	(PDA)
306	Pediatric Anesthesiology (Pediatrics)	(PAN)
098	Pediatric Cardiology	(PDC)

A8. (Continued:)

198	Pediatric Cardiothoracic Surgery	(PCS)
193	Pediatric Emergency Medicine	(EMP)
090	Pediatric Endocrinology	(PDE)
145	Pediatric Infectious Diseases	(PDI)
081	Pediatric Otolaryngology	(PDO)
091	Pediatric Pulmonology	(PDP)
192	Pediatrics/Psychiatry/Child & Adolescent Ps	(CPP)
118	Pediatric Radiology	(PDR)
032	Pediatric Surgery	(PDS)
139	Medical Toxicology (Pediatrics)	(PDT)
144	Pediatric Emergency Medicine	(PE)
017	Pediatric Emergency Medicine (Pediatrics)	(PEM)
135	Forensic Psychiatry	(PFP)
092	Pediatric Gastroenterology	(PG)
093	Pediatric Hematology/Oncology	(PHO)
112	Immunopathology	(PIP)
094	Clinical & Laboratory Immunology (Pediatrics)	(PLI)
143	Palliative Medicine	(PLM)
100	Physical Medicine & Rehab	(PM)
314	Internal Medicine/Physical Medicine & Rehabilitation	(MPM)
200	Physical Medicine & Rehabilitation (Pediatrics)	(PMP)
142	Pain Medicine	(PMD)
407	Sports Medicine (Physical Medicine and Rehabilitation)	(PMM)
095	Pediatric Nephrology	(PN)
146	Pediatric Opthalmology	(PO)
113	Pediatric Pathology	(PP)
096	Pediatric Rheumatology	(PPR)
102	Plastic Surgery/Cosmetic Surgery	(PS)
199	Pharmaceutical Medicine	(PHM)
307	Public Health	(PH)
408	Plastic Surgery within the Head and Neck	(PSH)
097	Sports Medicine (Pediatrics)	(PSM)
114	Anatomic/Clinical Pathology	(PTH)
141	Medical Toxicology (Preventive Medicine)	(PTX)
116	Pulmonary Diseases	(PUD)
196	Internal Medicine/Preventive Medicine	(IPM)
083	Psychoanalysis	(PYA)
084	Geriatric Psychiatry	(PYG)
119	Radiology	(R)
067	Reproductive Endocrinology	(REN)
048	Rheumatology	(RHU)
115	Radioisotopic Pathology	(RIP)
120	Neuroradiology	(RNR)

A8. (Continued:)

123	Radiation Oncology	(RO)
121	Radiological Physics	(RP)
409	Pediatric Rehabilitation	(RPM)
150	Spinal Cord Injury	(SCI)
149	Sleep Medicine	(SM)
151	Surgical Oncology	(SO)
148	Selective Pathology	(SP)
033	Trauma Surgery	(TRS)
152	Transplant Surgery	(TTS)
125	Urology	(U)
025	Undersea Medicine	(UM)
126	Pediatric Urology	(UP)
131	Unspecified	(US)
122	Vascular & Interventional Radiology	(VIR)
165	Vascular Medicine	(VM)
034	Vascular Surgery	(VS)
210	Developmental & Behavioral Pediatrics	(DBP)
159	Proctology	(PRO)
124	Thoracic Surgery	(TS)

997 Other (list) - **(USE VERY SPARINGLY; Thank and Terminate)**

998 (DK) **(Thank and Terminate)**
999 (Refused) **(Thank and Terminate)**

_____ _____
(1066 - 1068)

_____

(If code 2 in S1 [DO-AOA LIST])

301	Abdominal Radiology	AR
202	AIDS/HIV Specialist	
002	Allergy and Immunology	AI
003	Allergy-Diagnostic Lab Immunology	ALI
004	Immunology	IG
005	Preventive Medicine-Aerospace Medicine	AM
006	Anesthesiology	AN
006	Anesthesiology	CAN
006	Anesthesiology	IRA
006	Anesthesiology	OBA
006	Anesthesiology	PAN
007	Pain Management	APM
007	Pain Management	PMR
008	Critical Care-Anesthesiology	CCA
009	Cardiovascular Diseases-Cardiology	C
009	Cardiovascular Diseases-Cardiology	CVD
009	Cardiovascular Diseases-Cardiology	IC
190	Cardiovascular Surgery	CDS
191	Craniofacial Surgery	CFS
010	Pediatric Psychiatry	CHP

A8. (Continued:)

010	Pediatric Psychiatry	PDP
011	Colon & Rectal Surgery	CRS
012	Dermatology	D
015	Emergency Medicine	EM
014	Diagnostic Radiology	DR
308	Internal Medicine/Emergency Medicine	MEM
015	Emergency Medicine	EMS
015	Emergency Medicine	FEM
015	Emergency Medicine	IEM
302	Epidemiology	EP
016	Sports Medicine (Emergency Medicine)	ESM
017	Pediatric Emergency Medicine	PEM
303	Flex Residents	FLX
018	Forensic Pathology	FOP
019	Family Practice	FP
019	Family Practice	UFP
020	Geriatrics-General or Family Practice	GFP
020	Geriatrics-General or Family Practice	GGP
021	Sports Medicine-Family or General Practice	SFP
021	Sports Medicine-Family or General Practice	SGP
022	Gastroenterology	GE
023	General Practice	GP
024	Preventive Medicine	PVM
025	Undersea Medicine	UM
026	Abdominal Surgery	AS
027	Critical Care-Surgery or Trauma	CCS
027	Critical Care-Surgery or Trauma	CCT
028	Other Specialty	OS
029	Surgery-General	S
030	Head & Neck Surgery	HNS
031	Hand Surgery	HS
031	Hand Surgery	HSS
201	Hospitalists	
032	Pediatric Surgery	PDS
033	Traumatic Surgery	TRS
034	Vascular Surgery-General or Peripheral	GVS
034	Vascular Surgery-General or Peripheral	PVS
036	Endocrinology	END
037	Hematology	HEM
039	Cardiac Electrophysiology	ICE
040	Infectious Diseases	ID
041	Diag Lab Immunology-Int Med	ILI
042	Internal Medicine	IM
194	Interventional Cardiology	IC
195	Internal Medicine/Family Practice	IFP
042	Internal Medicine	IP

A8. (Continued:)

043	Geriatrics-Internal Medicine	GER
309	Geriatrics-Internal Medicine	GIM
044	Sports Medicine (Physical Medicine & Rehabilitation)	PMM
044	Sports Medicine	ISM
044	Sports Medicine	PMS
044	Sports Medicine	RMS
044	Sports Medicine	SM
045	Nephrology	NEP
046	Nutrition	NTR
047	Oncology	ON
048	Rheumatology	RHU
050	Clinical Cytogenetics	CCG
051	Clinical Genetics	CG
053	Medical Genetics	IMG
054	Pediatric or Child Neurology	CHN
054	Pediatric or Child Neurology	PDN
055	Clinical Neurophysiology	CN
056	Neurology	N
310	Internal Medicine/Neurology	MN
311	Neurology/Physical Medicine & Rehab	NPR
056	Neurology	NMD
056	Neurology	NP
056	Neurology	NPN
305	Neurology/Diagnostic Radiology/ Neuroradiology	NRN
057	Nuclear Medicine	NI
057	Nuclear Medicine	NM
057	Nuclear Medicine	NV
058	Critical Care-Neuro Surgery	NCC
059	Neurological Surgery	NS
061	Gynecological Oncology	GO
062	Gynecology	GS
062	Gynecology	GYN
063	Maternal & Fetal Medicine	MFM
304	Maxillofacial Radiology	MXR
064	Obstetrics & Gynecology	OBG
064	Obstetrics & Gynecology	OGS
065	Obstetrics	OBS
066	Critical Care-Obstetrics & Gynecology	OCC
067	Reproductive Endocrinology	RE
068	Occupational Medicine	OCM
068	Occupational Medicine	OM
069	Ophthalmology	COR
069	Ophthalmology	OAS
069	Ophthalmology	OCR
069	Ophthalmology	OGL
069	Ophthalmology	OPH
069	Ophthalmology	VRS

A8. (Continued:)

070	Hand Surgery-Orthopedic Surg	HSO
071	Adult Reconstructive Orthopedics	OAR
072	Musculoskeletal Oncology	OMO
073	Pediatric Orthopedics	OP
074	Orthopedic Surgery	AJI
074	Orthopedic Surgery	OR
074	Orthopedic Surgery	ORS
075	Sports Medicine-Orthopedic Surgery	OSM
076	Orthopedic Surgery-Spine	OSS
078	Facial Plastic Surgery	OPL
080	Otolaryngology or Rhinology	OTL
080	Otolaryngology or Rhinology	OTR
080	Otolaryngology or Rhinology	RHI
197	Otology/Neurotology	NO
081	Pediatric Otolaryngology	PDO
082	Psychiatry	P
312	Psychiatry/Family Practice	FPP
313	Psychiatry/Internal Medicine	MP
083	Psychoanalysis	PYA
084	Geriatric Psychiatry	PYG
085	Adolescent Medicine-Family or General Practice	AFP
085	Adolescent Medicine-Family or General Practice	AGP
086	Pediatric Intensive Care	PIC
087	Neonatology	NE
088	Pediatrics	PD
089	Pediatric Allergy & Immunology	PAI
306	Pediatric Anesthesiology (Pediatrics)	PAN
091	Pediatric Pulmology Medicine	PDX
198	Pediatric Cardiothoracic Surgery	PCS
092	Pediatric Gastroenterology	PG
093	Pediatric Hematology-Oncology	PHO
094	Pediatric Diag Lab Immunology	PLI
095	Pediatric Nephrology	PNP
192	Pediatrics/Psychiatry/Child & Adolescent Ps	CPP
096	Pediatric Rheumatology	PPR
097	Sports Medicine - Pediatrics	PSM
098	Pediatric Cardiology	PDC
099	Preventive Medicine, Epidemiology or Public Health	EPI
099	Preventive Medicine, Epidemiology or Public Health	OE
099	Preventive Medicine, Epidemiology or Public Health	PH
099	Preventive Medicine, Epidemiology or Public Health	PHP

A8. (Continued:)

199	Pharmaceutical Medicine	PHM
100	Physical Medicine & Rehabilitation	PM
100	Physical Medicine & Rehabilitation	IAR
100	Physical Medicine & Rehabilitation	PDR
314	Internal Medicine/Physical Medicine & Rehabilitation	MPM
100	Physical Medicine & Rehabilitation	RM
200	Physical Medicine & Rehabilitation (Pediatrics)	PMP
101	Hand Surgery-Plastic Surg	HSP
102	Plastic Surgery	OOP
102	Plastic Surgery	PLR
103	Anatomic Pathology	AP
104	Blood Banking-Transfusion Medicine	BBT
104	Blood Banking-Transfusion Medicine	LBM
105	Clinical Pathology	CLP
106	Dermatopathology	DPT
107	Hematology-Pathology	HEP
108	Medicine Microbiology	MMB
109	Neuropathology	NPT
110	Chemical Pathology	CP
111	Cytopathology	CY
112	Immunopathology	IPT
113	Pediatric Pathology	PP
114	Anatomic/Clinical Pathology	APL
114	Anatomic/Clinical Pathology	PTH
115	Radioisotopic Pathology	RIP
307	Public Health	PH
196	Internal Medicine/Preventive Medicine	IPM
116	Pulmonary Diseases	PUD
116	Pulmonary Diseases	PUL
117	Nuclear Radiology	NR
118	Pediatric Radiology	PRD
119	Radiology	DUS
119	Radiology	R
119	Radiology	RI
119	Radiology	RT
119	Radiology	RTD
120	Neuroradiology	NRA
121	Radiological Physics	RP
122	Angiography & Intervent'l Radiology	ANG
122	Angiography & Intervent'l Radiology	SCL
123	Radiation Oncology	RO
123	Radiation Oncology	TR
124	Cardiovascular or Thoracic Cardiovascular Surgery	CVS
124	Cardiovascular or Thoracic Cardiovascular Surgery	TS

A8. (Continued:)

125	Urology	U
125	Urology	URS
126	Pediatric Urology	UP
127	Addictive Diseases	ADD
128	Critical Care-Medicine	CCM
129	Legal Medicine	LM
130	Clinical Pharmacology	PA
131	Unknown Blank	
133	Adolescent Medicine	ADL
134	Orthopedic Foot & Ankle Surg	OFA
135	Forensic Psychiatry	FPS
136	Hematology & Oncology	HEO
137	Internal Med-Pediatrics	IPD
139	Toxicology	TX
142	Psychosomatic Medicine	PYM
145	Pediatric Infectious Diseases	PID
146	Pediatric Ophthalmology	PO
147	Pulmonary-Critical Care	PUC
153	MOHS Micrographic Surgery	DMS
154	Hair Transplant	HT
155	Osteo Manipulative Treat +1	OM1
156	Osteopathic Manipulative Medicine	OMM
157	Sports Medicine - OMM	OMS
158	Osteo Manipulative Medicine	OMT
159	Proctology	PRO
160	Internship	IN
161	Retired	RET
162	Transitional Year	TY
209	Nuclear Cardiology	NC
210	Developmental & Behavioral Pediatrics	DBP
159	Proctology	PRO
124	Thoracic Surgery	TS
410	Clinical Neurophysiology	CN
411	Hematology/Oncology	HO
413	Nutrition	NTR
414	Pulmonary Critical Care Medicine	PCC
415	Pediatric Infectious Disease	PDI
416	Pediatric Nephrology	PN
417	Spinal Cord Injury Medicine	SCI

997 Other (list) - **(USE VERY SPARINGLY; Thank and Terminate)**

998 (DK) **(Thank and Terminate)**
999 (Refused) **(Thank and Terminate)**

_____ _____
_____ (1066 - 1068)

(If code 003, 005-007, 013-014, 018, 025, 028, 057, 099, 103-115, 117-122, 129-131, 135, 138-141, 148, 160-162, 209, 301-307, or 402 in A8, Continue; Otherwise, Skip to Note before A9)

READ:) In this survey, we are only interviewing physicians in certain specialties, and your specialty is not among those being interviewed. So, it appears that we do not need any further information from you at this time, but we thank you for your cooperation. - **(Thank and Terminate)**

(If code 201 in A8, Skip to A17; If code 042, 088, 137, or 195 in A8, Continue; If code 001-002, 004, 009, 012, 015-016, 020-022, 024, 035-041, 043-048, 055-056, 085, 116, 128, 136, 142, 143, 147, 149, 194, 196, 199, 308, 310, 313, 314, or 414 in A8, Skip to A9a; If code 017, 049-054, 063, 086-087, 089-094, 095-098, 133, 144-145, 192, 193, 200, 210, 409, 415, or 416 in A8, Skip to A9b; Otherwise, Skip to A15)

A9. **(If code 042, 088, 137, or 195 in A8, ask:)** Do you spend more hours weekly in general **(response in A8)**, or a subspecialty in **(response in A8)**? **(INTERVIEWER NOTE: If respondent says 50/50 split, code as 1)**

GENSUB

1 General - **(Skip to A15)**

2 Subspecialty (including adolescent medicine or geriatrics) - **(Skip to A10)**

8 (DK) **(Skip to A15)**
9 (Refused) **(Skip to A15)** _____(1069)

A9a. **(If code 001-002, 004, 009, 012, 015-016, 020-022, 024, 035-041, 043-048, 055-056, 085, 116, 128, 136, 142, 143, 147, 149, 194, 196, 199, 308, 310, 313, 314, OR 414 in A8, ask:)** Do you spend most of your time practicing in **(response in A8)**, or in general internal medicine? **(INTERVIEWER NOTE: If respondent says 50/50 split, code as 1)**

SIPNPED

1 Subspecialty
2 General internal medicine (or general family practice)
3 General pediatrics

8 (DK)
9 (Refused) _____(2720)

(All in A9a, Skip to A15)

A9b. **(If code 017, 049-054, 063, 086-087, 089-098, 133, 144-145, 192, 193, 200, 210, 409, 415, or 416 in A8, ask:)** Do you spend most of your time practicing in **(response in A8)**, or in general pediatrics? **(INTERVIEWER NOTE: If respondent says 50/50 split, code as 1)**

SIPPED

1 Subspecialty
2 General internal medicine (General Family Practice)
3 General pediatrics

8 (DK)
9 (Refused) _____(1357)

(All in A9b, Skip to A15)

A10. **(If code 2 in A9, ask:)** And what is that subspecialty? **(If "More than one", say:)** We're interested in the one in which you spend the most hours weekly. (Open ended **and code from hard copy)** **(CHECK SPELLING)**

SUBSPC

(If code 1 in S1 [MD-AMA LIST])

301	Abdominal Radiology	(AR)
202	AIDS/HIV Specialist	
001	Allergy	(A)
133	Adolescent Medicine Pediatrics	(ADL)
127	Addiction Medicine	(ADM)
132	Addiction Psychiatry	(ADP)
002	Allergy & Immunology	(AI)
003	Allergy & Immunology/ Diagnostic Laboratory Immunology	(ALI)
005	Aerospace Medicine	(AM)
085	Adolescent Medicine (Internal Medicine)	(AMI)
006	Anesthesiology	(AN)
007	Pain Management	(APM)
026	Abdominal Surgery	(AS)
103	Anatomic Pathology	(ATP)
104	Bloodbanking/Transfusion Medicine	(BBK)
190	Cardiovascular Surgery	(CDS)
008	Critical Care Medicine (Anesthesiology)	(CCA)
050	Clinical Cytogenetics	(CCG)
191	Craniofacial Surgery	(CFS)
128	Critical Care Medicine (Internal Medicine)	(CCM)
086	Critical Care Pediatrics	(CCP)
027	Critical Care Surgery	(CCS)
009	Cardiovascular Disease	(CD)
051	Clinical Genetics	(CG)
054	Child Neurology	(CHN)
010	Child & Adolescent Psychiatry	(CHP)
049	Clinical Biochemical Genetics	(CCG)
105	Clinical Pathology	(CLP)
052	Clinical Molecular Genetics	(CMG)
055	Clinical Neurophysiology	(CN)
011	Colon & Rectal Surgery	(CRS)
401	Cosmetic Surgery	(CS)
124	Cardiothoracic Surgery	(CTS)
012	Dermatology	(D)
164	Dermatologic Surgery	(DS)
013	Clinical & Laboratory Dermatological Immunology	(DDL)
035	Diabetes	(DIA)

A10. (Continued:)

106	Dermatopathology	(DMP)
014	Diagnostic Radiology	(DR)
015	Emergency Medicine	(EM)
308	Internal Medicine/Emergency Medicine	(MEM)
036	Endocrinology, Diabetes & Metabolism	(END)
302	Epidemiology	(EP)
016	Sports Medicine (Emergency Medicine)	(ESM)
402	Endovascular Surgical Neuroradiology	(ESN)
140	Medical Toxicology (Emergency Medicine)	(ETX)
303	Flex Residents	(FLX)
403	Family Medicine	(FM)
018	Forensic Pathology	(FOP)
019	Family Practice	(FP)
020	Geriatric Medicine (Family Practice)	(FPG)
078	Facial Plastic Surgery	(FPS)
021	Sports Medicine (Family Practice)	(FSM)
022	Gastroenterology	(GE)
061	Gynecological Oncology	(GO)
023	General Practice	(GP)
024	General Preventive Medicine	(GPM)
029	General Surgery	(GS)
062	Gynecology	(GYN)
037	Hematology	(HEM)
038	Hepatology	(HEP)
107	Hematology Pathology	(HMP)
030	Head & Neck Surgery	(HNS)
136	Hematology/Oncology	(HO)
070	Hand Surgery Orthopedics	(HSO)
101	Hand Surgery Plastic	(HSP)
031	Hand Surgery	(HSS)
201	Hospitalists	(HOS)
039	Clinical Cardiac Electrophysiology	(ICE)
040	Infectious Diseases	(ID)
004	Immunology	(IG)
041	Clinical & Laboratory Immunology (IM)	(ILI)
042	Internal Medicine	(IM)
194	Interventional Cardiology	(IC)
043	Geriatric Medicine (IM)	(IMG)
044	Sports Medicine	(ISM)
309	Sports Medicine (Physical Medicine and Rehabilitation) (IM)	(PMM)
129	Legal Medicine	(LM)
138	Medical Management	(MDM)
063	Maternal & Fetal Medicine	(MFM)
304	Maxillofacial Radiology	(MXR)
053	Medical Genetics	(MG)
108	Medical Microbiology	(MM)
195	Internal Medicine/Family Practice	(IFP)

A10. (Continued:)

137	Internal Medicine/Pediatrics	(MPD)
099	Public Health & General Preventive Medicine	(MPH)
056	Neurology	(N)
310	Internal Medicine/Neurology	(MN)
311	Neurology/Physical Medicine and Rehabilitation	(NPR)
058	Critical Care Medicine (Neurosurgery)	(NCC)
404	Neurodevelopmental Disability	(NDN)
045	Nephrology	(NEP)
057	Nuclear Medicine	(NM)
109	Neuropathology	(NP)
087	Neonatal/Perinatal Medicine	(NPM)
117	Nuclear Radiology	(NR)
305	Neurology/Diagnostic Radiology/ Neuroradiology	(NRN)
059	Neurological Surgery	(NS)
060	Pediatric Neurosurgery	(NSP)
046	Nutrition	(NTR)
405	Neuropsychiatry	(NUP)
071	Adult Reconstructive Orthopedics	(OAR)
064	Obstetrics & Gynecology	(OBG)
065	Obstetrics	(OBS)
066	OB Critical Care Medicine	(OCC)
134	Foot & Ankle Orthopedics	(OFA)
068	Occupational Medicine	(OM)
406	Oral and Maxillofacial Surgery	(OMF)
072	Musculoskeletal Oncology	(OMO)
047	Medical Oncology	(ON)
073	Pediatric Orthopedics	(OP)
069	Ophthalmology	(OPH)
074	Orthopedic Surgery	(ORS)
028	Other Specialty	(OS)
075	Sports Medicine (Orthopedic Surgery)	(OSM)
076	Orthopedic Surgery of the Spine	(OSS)
079	Otology	(OT)
197	Otology/Neurotology	(NO)
080	Otolaryngology	(OTO)
077	Orthopedic Trauma	(OTR)
082	Psychiatry	(P)
312	Psychiatry/Family Practice	(FPP)
313	Internal Medicine/Psychiatry	(MP)
130	Clinical Pharmacology	(PA)
147	Pulmonary Critical Care Medicine	(PCC)
110	Chemical Pathology	(PCH)
111	Cytopathology	(PCP)
088	Pediatrics	(PD)
089	Pediatric Allergy	(PDA)
306	Pediatric Anesthesiology (Pediatrics)	(PAN)
098	Pediatric Cardiology	(PDC)

A10. (Continued:)

198	Pediatric Cardiothoracic Surgery	(PCS)
193	Pediatric Emergency Medicine	(EMP)
090	Pediatric Endocrinology	(PDE)
145	Pediatric Infectious Diseases	(PDI)
081	Pediatric Otolaryngology	(PDO)
091	Pediatric Pulmonology	(PDP)
192	Pediatrics/Psychiatry/Child & Adolescent Ps	(CPP)
118	Pediatric Radiology	(PDR)
032	Pediatric Surgery	(PDS)
139	Medical Toxicology (Pediatrics)	(PDT)
144	Pediatric Emergency Medicine	(PE)
017	Pediatric Emergency Medicine (Pediatrics)	(PEM)
135	Forensic Psychiatry	(PFP)
092	Pediatric Gastroenterology	(PG)
093	Pediatric Hematology/Oncology	(PHO)
112	Immunopathology	(PIP)
094	Clinical & Laboratory Immunology (Pediatrics)	(PLI)
143	Palliative Medicine	(PLM)
100	Physical Medicine & Rehab	(PM)
314	Internal Medicine/Physical Medicine & Rehabilitation	(MPM)
200	Physical Medicine & Rehabilitation (Pediatrics)	(PMP)
142	Pain Medicine	(PMD)
407	Sports Medicine (Physical Medicine and Rehabilitation)	(PMM)
095	Pediatric Nephrology	(PN)
146	Pediatric Opthalmology	(PO)
113	Pediatric Pathology	(PP)
096	Pediatric Rheumatology	(PPR)
102	Plastic Surgery/Cosmetic Surgery	(PS)
199	Pharmaceutical Medicine	(PHM)
307	Public Health	(PH)
408	Plastic Surgery within the Head and Neck	(PSH)
097	Sports Medicine (Pediatrics)	(PSM)
114	Anatomic/Clinical Pathology	(PTH)
141	Medical Toxicology (Preventive Medicine)	(PTX)
116	Pulmonary Diseases	(PUD)
196	Internal Medicine/Preventive Medicine	(IPM)
083	Psychoanalysis	(PYA)
084	Geriatric Psychiatry	(PYG)
119	Radiology	(R)
067	Reproductive Endocrinology	(REN)
048	Rheumatology	(RHU)
115	Radioisotopic Pathology	(RIP)
120	Neuroradiology	(RNR)

A10. (Continued:)

123	Radiation Oncology	(RO)
121	Radiological Physics	(RP)
409	Pediatric Rehabilitation	(RPM)
150	Spinal Cord Injury	(SCI)
149	Sleep Medicine	(SM)
151	Surgical Oncology	(SO)
148	Selective Pathology	(SP)
033	Trauma Surgery	(TRS)
152	Transplant Surgery	(TTS)
125	Urology	(U)
025	Undersea Medicine	(UM)
126	Pediatric Urology	(UP)
131	Unspecified	(US)
122	Vascular & Interventional Radiology	(VIR)
165	Vascular Medicine	(VM)
034	Vascular Surgery	(VS)
210	Developmental & Behavioral Pediatrics	(DBP)
159	Proctology	(PRO)
124	Thoracic Surgery	(TS)

997 Other (list) - **(USE VERY SPARINGLY; Thank and Terminate)**

998 (DK) **(Thank and Terminate)**
999 (Refused) **(Thank and Terminate)**

_____ _____
(1070 - 1072)

_____

(If code 2 in S1 [DO-AOA LIST])

301	Abdominal Radiology	AR
202	AIDS/HIV Specialist	
002	Allergy and Immunology	AI
003	Allergy-Diagnostic Lab Immunology	ALI
004	Immunology	IG
005	Preventive Medicine-Aerospace Medicine	AM
006	Anesthesiology	AN
006	Anesthesiology	CAN
006	Anesthesiology	IRA
006	Anesthesiology	OBA
006	Anesthesiology	PAN
007	Pain Management	APM
007	Pain Management	PMR
008	Critical Care-Anesthesiology	CCA
009	Cardiovascular Diseases-Cardiology	C
009	Cardiovascular Diseases-Cardiology	CVD
009	Cardiovascular Diseases-Cardiology	IC
190	Cardiovascular Surgery	CDS
191	Craniofacial Surgery	CFS

A10. (Continued:)

010	Pediatric Psychiatry	CHP
010	Pediatric Psychiatry	PDP
011	Colon & Rectal Surgery	CRS
012	Dermatology	D
015	Emergency Medicine	EM
014	Diagnostic Radiology	DR
308	Internal Medicine/Emergency Medicine	MEM
015	Emergency Medicine	EMS
015	Emergency Medicine	FEM
015	Emergency Medicine	IEM
302	Epidemiology	EP
016	Sports Medicine (Emergency Medicine)	ESM
017	Pediatric Emergency Medicine	PEM
303	Flex Residents	FLX
018	Forensic Pathology	FOP
019	Family Practice	FP
019	Family Practice	UFP
020	Geriatrics-General or Family Practice	GFP
020	Geriatrics-General or Family Practice	GGP
021	Sports Medicine-Family or General Practice	SFP
021	Sports Medicine-Family or General Practice	SGP
022	Gastroenterology	GE
023	General Practice	GP
024	Preventive Medicine	PVM
025	Undersea Medicine	UM
026	Abdominal Surgery	AS
027	Critical Care-Surgery or Trauma	CCS
027	Critical Care-Surgery or Trauma	CCT
028	Other Specialty	OS
029	Surgery-General	S
030	Head & Neck Surgery	HNS
031	Hand Surgery	HS
031	Hand Surgery	HSS
201	Hospitalists	
032	Pediatric Surgery	PDS
033	Traumatic Surgery	TRS
034	Vascular Surgery-General or Peripheral	GVS
034	Vascular Surgery-General or Peripheral	PVS
036	Endocrinology	END
037	Hematology	HEM
039	Cardiac Electrophysiology	ICE
040	Infectious Diseases	ID
041	Diag Lab Immunology-Int Med	ILI
042	Internal Medicine	IM
194	Interventional Cardiology	IC
195	Internal Medicine/Family Practice	IFP

A10. (Continued:)

042	Internal Medicine	IP
043	Geriatrics-Internal Medicine	GER
309	Geriatrics-Internal Medicine	GIM
044	Sports Medicine (Physical Medicine & Rehabilitation)	PMM
044	Sports Medicine	ISM
044	Sports Medicine	PMS
044	Sports Medicine	RMS
044	Sports Medicine	SM
045	Nephrology	NEP
046	Nutrition	NTR
047	Oncology	ON
048	Rheumatology	RHU
050	Clinical Cytogenetics	CCG
051	Clinical Genetics	CG
053	Medical Genetics	IMG
054	Pediatric or Child Neurology	CHN
054	Pediatric or Child Neurology	PDN
055	Clinical Neurophysiology	CN
056	Neurology	N
310	Internal Medicine/Neurology	MN
311	Neurology/Physical Medicine & Rehab	NPR
056	Neurology	NMD
056	Neurology	NP
056	Neurology	NPN
305	Neurology/Diagnostic Radiology/ Neuroradiology	NRN
057	Nuclear Medicine	NI
057	Nuclear Medicine	NM
057	Nuclear Medicine	NV
058	Critical Care-Neuro Surgery	NCC
059	Neurological Surgery	NS
061	Gynecological Oncology	GO
062	Gynecology	GS
062	Gynecology	GYN
063	Maternal & Fetal Medicine	MFM
304	Maxillofacial Radiology	MXR
064	Obstetrics & Gynecology	OBG
064	Obstetrics & Gynecology	OGS
065	Obstetrics	OBS
066	Critical Care-Obstetrics & Gynecology	OCC
067	Reproductive Endocrinology	RE
068	Occupational Medicine	OCM
068	Occupational Medicine	OM

A10. (Continued:)

069	Ophthalmology	COR
069	Ophthalmology	OAS
069	Ophthalmology	OCR
069	Ophthalmology	OGL
069	Ophthalmology	OPH
069	Ophthalmology	VRS
070	Hand Surgery-Orthopedic Surg	HSO
071	Adult Reconstructive Orthopedics	OAR
072	Musculoskeletal Oncology	OMO
073	Pediatric Orthopedics	OP
074	Orthopedic Surgery	AJI
074	Orthopedic Surgery	OR
074	Orthopedic Surgery	ORS
075	Sports Medicine-Orthopedic Surgery	OSM
076	Orthopedic Surgery-Spine	OSS
078	Facial Plastic Surgery	OPL
080	Otolaryngology or Rhinology	OTL
080	Otolaryngology or Rhinology	OTR
080	Otolaryngology or Rhinology	RHI
197	Otology/Neurotology	NO
081	Pediatric Otolaryngology	PDO
082	Psychiatry	P
312	Psychiatry/Family Practice	FPP
313	Psychiatry/Internal Medicine	MP
083	Psychoanalysis	PYA
084	Geriatric Psychiatry	PYG
085	Adolescent Medicine-Family or General Practice	AFP
085	Adolescent Medicine-Family or General Practice	AGP
086	Pediatric Intensive Care	PIC
087	Neonatology	NE
088	Pediatrics	PD
089	Pediatric Allergy & Immunology	PAI
306	Pediatric Anesthesiology (Pediatrics)	PAN
091	Pediatric Pulmology Medicine	PDX
198	Pediatric Cardiothoracic Surgery	PCS
092	Pediatric Gastroenterology	PG
093	Pediatric Hematology-Oncology	PHO
094	Pediatric Diag Lab Immunology	PLI
095	Pediatric Nephrology	PNP
192	Pediatrics/Psychiatry/Child & Adolescent Ps	CPP
096	Pediatric Rheumatology	PPR
097	Sports Medicine - Pediatrics	PSM
098	Pediatric Cardiology	PDC

A10. (Continued:)

099	Preventive Medicine, Epidemiology or Public Health	EPI
099	Preventive Medicine, Epidemiology or Public Health	OE
099	Preventive Medicine, Epidemiology or Public Health	PH
099	Preventive Medicine, Epidemiology or Public Health	PHP
199	Pharmaceutical Medicine	PHM
100	Physical Medicine & Rehabilitation	PM
100	Physical Medicine & Rehabilitation	IAR
100	Physical Medicine & Rehabilitation	PDR
314	Internal Medicine/Physical Medicine & Rehabilitation	MPM
100	Physical Medicine & Rehabilitation	RM
200	Physical Medicine & Rehabilitation (Pediatrics)	PMP
101	Hand Surgery-Plastic Surg	HSP
102	Plastic Surgery	OOP
102	Plastic Surgery	PLR
103	Anatomic Pathology	AP
104	Blood Banking-Transfusion Medicine	BBT
104	Blood Banking-Transfusion Medicine	LBM
105	Clinical Pathology	CLP
106	Dermatopathology	DPT
107	Hematology-Pathology	HEP
108	Medicine Microbiology	MMB
109	Neuropathology	NPT
110	Chemical Pathology	CP
111	Cytopathology	CY
112	Immunopathology	IPT
113	Pediatric Pathology	PP
114	Anatomic/Clinical Pathology	APL
114	Anatomic/Clinical Pathology	PTH
115	Radioisotopic Pathology	RIP
307	Public Health	PH
196	Internal Medicine/Preventive Medicine	IPM
116	Pulmonary Diseases	PUD
116	Pulmonary Diseases	PUL
117	Nuclear Radiology	NR
118	Pediatric Radiology	PRD
119	Radiology	DUS
119	Radiology	R
119	Radiology	RI
119	Radiology	RT
119	Radiology	RTD
120	Neuroradiology	NRA

A10. (Continued:)

121	Radiological Physics	RP
122	Angiography & Intervent'l Radiology	ANG
122	Angiography & Intervent'l Radiology	SCL
123	Radiation Oncology	RO
123	Radiation Oncology	TR
124	Cardiovascular or Thoracic Cardiovascular Surgery	CVS
124	Cardiovascular or Thoracic Cardiovascular Surgery	TS
125	Urology	U
125	Urology	URS
126	Pediatric Urology	UP
127	Addictive Diseases	ADD
128	Critical Care-Medicine	CCM
129	Legal Medicine	LM
130	Clinical Pharmacology	PA
131	Unknown Blank	
133	Adolescent Medicine	ADL
134	Orthopedic Foot & Ankle Surg	OFA
135	Forensic Psychiatry	FPS
136	Hematology & Oncology	HEO
137	Internal Med-Pediatrics	IPD
139	Toxicology	TX
142	Psychosomatic Medicine	PYM
145	Pediatric Infectious Diseases	PID
146	Pediatric Ophthalmology	PO
147	Pulmonary-Critical Care	PUC
153	MOHS Micrographic Surgery	DMS
154	Hair Transplant	HT
155	Osteo Manipulative Treat +1	OM1
156	Osteopathic Manipulative Medicine	OMM
157	Sports Medicine - OMM	OMS
158	Osteo Manipulative Medicine	OMT
159	Proctology	PRO
160	Internship	IN
161	Retired	RET
162	Transitional Year	TY
209	Nuclear Cardiology	NC
210	Developmental & Behavioral Pediatrics	DBP
159	Proctology	PRO
124	Thoracic Surgery	TS
410	Clinical Neurophysiology	CN
411	Hematology/Oncology	HO
413	Nutrition	NTR
414	Pulmonary Critical Care Medicine	PCC
415	Pediatric Infectious Disease	PDI
416	Pediatric Nephrology	PN
417	Spinal Cord Injury Medicine	SCI

A10. (Continued:)

997 Other (list) - **(USE VERY SPARINGLY; Thank and Terminate)**

998 (DK) **(Thank and Terminate)**
999 (Refused) **(Thank and Terminate)**

_____ _____
(1070 - 1072)

_____

(If code 003, 005-007, 013-014, 018, 025, 028, 057, 099, 103-115, 117-122, 129-131, 135, 138-141, 148, 160-162, 209, 301-307, or 402 in A10, Continue; Otherwise, Skip to Note before A11)

(READ:) In this survey, we are only interviewing physicians in certain specialties, and your specialty is not among those being interviewed. So, it appears that we do not need any further information from you at this time, but we thank you for your cooperation. - **(Thank and Terminate)**

(If code 201 in A10, Skip to A17; Otherwise, Continue)

A11. Are you board-certified in **(response in A10)**?
BDCTSB

1 Yes
2 No
8 (DK)
9 (Refused) _____(1358)

(Question A12 deleted) HOLD _____(1630)

A13. Are you board-certified in **(response in A8)**?
BDCTSP

1 Yes
2 No
8 (DK)
9 (Refused) _____(1631)

(If code 2, 8, or 9 in A11 AND A13, Skip to A17; Otherwise, Skip to A19)

(Question A14 deleted) HOLD _____(1633)

A15. Are you board-certified in **(response in A8)**?
(INTERVIEWER NOTE: If physician says "Board-Certified in Internal Medicine" or "Board-Certified in Pediatrics", code as 1)

BDCTPSP

1 Yes
2 No
8 (DK)
9 (Refused) _____(1634)

(If code 1 in A15, Skip to A19; Otherwise, Continue)

(Question A16 deleted) HOLD _____(1636)

A17. Are you board certified in any specialty?

BDCTAY

1 Yes
2 No
8 (DK)
9 (Refused) _____(1078)

(Question A18 deleted) HOLD _____(1079)

A19. Many of the remaining questions are about your practice and your relationships with patients. Before we begin those questions, let me ask you: Thinking very generally about your satisfaction with your overall career in medicine, would you say that you are CURRENTLY **(read 5-1)**?

CARSAT

5 Very satisfied
4 Somewhat satisfied
3 Somewhat dissatisfied
2 Very dissatisfied, OR
1 Neither satisfied nor dissatisfied

8 (DK)
9 (Refused) _____(1080)

CLOCK:

_____ _____
_____ (1545 - 1548)

SECTION B
UTILIZATION OF TIME; PRODUCTIVITY; INFORMATION BROUGHT BY PATIENTS; CASE MIX

TIME AND PRODUCTIVITY

B1. Approximately how many weeks did you practice medicine during 2003? Exclude time missed due to vacation, illness, and other absences. **(If necessary, say:)** Exclude family leave, military service, and professional conferences. If your office is closed for several weeks of the year, those weeks should NOT be counted as weeks worked. **(INTERVIEWER NOTE: Response refers to all practices, not just main practice)** (Open ended **and code actual number)**

WKSWRK

53-
97 (BLOCK)

DK (DK)
RF (Refused)

_____ _____
_____ (1081) (1082)

B2. During your last complete week of work, approximately how many hours did you spend in all medically-related activities? Please include all time spent in administrative tasks, professional activities, and direct patient care. Exclude time on call when not actually working. **(INTERVIEWER NOTE: If necessary, read:)** Direct patient care includes time spent on patient record keeping, patient-related office work, and travel time connected with seeing patients. (Open ended **and code actual number)** **(INTERVIEWER NOTE: Response refers to all practices, not just main practice)**

HRSMD A

169-
997 (BLOCK)

DK (DK)
RF (Refused)

_____ _____
_____ (1083 - 1085)

[Deleted Note]

B3. **(If code 001-168 in B2, ask:)** Of these **(response in B2)** hours, how many did you spend in direct patient care activities? Direct care of patients includes face-to-face contact with patients, as well as patient record keeping and office work, travel time connected with seeing patients, and communication with other physicians, hospitals, pharmacies, and other places on a patient's behalf. **(INTERVIEWER NOTE:)** **(If necessary, say:)** INCLUDE time spent on patient record keeping, patient-related office work, and travel time connected with seeing patients. EXCLUDE time spent in training, teaching, or research, any hours on-call when not actually working, and travel between home and work at the beginning and end of the work day. **(If appropriate, say:)** INCLUDE ALL PRACTICES, not just the main practice. (Open ended **and code actual number)**

(If code DK or RF in B2, ask:) About how many hours did you spend in direct patient care activities? **(If necessary, say:)** EXCLUDE time spent in training, teaching, or research, any hours on-call when not actually working, and travel between home and work at the beginning and end of the work day. **(If appropriate, say:)** INCLUDE ALL PRACTICES, not just the main practice. (Open ended **and code actual number)**

HRSPT A

169-
997 (BLOCK)

DK (DK) **(Skip to Note after B5)**
RF (Refused) **(Skip to Note after B5)**

_____ _____
_____ (1086 - 1088)

(If response in B3 = response in B2, Continue;
If response in B3 > response in B2, Skip to B4;
Otherwise, Skip to Note after B5)

B3a. So, you spent all of your time working in direct patient care activities, is that right?

ALLPAT

1 Yes - **(Skip to Note after B5)**

2 No - **(Continue)**

8 (DK) **(Skip to Note after B5)**
9 (Refused) **(Skip to Note after B5)** _____(1115)

B3b. **(If code 2 in B3a, ask:)** I have recorded that you spent **(response in B2)** hours in all medically related activities and **(response in B3)** hours in direct patient care. Which of these is incorrect?

MEDPAT

1 All medically related activities hours - **(Continue)**

2 Direct patient care hours - **(Skip to B3d)**

3 (Neither are correct) - **(Continue)**

4 (Both are correct) **(Skip to Note after B5)**
8 (DK) **(Skip to Note after B5)**
9 (Refused) **(Skip to Note after B5)** _____(1116)

B3c. **(If code 1 or 3 in B3b, ask:)** Thinking of your last complete week of work, approximately how many hours did you spend in all medically related activities? Please include all time spent in administrative tasks, professional activities, and direct patient care. Exclude time on call when not actually working. (Open ended **and code actual number)**

HRSMD B

169-
997 (BLOCK)

DK (DK)
RF (Refused)

_____ _____
_____ (1117 - 1119)

(If code 1 in B3b, Skip to Note after B5; Otherwise, Continue)

B3d. **(If code 2 or 3 in B3b, ask:)** Thinking of your last complete week of work, about how many hours did you spend in direct patient care activities? **(If necessary, say:)** INCLUDE time spent on patient record-keeping, patient-related office work, and travel time connected with seeing patients. EXCLUDE time spent in training, teaching, or research, any hours on-call when not actually working, and travel between home and work at the beginning and end of the work day. **(If appropriate, say:)** INCLUDE ALL PRACTICES, not just the main practice. (Open ended **and code actual number)**

HRSPT B

169-
997 (BLOCK)

DK (DK)
RF (Refused)

_____ _____
_____ (1194 - 1196)

(All in B3d, Skip to Note after B5)

B4. I may have made a recording mistake. My computer is showing that I've recorded more hours spent in direct patient care than in ALL medical activities. So, during your last complete week of work, approximately how many hours did you spend in ALL medically related activities? Please include all time spent in administrative tasks, professional activities, and direct patient care, as well as any hours spent on call when actually working? (Open ended **and code actual number)**

HRSMD C

169-
997 (BLOCK)

DK (DK)
RF (Refused)

_____ _____
_____ (1089 - 1091)

B5. And of those total [**(response in B4)**] hours, about how many did you spend in direct patient care activities? **(If necessary, say:)** INCLUDE time spent on patient record-keeping, patient-related office work, and travel time connected with seeing patients. EXCLUDE time spent in training, teaching, or research, any hours on-call when not actually working, and travel between home and work at the beginning and end of the work day. **(If appropriate, say:)** INCLUDE ALL PRACTICES, not just the main practice. (Open ended **and code actual number)**

HRSPT C

169-
997 (BLOCK)

DK (DK)
RF (Refused)

_____ _____
_____ (1092 - 1094)

(If code 019-020, 023, 043, 085, 133, 195, or 403 in A10 OR A8 OR If code 1, 8, or 9 in A9 OR If code 042, 088, or 137 in A10 OR If code 2 or 3 in A9a OR If code 2 or 3 in A9b, Continue; Otherwise, Skip to B6)

(Deleted CLOCK) HOLD _____(3557-3560)

B5a. Again, thinking of your last complete week of work, how many patient visits did you personally have in each of the following settings? Please count as one visit each time you saw a patient. How about **(read and rotate A-D)**? (Open ended **and code actual number)** **(INTERVIEWER NOTE: The categories in this question are mutually exclusive. If a respondent works in an outpatient clinic but is asked the "in the office" item first and gives a number, code the number given for "in the office" into the "outpatient clinic" item and recode the response to "office" to 0)** **(SURVENT NOTE: Allow interviewers to verify responses over 400 in any category. In this instance, interviewer say:)** That's **(response in A-D, as appropriate)**, right? **(If respondent wants to change their response, allow interviewer to enter the new number in place of the old number.)**

000 None
997 997+
998 (DK)
999 (Refused)

OFFICEV

A. In the office

_____ _____ (3401 - 3403)

OUTPTV

B. In outpatient clinics

_____ _____ (3404 - 3406)

NURSHMV

C. In nursing homes and other extended care facilities

_____ _____ (3407 - 3409)

HOSPV

D. On hospital rounds

_____ _____ (3410 - 3412)

(Deleted CLOCK) HOLD _____ (3413-3416)

B6. During the LAST MONTH, how many hours, if any, did you spend providing CHARITY care? By this we mean, that because of the financial need of the patient you charged either no fee or a reduced fee. Please do not include time spent providing services for which you expected, but did not receive, payment. **(Probe:)** Your best estimate would be fine. (Open ended **and code actual number)**

(If necessary, say:) EXCLUDE bad debt and time spent providing services under a discounted fee for service contract or seeing Medicare and [**({If code 06 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND code CA in A5a-STATE}, read:)** MediCAL patients/**({If code 04 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND AZ in A5a-STATE}, read:)** AHCCCS ("Access") patients/**(Otherwise, read:)** Medicaid patients]. **(If necessary, read:)** By the LAST MONTH, we mean the last 4 weeks.

HRFREE

000 None
DK (DK)
RF (Refused)

_____ _____ (2544 - 2546)

(If code 000 in B6, Skip to B12; Otherwise, Continue)

B6a. Where do you typically provide charity care, **(read and rotate 1-3, then 4)**? **(INTERVIEWER NOTE: If respondent provides charity care in more than one place, ask for the one where they provide care most often.)**

LOCFREE

1 In your main practice
2 On-call at a hospital emergency department
3 In another practice or clinic
4 Or somewhere else

8 (DK)
9 (Refused) _____(3417)

(Questions B7-B11 deleted) HOLD _____(3207-3212)

HOLD _____(3256-3258)

HOLD _____(3418-3421)

HOLD _____(3215-3216)

CASE MIX

(Deleted CLOCK) HOLD _____(3422-3425)

B12. About what percentage of your patients has a chronic medical condition? **(Probe:)** Your best estimate is fine. (Open ended **and code actual percent)**

CHRNPT

000 None
101 Less than 1%
102 (DK)
103 (Refused)

_____ _____
_____ (3426 - 3428)

[Deleted Note]

(Question B13 deleted) HOLD _____(3429-3431)

B14. About what percentage of your patients are **(read and rotate A-C)**? **(Probe:)** Your best estimate is fine. (Open ended **and code actual percent)**

000 None
101 Less than 1%
102 (DK)
103 (Refused)

BLCKPT

A. African-American or Black

_____ _____
_____ (3432 - 3434)

HISPPT

B. Hispanic or Latino

_____ _____
_____ (3435 - 3437)

ASIAPT

C. Asian or Pacific Islander

_____ _____
_____ (3438 - 3440)

B15. About what percentage of your patients do you have a hard time speaking with or understanding because you speak different languages? **(Probe:)** Your best estimate is fine. (Open ended **and code actual percent)**

LANGPT

000 None
101 Less than 1%
102 (DK)
103 (Refused)

_____ _____
_____ (3441 - 3443)

CLOCK:

_____ _____
_____ (2184 - 2187)

SECTION C
TYPE AND SIZE OF PRACTICE

(Question CA deleted)

(READ:) Now, I would like to ask you a series of questions about the main practice in which you work.

C1. Are you a full owner, a part owner, or not an owner of this practice? **(INTERVIEWER NOTE: A shareholder of the practice in which they work should be coded as 2 - Part owner)**

OWNPR

1	Full owner	**(Continue)**
2	Part owner	**(Continue)**
3	Not an owner	**(Skip to C3)**
8	(DK)	**(Skip to C3)**
9	(Refused)	**(Skip to C3)**

_____(1104)

C2. **(If code 1 or 2 in C1, ask:)** Which of the following best describes this practice? Is it **(read 06-16, then 01)**? **(INTERVIEWER NOTE: A free-standing clinic includes non-hospital-based ambulatory care, surgical, and emergency care centers)**

TOPOWN

01	OR, something else (list)
02-05	HOLD
06	A practice owned by one physician (solo practice)
07	A two physician-owned practice
08	A group practice of three or more physicians (see AMA definition on card)
09	A group model HMO
10	A staff model HMO
11-15	HOLD
16	A free-standing clinic
98	(DK)
99	(Refused)

_____ _____ (1105) (1106)

(If code 08 or 16 in C2, Continue; Otherwise, Skip to C7)

C2a. Is the practice a single-specialty or multi-specialty practice?

OWNNSPC

1 Single-specialty - **(Skip to C7)**

2 Multi-specialty - **(Continue)**

8 (DK) **(Skip to C7)**
9 (Refused) **(Skip to C7)** _____(1637)

(If code 019-020, 023, 043, 085, 133, 195, or 403 in A10 OR A8, OR If code 1, 8, or 9 in A9 OR If code 042, 088, or 137 in A10 OR If code 2 or 3 in A9a OR If code 2 or 3 in A9b, Skip to C2c; Otherwise, Continue)

C2b. Are any of the physicians in the practice in primary care specialties? **(Probe:)** By primary care specialties, we mean general or family practice, general pediatrics, or general internal medicine.

OWNPCP

1 Yes
2 No
8 (DK)
9 (Refused) _____(1638)

(All in C2b, Skip to C7)

C2c. **(If code 019-020, 023, 043, 085, 133, 195, or 403 in A10 OR A8, OR If code 1, 8, or 9 in A9 OR If code 042, 088, or 137 in A10 OR If code 2 or 3 in A9a OR If code 2 or 3 in A9b, ask:)** Are any of the physicians in the practice in specialties other than general or family practice, general pediatrics or general internal medicine?

OWNSPEC

1 Yes
2 No
8 (DK)
9 (Refused) _____(1639)

(All in C2c, Skip to C7)

C3. **(If code 3, 8, or 9 in C1, ask:)** Which of the following best describes your current employer or employment arrangement? Are you employed by **(read 06-16, then 01)**? **(INTERVIEWER NOTE: Stop once response is given)** **(If necessary, say:)** An EMPLOYER is the entity that pays you and should not be confused with where you work. For instance, your employer could be a group practice even if you work in a hospital.

TOPEMP

01 OR, something else (do NOT list here) - **(Skip to C3b)**

02-05 HOLD

06 A practice owned by one physician (solo practice) - **(Skip to C7)**

07 A two physician-owned practice - **(Skip to C7)**

08 A group practice of three or more physicians (see) AMA definition on card) - **(Continue)**

09 A group model HMO **(Skip to C7)**
10 A staff model HMO **(Skip to C7)**

12 A medical school or university **(Skip to C6b)**
13 A non-government hospital or group of hospitals **(Skip to C6b)**

14 City, county or state government - **(Skip to C3a)**

16 A free-standing clinic - **(Continue)**

98 (DK) **(Skip to C3b)**
99 (Refused) **(Skip to C3b)**

_____ _____
(1107) (1108)

C3aa. **(If code 08 or 16 in C3, ask:)** Is the practice a single-specialty or multi-specialty practice?

EMPNSPC

1 Single-specialty - **(Skip to C7)**

2 Multi-specialty - **(Continue)**

8 (DK) **(Skip to C7)**
9 (Refused) **(Skip to C7)** _____(1640)

(If code 019-020, 023, 043, 085, 133, 195, or 403 in A10 OR A8, OR If code 1, 8, or 9 in A9 OR If code 042, 088, or 137 in A10 OR If code 2 or 3 in A9a OR If code 2 or 3 in A9b, Skip to C3ac; Otherwise, Continue)

C3ab. Are any of the physicians in the practice in primary care specialties? **(Probe:)** By primary care specialties, we mean general or family practice, general pediatrics, or general internal medicine.

EMPPCP

1 Yes
2 No
8 (DK)
9 (Refused) _____(1641)

(All in C3ab, Skip to C7)

C3ac. **(If code 019-020, 023, 043, 085, 133, 195, or 403 in A10 OR A8, OR If code 1, 8, or 9 in A9 OR If code 042, 088, or 137 in A10 OR If code 2 or 3 in A9a OR If code 2 or 3 in A9b, ask:)** Are any of the physicians in the practice in specialties other than general or family practice, general pediatrics or general internal medicine?

EMPSPEC

1 Yes
2 No
8 (DK)
9 (Refused) _____(1642)

(All in C3ac, Skip to C7)

C3a. **(If code 14 in C3, ask:)** Is this a hospital, clinic, or some other setting?

OTHSET

1 Hospital
2 Clinic
3 Other (do NOT list)

8 (DK)
9 (Refused) _____(1198)

**(If code 1 in C3a, Skip to CX;
Otherwise, Skip to Note before C8a)**

C3b. **(If code 01, 98, or 99 in C3, ask:)** Are you employed by **(read 11-21, 22, 25, and 26, as appropriate, then 01)**?

EMPTYP

01 OR, something else (do NOT list here)

02-
10 HOLD

11 Other HMO, insurance company, or health plan
15 An integrated health or delivery system
17 A physician practice management company or other for-profit investment company
18 Community health center
19 Management Services Organization (MSO)
20 Physician-Hospital Organization (PHO)
21 Locum tenens
22 Foundation
25 Independent contractor
26 Industry clinic

98 (DK)
99 (Refused)

_____ _____
(1199) (1200)

**(If code 01 in C3b, Continue;
If code 18, 98, or 99 in C3b, Skip to C7;
If code 22 in C3b, Skip to C3ca;
Otherwise, Skip to Note before C8a)**

C3c. What type of organization do you work for? (Open ended and code, **if possible; otherwise, ENTER VERBATIM RESPONSE)**

EMPTYP2

01 Other (list)

02-
05 HOLD

06 A practice owned by one physician (solo practice)
07 A two physician-owned practice
08 A group practice of three or more physicians (see) AMA definition on card)
09 A group model HMO
10 A staff model HMO
12 A medical school or university
13 A non-government hospital or group of hospitals
14 City, county or state government
16 A free-standing clinic
17 HOLD
18 Community health center
19-
21 HOLD
22 Foundation
25 Independent Contractor
26 Industry Clinic

98 (DK)
99 (Refused)

_____ _____
(1643) (1644)

_____

**(If code 01, 25, or 26 in C3c, Skip to Note before C8a;
If code 06, 07, 09, 10, 18, 98, or 99 in C3c, Skip to C7;
If code 08, 16, or 22 in C3c, Continue;
If code 12 or 13 in C3c, Skip to C6b;
Otherwise, Skip to C3d)**

C3ca. **(If code 08, 16, or 22 in C3c or code 22 in C3b, ask:)** Is the practice a single-specialty or multi-specialty practice?

EM2NSPC

1 Single-specialty - **(Skip to C7)**

2 Multi-specialty - **(Continue)**

8 (DK) **(Skip to C7)**
9 (Refused) **(Skip to C7)** _____(1097)

(If code 019-020, 023, 043, 085, 133, 195, or 403 in A10 OR A8, OR If code 1, 8, or 9 in A9 OR If code 042, 088, or 137 in A10 OR If code 2 or 3 in A9a OR If code 2 or 3 in A9b, Skip to C3cc; Otherwise, Continue)

C3cb. Are any of the physicians in the practice in primary care specialties? By primary care specialties, we mean general or family practice, general pediatrics, or general internal medicine.

EM2PCP

1 Yes
2 No
8 (DK)
9 (Refused) _____(1098)

(All in C3cb, Skip to C7)

C3cc. **(If code 019-020, 023, 043, 085, 133, 195, or 403 in A10 OR A8, OR If code 1, 8, or 9 in A9 OR If code 042, 088, or 137 in A10 OR If code 2 or 3 in A9a OR If code 2 or 3 in A9b, ask:)** Are any of the physicians in the practice in specialties other than general or family practice, general pediatrics, or general internal medicine?

EM2SPEC

1 Yes
2 No
8 (DK)
9 (Refused) _____(1099)

(All in C3cc, Skip to C7)

C3d. **(If code 14 in C3c, ask:)** Is this a hospital, clinic, or some other setting?

EM2HOSP

1 Hospital
2 Clinic
3 Other (do NOT list)

8 (DK)
9 (Refused) _____(1662)

**(If code 1 in C3d, Skip to CX;
Otherwise, Skip to Note before C8a)**

(Questions C4-C6a deleted)

[Deleted Note]

C6b. In which of the following settings do you spend most of your time seeing patients - in an office practice owned by the hospital or a university or medical school, on hospital staff, in the emergency room, in a hospital clinic, or somewhere else?

SETTING

01 Somewhere else (list)
02 (DK)
03 (Refused)
04 HOLD
05 HOLD

06 Office practice owned by the (hospital/ university/medical school)
07 On hospital staff
08 In emergency room
09 In a hospital clinic

_____ _____
(3217) (3218)

_____

**(If code 07 or 08 in C6b, Skip to CX;
If code 01, 02, 03, or 09 in C6b,
Skip to Note before C8a;
Otherwise, Continue)**

C7. How many physicians, including yourself, are in the practice? Please include all locations of the practice. **(Probe:)** Your best estimate would be fine. (Open ended **and code actual number)** **(INTERVIEWER NOTE: If asked, this includes both full- and part-time physicians)**

NPHYS

997 997+
DK (DK)
RF (Refused)

_____ _____ (1148 - 1150)

_____

(Question C8 deleted) HOLD _____(1151-1153)

(If code 2 in S1c OR
If response in A6 is less than 2002, DK, or RF, Continue;
Otherwise, Skip to Note before C9)

C8a. The next question is about the overall level, that is, the quality and number of nurses, including RNs, LPNs, nurse aides, and assistants, who work in your practice. Compared with three years ago, is the overall level of nursing support in your practice much better, slightly better, about the same, slightly worse, or much worse?

NURSLEV

5 Much better
4 Slightly better
3 About the same
2 Slightly worse
1 Much worse

6 (DK)
7 (Refused) _____(1159)

(If code 1 or 2 in C8a, Continue;
Otherwise, Skip to Note before C9)

C8aa. Has the overall level of nursing support worsened mainly because you have fewer nurses, mainly because nursing quality has declined, or both about equally?

1 Fewer nurses
2 Nursing quality has declined
3 (Both about equally)
4 (DK)
5 (Refused) _____(1160)

**(If code 06 in C6b, Skip to CX;
If code 08 in C2 or C3 AND
code 025-997 in C7, Continue;
Otherwise, Skip to CX)**

C9. Is your practice either a group model HMO or organized exclusively to provide services to a group model HMO?

GRPHMO

1 Yes
2 No
8 (DK)
9 (Refused) _____(1154)

(Questions C10-C12 deleted)

CX. How would you describe your overall personal financial incentives in your practice? On balance, do these incentives favor reducing services to individual patients, favor expanding services to individual patients, or favor neither?

INCENT

1 Reducing services to individual patients **(Continue)**
2 Expanding services to individual patients **(Continue)**

3 Favor neither - **(Skip to CZ)**

8 (DK) **(Skip to CZ)**
9 (Refused) **(Skip to CZ)** _____(3271)

CY. **(If code 1 or 2 in CX, ask:)** Have these incentives [**(if code 1 in CX, say:)** reduced/**(if code 2 in CX, say:)** expanded] services a little, a moderate amount, or a lot?

EFINCNT

1 A little
2 A moderate amount
3 A lot

4 (None)
8 (DK)
9 (Refused) _____(3272)

CZ. The next question deals with your perception of competition among physicians. By competition among physicians, we mean pressure to undertake various activities to attract and retain patients. Now, thinking about your practice specifically, how would you describe the competitive situation your practice faces? Would you say very competitive, somewhat competitive, or not at all competitive?

COMPETE

3 Very competitive
2 Somewhat competitive
1 Not at all competitive

8 (DK)
9 (Refused) _____(3273)

CLOCK:

_____ _____
_____ (2192 - 2195)

SECTION D
MEDICAL CARE MANAGEMENT; INFORMATION TECHNOLOGY; CARE MANAGEMENT; HOSPITAL SAFETY; SCOPE OF CARE

INFORMATION TECHNOLOGY

D1. The next question is about the use of computers and other forms of information technology, such as hand-held computers, in diagnosing or treating your patients. In your practice, are computers or other forms of information technology used **(read and rotate A-H)**? **(INTERVIEWER NOTE: "Practice" refers to main practice)**

1 Yes
2 No
8 (DK)
9 (Refused)

IT TRT

A. To obtain information about treatment alternatives or recommended guidelines _____(3227)

IT FORM

B. To obtain information on formularies _____(3228)

ITRMNDR

C. To generate reminders for you about preventive services _____(3229)

ITNOTES

D. To access patient notes, medication lists, or problem lists _____(3230)

ITPRESC

E. To write prescriptions _____(3231)

ITCLIN

F. For clinical data and image exchanges WITH OTHER PHYSICIANS _____(3232)

ITHOSP

F1. For clinical data and image exchanges WITH HOSPITALS AND LABORATORIES _____(3444)

D1. (Continued:)

ITCOMM

G. To communicate about clinical issues with patients by e-mail _____(3233)

ITDRUG

H. To obtain information on potential patient drug interactions with other drugs, allergies, and/or patient conditions _____(3251)

(If code 1 in D1-E, Continue; Otherwise, Skip to D3)

(Question D2 deleted)

(There are no questions D2a and D2b)

D2aa. What percentage of the prescriptions that you order are written electronically? (Open ended **and code actual percent)**

EPRESC

000 None
101 Less than 1%
102 (DK)
103 (Refused)

_____ _____
_____ (3445 - 3447)

[Deleted Note]

(Questions D2ab-D2ad deleted) HOLD _____(3448-3450)

CARE MANAGEMENT

D3. What percentage of your patients have prescription coverage that includes the use of a formulary? **(INTERVIEWER NOTE: A formulary is a restriction on the types of prescription drugs insurance companies will cover)** (Open ended **and code actual percent)**

FORMLRY

000 None
101 Less than 1%
102 (DK)
103 (Refused)

_____ _____
_____ (3237 - 3239)

[Deleted Read]

(Question D4 deleted)

D4-A. How large an effect does your use of FORMAL, WRITTEN practice guidelines such as those generated by physician organizations, insurance companies, or HMOs, or government agencies have on your practice of medicine? **(INTERVIEWER NOTE: Exclude guidelines that are unique to the physician.)** [**(If physician says that he/she uses his/her own guidelines, say:)** In this question, we are only interested in the use of formal, written guidelines such as those generated by physician organizations, insurance companies or HMOs, or other such groups.] Would you say that the effect is **(read 5-0)**?

EFGUIDE

5 Very large
4 Large
3 Moderate
2 Small
1 Very small, OR
0 No effect at all

8 (DK)
9 (Refused) _____(1157)

D4-A1. **(If code 0 in D4-A, ask:)** Is that because you are not aware of guidelines that pertain to conditions you typically treat, or because you are aware of them, but they have no effect on conditions you treat?

AWRGUID

1 Not aware
2 Aware, no effect

8 (DK)
9 (Refused) _____(1158)

(D4-B, D4-B1, D4-C, D4-C1, and D5 deleted) HOLD _____(3242-3250)

(There is no question D6) HOLD _____(3251-3255)

HOSPITAL SAFETY

[Deleted CLOCK] HOLD _____(3280-3283)

(If code 019-020, 023, 043, 085, 133, 195, or 403 in A10/A8, OR
If code 1, 8, or 9 in A9, OR
If code 042, 088, or 137 in A10, OR
If code 2 or 3 in A9a, OR
If code 2 or 3 in A9b, AND
If code 000, 998, or 999 in B5a-D, Skip to D7;
Otherwise, Continue)

D6a. Does the hospital where most of your patients are treated have computerized systems to order tests and medications?

CPOEHSP

1 Yes
2 No
3 (Not applicable; Do not admit patients to hospital)
8 (DK)
9 (Refused)

_____(3451)

D6b. Medical errors include events such as dispensing of incorrect medication doses, surgical mistakes, or error in interpreting results of diagnostic tests. Does the hospital where most of your patients are treated have a system for reporting medical errors, in which the person reporting the error remains anonymous? **(If necessary to clarify term "medical errors", read:)** Some errors harm patients, some are caught before they can cause any harm, and others may occur but don't cause any harm.

ERRREPT

1 Yes
2 No
3 (Not applicable; Do not admit patients to hospital)
8 (DK)
9 (Refused)

_____(3452)

D7. Hospitalists are physicians whose primary professional focus is the general medical care of hospitalized patients. What percentage of your patients who were hospitalized last year had a hospitalist involved in their inpatient care? (Open ended **and code actual percent)**

HSPLST

000 None
101 Less than 1%
102 (DK)
103 (Refused)
104 (Not applicable/Do not admit patients to hospital)

_____ _____
_____ (3453 - 3455)

[Deleted CLOCK] HOLD _____(3284-3287)

(If code 019-020, 023, 043, 085, 133, 195, or 403 in A10/A8, OR
If code 1, 8 or 9 in A9, OR
If code 042, 088, or 137 in A10, OR
If code 2 or 3 in A9a, OR
If code 2 or 3 in A9b, Continue;
Otherwise, Skip to CLOCK before F1)

PCP SCOPE OF CARE, GATEKEEPING

(READ:) Now, I would like to ask you a couple of questions about the range and complexity of conditions you treat without referral to specialists.

D8. In general, would you say that the complexity or severity of patients' conditions for which you are currently expected to provide care without referral is **(read 5-1)**?

CMPEXPC

5 Much greater than it should be
4 Somewhat greater than it should be
3 About right
2 Somewhat less than it should be, OR
1 Much less than it should be

8 (DK)
9 (Refused) _____(1170)

D9. During the last two years, has the number of patients that you refer to specialists **(read 5-1)**?

SPECUSE

5 Increased a lot
4 Increased a little
3 Stayed about the same
2 Decreased a little, OR
1 Decreased a lot

8 (DK)
9 (Refused) _____(1171)

D10. Some insurance plans or medical groups REQUIRE their enrollees to obtain permission from a primary care physician before seeing a specialist. For roughly what percent of your patients do you serve in this role? (Open ended **and code actual percent)**

(If necessary, say:) The term "gatekeeper" is often used to refer to this role.

(If necessary, say:) Include only those patients for whom it is required, not for patients who choose to do so voluntarily.

PCTGATE

000 None **(Skip to CLOCK before F1)**
001 1% or less **(Skip to CLOCK before F1)**

002-
100 **(Skip to CLOCK before F1)**

DK (DK) **(Continue)**
RF (Refused) **(Continue)**

_____ _____
_____ (1172 - 1174)

D10a. **(If code DK or RF in D10, ask:)** Would you say you serve in this role for **(read 1-2)**?

PGATE25

1 Less than 25 percent of your patients, OR - **(Skip to D10c)**

2 25 percent or more of your patients - **(Continue)**

8 (DK) **(Skip to CLOCK before F1)**
9 (Refused) **(Skip to CLOCK before F1)** _____(1175)

D10b. **(If code 2 in D10a, ask:)** Would you say for **(read 1-2)**?
PGATE50

1 Less than 50 percent of your patients
2 50 percent or more of your patients

8 (DK)
9 (Refused) _____(1176)

(All in D10b, Skip to CLOCK before F1)

D10c. **(If code 1 in D10a, ask:)** Would you say for **(read 1-2)**?
PGATE10

1 Less than 10 percent of your patients
2 10 percent or more of your patients

8 (DK)
9 (Refused) _____(1177)

[Deleted Note]

(There are no questions D11, D12, or D13)

(Question D14 deleted) HOLD _____(3456)

CLOCK:

_____ _____
_____ (2200 - 2204)

(There is no Section E)

SECTION F
PHYSICIAN-PATIENT INTERACTIONS; QUALITY; ABILITY TO OBTAIN SERVICES; COST SHARING; NEW PATIENTS

PERCEPTIONS OF QUALITY

F1. Next I am going to read you several statements. For each, I'd like you to tell me if you agree strongly, agree somewhat, disagree somewhat, disagree strongly, or if you neither agree nor disagree. [**(If necessary, say:)** As you answer, please think only about your main practice.] **(Read A-B, as appropriate, then read and rotate C-H, as appropriate)** Do you **(read 5-1)**? **(If necessary, say:)** We'd like you to think across all patients that you see in your practice.

5 Agree strongly
4 Agree somewhat
3 Neither agree nor disagree
2 Disagree somewhat, OR
1 Disagree strongly

7 (Doctor does not have office) [A only]
7 (Doctor does not have continuing relationship with patients) [H only]
8 (DK)
9 (Refused)

ATMOFF

A. I have adequate time to spend with my patients during their office visits? **(INTERVIEWER NOTE: Do not further differentiate the level of visit, that is, whether brief, intermediate, etc.)** **(If necessary, say:)** We would like you to answer in general or on AVERAGE over all types of visits. _____(1308)

ATMOTH

B. **(If code 7 in F1-A, ask:)** I have adequate time to spend with my patients during a typical patient visit **(INTERVIEWER NOTE: This does not include surgery)** _____(1351)

CLNFREE

C. I have the freedom to make clinical decisions that meet my patients' needs _____(1309)

HIGHCAR

D. It is possible to provide high quality care to all of my patients _____(1310)

F1. (Continued:)

NEGINCN

E. I can make clinical decisions in the best interests of my patients without the possibility of reducing my income _____(1311)

(Items F and G deleted) HOLD _____(1312-1313)

PATREL

H. It is possible to maintain the kind of continuing relationships with patients over time that promote the delivery of high quality care _____(1314)

(There are no questions F2-F7)

ABILITY TO OBTAIN SERVICES

(Question F8 and F8a deleted)

[Deleted CLOCK] HOLD _____(3462-3465)

F8b. During the last 12 months, were you unable to obtain any of the following services for your patients when you thought they were medically necessary? How about **(read and rotate A-E, as appropriate)**?

1 Yes
2 No
8 (DK)
9 (Refused)

NOTREFS

A. [**(If code 019, 020, 023, 043, 085, 133, 195, or 403 in A10/A8, OR code 1, 8, or 9 in A9, or if code 042, 088, or 137 in A10, OR code 2 or 3 in A9a, OR code 2 or 3 in A9b, ask:)** Referrals to specialists of high quality/**(Otherwise, ask:)** Referrals to other specialists of high quality] _____(3457)

(Item B deleted) HOLD _____(3458)

NOTHOSP

C. Non-emergency hospital admissions _____(3459)

NOTIMAG

D. High quality diagnostic imaging services _____(3460)

NOTOUTP

E. **(If code 010, 019, 020, 023, 043, 062, 064-065,**

082-085, 127, 132, 133, 210, 312, 313, 192, 195, or 403 in A10/A8, OR code 1, 8, or 9 in A9, or code 2 or 3 in A9a, or code 042, 088 or 137 in A10, OR code 2 or 3 in A9b, ask:) High quality outpatient mental health services _____(3461)

[Deleted CLOCK] HOLD _____(3466-3469)

F8c. Now, I am going to read some reasons why you might be unable to obtain various services. For each one, tell me whether it is a very important, moderately important, not very important, or not at all important reason for your being unable to obtain **(read A-C, as appropriate)**. How about **(read and rotate a-c)**?

4 Very important
3 Moderately important
2 Not very important
1 Not at all important

8 (DK)
9 (Refused)

A. **(If code 1 in F8b-A, ask:)** [**(If code 019, 020, 023, 043, 085, 133, 195, or 403 in A10/A8, OR code 1, 8, or 9 in A9, or if code 042, 088, or 137 in A10, OR code 2 or 3 in A9a, OR code 2 or 3 in A9b, ask:)** Referrals to specialists of high quality/**(Otherwise, ask:)** Referrals to other specialists of high quality]

REFPRVR

a. There aren't enough qualified service providers or facilities in my area _____(3470)

REFHPR

b. Health plan networks and administrative barriers limit patient access _____(3471)

REFINSR

c. Patients lack health insurance or have inadequate insurance coverage _____(3472)

B. **(If code 1 in F8b-C, ask:)** Non-emergency hospital admissions

HSPPRVR

a. There aren't enough qualified service providers or facilities in my area _____(3473)

HSPHPR

b. Health plan networks and administrative barriers limit patient access _____(3474)

HSPINSR

c. Patients lack health insurance or have inadequate insurance coverage _____(3475)

F8c. (Continued:)

C. **(If code 1 in F8b-E, ask:)** High quality outpatient mental health services, when you think it is medically necessary

MHPROVR

a. There aren't enough qualified service providers or facilities in my area _____(3476)

MHHPR

b. Health plan networks and administrative barriers limit patient access _____(3477)

MHINSR

c. Patients lack health insurance or have inadequate insurance coverage _____(3478)

COST SHARING

[Deleted CLOCK] HOLD _____(3479-3482)

F8d. The next questions concern the impact of insured patients' out-of-pocket costs for co-payments and deductibles. **(Read and rotate A-C)**

5 Always
4 Usually
3 Sometimes
2 Rarely
1 Never

8 (DK)
9 (Refused)

GENERIC

A. If a generic option is available, how often do you prescribe a generic over a brand name drug? **(Read 5-1)** _____(3483)

DIAGCST

B. If there is uncertainty about a diagnosis, how often do you consider an insured patient's out-of pocket costs in deciding the types of tests to recommend? **(Read 5-1)** _____(3484)

IOPTCST

C. If there is a choice between outpatient and inpatient care, how often do you consider an insured patient's out-of-pocket costs? **(Read 5-1)** _____(3485)

[Deleted CLOCK] HOLD _____(3486-3489)

NEW PATIENTS

F9. Now, I'd like to ask you about new patients the practice in which you work might be accepting. Is the practice accepting all, most, some, or no **(read A-G, as appropriate)**? **(INTERVIEWER NOTE: Refers to entire practice not just to physician's own patients. Medicaid and Medicare beneficiaries who are enrolled in managed care plans should be included in A or B, respectively.)**

4 All
3 Most
2 Some
1 No new patients/None

8 (DK)
9 (Refused)

NWMCARE

A. New patients who are insured through Medicare, including Medicare managed care patients _____(1323)

NWMCAID

B. [**({If code 06 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND code CA in A5a-STATE}, read:)** New patients who are insured through MediCAL, including MediCAL managed care patients/**({If code 04 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND code AZ in A5a-STATE}, read:)** New patients who are insured through AHCCCS ("Access")/**(Otherwise, read:)** New patients who are insured through Medicaid, including Medicaid managed care patients _____(1322)

(Item B1 deleted) HOLD _____(3490)

NWPRIV

C. New patients who are insured through private or commercial insurance plans including managed care plans and HMOs with whom the practice has contracts. **(If necessary, read:)** This includes both fee for service patients and patients enrolled in managed care plans with whom the practice has a contract. It excludes Medicaid or Medicare managed care _____(1324)

(Item D deleted) HOLD _____(3269)

(There are no Items E or F)

NWNPAY

G. New uninsured patients who are unable to pay your fees _____(3495)

(Question F10 deleted) HOLD _____(3270)

[Deleted CLOCK] HOLD _____(3491-3494)

(If code 1 or 2 in F9-A, Continue; Otherwise, Skip to Note before F12)

F11. I am going to read some reasons why physician practices may be limiting or not accepting new Medicare patients. For each one, tell me whether it is a very important, moderately important, not very important, or not at all important reason why your practice is [**(If code 1 in F9-A, read:)** not accepting/**(If code 2 in F9-A, read:)** limiting] new Medicare patients. How about **(read and rotate A-E)**?

4 Very important
3 Moderately important
2 Not very important
1 Not at all important

8 (DK)
9 (Refused)

MRBILL

A. Billing requirements, including paperwork, and filing of claims _____(3496)

MRAUDIT

B. Concern about a Medicare audit _____(3497)

MRREIMB

C. Inadequate reimbursement _____(3498)

MRNUFPT

D. Practice already has enough patients _____(3499)

MRPTBUR

E. Medicare patients have high clinical burden _____(3500)

(If code 1 or 2 in F9-B, Continue; Otherwise, Skip to CLOCK after F12)

F12. Next, I am going to read some reasons why physician practices may be limiting or not accepting new [**({If code 06 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND code CA in A5a-STATE}, read:)** MediCal/**({If code 04 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND AZ in A5a-STATE}, read:)** AHCCCS ("Access")/**(Otherwise, read:)** Medicaid] patients. Again, tell me whether each one is a very important, moderately important, not very important, or not at all important reason why your practice is [**(If code 1 in F9-B, read:)** not accepting/**(If code 2 in F9-B, read:)** limiting] new [**({If code 06 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND code CA in A5a-STATE}, read:)** MediCal/**({If code 04 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND AZ in A5a-STATE}, read:)** AHCCCS ("Access")/**(Otherwise, read:)** Medicaid] patients. How about **(read and rotate A-E)**?

4 Very important
3 Moderately important
2 Not very important
1 Not at all important

8 (DK)
9 (Refused)

MDBILL
A. Billing requirements, including paperwork, and filing of claims _____(3501)

MDDELAY
B. Delayed reimbursement _____(3502)

MDREIMB
C. Inadequate reimbursement _____(3503)

MDNUFPT
D. Practice already has enough patients _____(3504)

MDPTBUR
E. [**({If code 06 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND code CA in A5a-STATE}, read:)** MediCal/**({If code 04 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND AZ in A5a-STATE}, read:)** AHCCCS ("Access")/**(Otherwise, read:)** Medicaid] patients have high clinical burden _____(3505)

CLOCK:

_____ _____
(2216 - 2219)

_____

SECTION G
PRACTICE REVENUE

G1. Now, I'm going to ask you some questions about the patient care revenue received by the **(response in CA)** in which you work. Approximately what percentage of the PRACTICE REVENUE FROM PATIENT CARE would you say comes from **(read A-B)**? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, say:)** We're asking about the patient care revenue of the practice in which you work, not just the revenue from the patients YOU see. **(INTERVIEWER NOTE: "Other public insurance" includes Champus, Champva, and Tricare)**

000 None
001 1% or less
DK (DK)
RF (Refused)

PMCR A

A. Payments from all Medicare plans, including Medicare managed care

_____ _____
(1325 - 1327)

PMCD A

B. [**({If code 06 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND code CA in A5a-STATE}, read:)** Payments from MediCAL or any other public insurance, including MediCAL managed care/**({If code 04 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND AZ in A5a-STATE}, read:)** Payments from AHCCCS ("Access") or any other public insurance/**(Otherwise, read:)** Payments from Medicaid or any other public insurance, including Medicaid managed care]

_____ _____
(1328 - 1330)

(If response in G1-A + response in G1-B > 100, Continue; Otherwise, Skip to G3)

G1a. I have recorded that the combined practice revenue from Medicare and [**({If code 06 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND code CA in A5a-STATE}, read:)** MediCAL/**({If code 04 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND AZ in A5a-STATE}, read:)** AHCCCS ("Access")/**(Otherwise, read:)** Medicaid] is greater than 100 percent, can you help me resolve this? Approximately what percentage of the practice's revenue from patient care comes from **(read A-B)**? **(INTERVIEWER NOTE: Revenue from patients covered by both Medicare and Medicaid should be counted in MEDICARE ONLY)** (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, say:)** We're asking about the patient care revenue of the practice in which you work, not just the revenue from the patients YOU see.

000 None
001 1% or less
DK (DK)
RF (Refused)

PMCR B

A. Payments from all Medicare plans, including Medicare managed care

_____ _____
(1334 - 1336)

PMCD B

B. [**({If code 06 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND code CA in A5a-STATE}, read:)** MediCAL/**({If code 04 in **STATE AND code 1 in A5} OR {If code 2, 8, 9, or BLANK in A5 AND AZ in A5a-STATE}, read:)** AHCCCS ("Access")/**(Otherwise, read:)** Medicaid]

_____ _____
(1337 - 1339)

(There is no question G2)

[Deleted Note]

G3. Now, again thinking about the patient care revenue from ALL sources received by the practice in which you work, what percentage is paid on a capitated or other prepaid basis? **(If necessary, say:)** Under capitation, a fixed amount is paid per patient per month regardless of services provided. **(Probe:)** Your best estimate would be fine. (Open ended **and code actual percent)** **(INTERVIEWER NOTE: Includes payments made on a capitated or other prepaid basis from Medicare or Medicaid)**

PCAP A

000 None
001 1% or less
002-
100
DK (DK)
RF (Refused)

_____ _____
_____ (2438 - 2440)

(There are no questions G3a-G5)

[Deleted Note]

(Question G5a deleted) HOLD _____(3509-3514)

(Question G5b deleted)

G6. Thinking again about the practice in which you work, we have a few questions about contracts with managed care plans such as HMOs, PPOs, IPAs, and Point-Of-Service plans. First, roughly how many managed care contracts does the practice have? **(Probe:)** Your best estimate would be fine. **(If necessary, say:)** Managed care includes any type of group health plan using financial incentives or specific controls to encourage utilization of specific providers associated with the plan. Direct contracts with employers that use these mechanisms are also considered managed care. **(INTERVIEWER NOTE: Include Medicare managed care, Medicaid managed care, and other government managed care contracts but not traditional Medicare or Medicaid.)** (Open ended **and code actual number)**

NMC A

00	None -	**(Skip to G7)**
01-19		**(Skip to G8)**
20-97		**(Skip to G6b)**
98	98+ contracts	**(Skip to G6b)**
DK	(DK)	**(Continue)**
RF	(Refused)	**(Continue)**

_____ _____ (2458) (2459)

G6a. **(If code DK or RF in G6, ask:)** Would you say less than 3 contracts, 3 to 10, or more than 10 contracts?

NMCCAT

0	(None) -	**(Skip to G7)**
1	Less than 3 (1 or 2)	**(Skip to G8)**
2	3 to 10	**(Skip to G8)**
3	More than 10 (11+)	**(Skip to G8)**
8	(DK)	**(Skip to G8)**
9	(Refused)	**(Skip to G8)**

_____(2460)

G6b. **(If code 20-97 in G6, ask:)** Just to be sure, is this the number of contracts, or patients?

CONPATS

1 Contracts - **(Skip to G8)**

2 Patients - **(Continue)**

8 (DK) **(Skip to G8)**
9 (Refused) **(Skip to G8)** _____(1340)

G6c. **(If code 2 in G6b, ask:)** In this question, we are asking about contracts. So, roughly how many managed care CONTRACTS does the practice have? (Open ended **and code actual number)**

NMC B

00 None - **(Continue)**

01-
97 **(Skip to G8)**

DK (DK) **(Skip to G8)**
RF (Refused) **(Skip to G8)**

_____ _____
(1341) (1342)

G7. **(If code 00 in G6, or code 0 in G6a, or code 00 in G6c, ask:)** What percentage, if any, of the patient care revenue received by the practice in which you work comes from all managed care combined? Please include ALL revenue from managed care including, but not limited to, any payments made on a capitated or prepaid basis. **(Probe:)** Your best estimate will be fine. **(If necessary, say:)** Managed care programs include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, say:)** Managed care includes any type of group health plan using financial incentives or specific controls to encourage utilization of specific providers associated with the plan. Direct contracts with employers that use these mechanisms are also considered managed care. (Open ended **and code actual percent)**

PMC A

000 None
001 1% or less
DK (DK)
RF (Refused)

_____ _____
(1343 - 1345)

_____

(If code 00 in G6,
and G7 is LESS THAN response in G3, Continue;
If code 00 in G6a or G6c,
And G7 is LESS THAN response in G3, Continue;
Otherwise, Skip to CLOCK before Section H)

G7a. I may have recorded something incorrectly. I recorded that the percentage of practice revenue from all managed care is less than the percentage of practice revenue that is paid on a capitated or other prepaid basis. This seems inconsistent, so let me ask you again, what percent of patient care revenue received by the practice in which you work comes from all managed care combined? (Open ended **and code actual percent)** **(SURVENT: Show response in G7)**

PMC F

000 None
101 Less than 1%
DK (DK)
RF (Refused)

_____ _____
(2548 - 2550)

_____

G7b. Let me also ask you again, thinking about the patient care revenue from ALL sources received by the practice in which you work, what percentage is paid on a capitated or other prepaid basis? (Open ended **and code actual percent)** **(SURVENT: Show response in G3)**

PCAP D

000 None
101 Less than 1%
DK (DK)
RF (Refused)

_____ _____
(2551 - 2553)

_____

(All in G7b, Skip to CLOCK before Section H)

G8. **(If code 02-97 in G6c, or code 1-3 in G6a, or code 02-97 in G6, ask:)** What percentage of the patient care revenue received by the practice in which you work comes from these **(response in G6c/G6a/G6)** managed care contracts combined? [**(If code 001-100, DK, or RF in G3, say:)** Please include ALL revenue from these contracts including, but not limited to, any payments made on a capitated or prepaid basis.] **(Probe:)** Your best estimate will be fine. **(If necessary, say:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, say:)** Managed care includes any type of group health plan using financial incentives or specific controls to encourage utilization of specific providers associated with the plan. Direct contracts with employers that use these mechanisms are also considered managed care. (Open ended **and code actual percent)**

(If code 01 in G6c or G6, ask:) What percentage of the patient care revenue received by the practice in which you work comes from this managed care contract? [**(If code 001-100, DK, or RF, say:)** Please include ALL revenue from this contract including, but not limited to, any payments made on a capitated or prepaid basis.] **(Probe once lightly:)** Your best estimate will be fine. **(If necessary, say:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, say:)** Managed care includes any type of group health plan using financial incentives or specific controls to encourage utilization of specific providers associated with the plan. Direct contracts with employers that use these mechanisms are also considered managed care. (Open ended **and code actual percent)**

G8. (Continued:)

(If code "DK" or "RF" in G6c, or code 8 or 9 in G6a, ask:) What percentage of the patient care revenue received by the practice in which you work comes from all of the practice's managed care contracts combined? [**(If code 001-100, DK, or RF, say:)** Please include ALL revenue from these contracts including, but not limited to, any payments made on a capitated or prepaid basis.] **(Probe once lightly:)** Your best estimate will be fine. **(If necessary, say:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, say:)** Managed care includes any type of group health plan using financial incentives or specific controls to encourage utilization of specific providers associated with the plan. Direct contracts with employers that use these mechanisms are also considered managed care. (Open ended **and code actual percent)**

PMC B

000	None	**(Continue)**
001	1% or less	**(Continue)**
002-100		**(Continue)**
DK	(DK)	**(Skip to CLOCK before Section H)**
RF	(Refused)	**(Skip to CLOCK before Section H)**

_____ _____
(2462 - 2464)

_____

(If response in G8 is less than response in G3, Continue;
If response in G3 + response in G8=0, Skip to CLOCK before Section H;
If response in G8 > 000, Skip to G8d)

G8a. **(If response in G8 is less than response in G3, ask:)** I have recorded that your revenue from all managed care contracts is less than the amount you received on a capitated or prepaid basis. We would like you to include all capitated payments in estimating managed care revenue. Would you like to change your answer of **(read 1-2)**?

FIXPMC

1 **(Response in G8)** percent from all managed care contracts - **(Continue)**

OR

2 **(Response in G3)** percent received on a capitated or prepaid basis - **(Skip to G8c)**

3 (Both) - **(Continue)**

4 (Neither) **(Skip to CLOCK before Section H)**
8 (DK) **(Skip to CLOCK before Section H)**
9 (Refused) **(Skip to CLOCK before Section H)** _____(2465)

(If code 01-19 in G6, Skip to G8b;
If code 20-97 in G6,
AND code 1 in G6b, Skip to G8b;
If code 8, 9 or BLANK in G6a, AND
code DK, RF, or BLANK in G6c, Skip to G8d;
Otherwise, Continue)

G8b. **(If code 1 or 3 in G8a, ask:)**
(If code 02-97 in G6c, or code 1-3 in G6a or code 02-97 in G6, ask:) So, what percentage of the practice's revenue from patient care would you say comes from all of these managed care contracts combined? (Open ended **and code actual percent)**
(If code 01 in G6c or G6, ask:) So, what percentage of the practice's revenue from patient care would you say comes from this managed care contract? (Open ended **and code actual percent)**

PMC C

000 None - **(Skip to CLOCK before Section H)**

001 1% or less
DK (DK)
RF (Refused)

_____ _____
_____ (2466 - 2468)

G8c. **(If code 2 or 3 in G8a, ask:)** So what percentage of patient care revenue received by the practice in which you work is paid on a capitated or other prepaid basis? **(If necessary, say:)** Under capitation, a fixed amount is paid per patient per month regardless of services provided. **(Probe:)** Your best estimate would be fine. (Open ended **and code actual percent)**

PCAP B

000 None
001 1% or less

002-
100

DK (DK)
RF (Refused)

_____ _____
_____ (1352 - 1354)

G8d. **(If "specific" response in G8b/G8 = "specific" response in G8c/G3, ask:)** So, all of the practice's managed care revenue is paid on a capitated, or prepaid basis, is this correct?

ALLCAP

1 Yes - **(Skip to CLOCK before Section H)**

2 No - **(Continue)**

8 (DK) **(Skip to CLOCK before Section H)**
9 (Refused) **(Skip to CLOCK before Section H)** _____(1346)

G8e. **(If code 2 in G8d, ask:)** I have recorded that **(response in G8b/G8)** percent of the practice revenue is from managed care and that **(response in G8c/G3)** percent of the practice revenue is paid on a capitated or prepaid basis. Which of these is incorrect?

FIXCAP

1 Revenue from managed care - **(Continue)**

2 Revenue paid on capitated or prepaid basis - **(Skip to G8g)**

3 Both are correct - **(Skip to CLOCK before Section H)**

4 Neither are correct - **(Continue)**

8 (DK) **(Skip to CLOCK before Section H)**
9 (Refused) **(Skip to CLOCK before Section H)** _____(1347)

G8f. **(If code 1 or 4 in G8e, ask:)**
(If code 02-97 in G6c, or G6 or code 1-3 in G6a, ask:)
What percentage of the patient care revenue received by the practice in which you work comes from these [**(response in G6c/G6)**] managed care contracts combined? **(If code 001-100, DK, or RF in G3, say:)** Please include ALL revenue from these contracts including, but not limited to, any payments made on a capitated or prepaid basis. **(Probe:)** Your best estimate will be fine. **(If necessary, say:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, say:)** Managed care includes any type of group health plan using financial incentives or specific controls to encourage utilization of specific providers associated with the plan. Direct contracts with employers that use these mechanisms are also considered managed care. (Open ended **and code actual percent)**

G8f. (Continued:)

(If code 01 in G6c or G6, ask:) What percentage of the patient care revenue received by the practice in which you work comes from this managed care contract? Please include ALL revenue from this contract including, but not limited to, any payments made on a capitated or prepaid basis. **(Probe:)** Your best estimate will be fine. **(If necessary, say:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, say:)** Managed care includes any type of group health plan using financial incentives or specific controls to encourage utilization of specific providers associated with the plan. Direct contracts with employers that use these mechanisms are also considered managed care. (Open ended **and code actual percent)**

(If code DK or RF in G6c or code 8 or 9 in G6a, ask:) What percentage of the patient care revenue received by the practice in which you work comes from all of the practice's managed care contracts combined? Please include ALL revenue from these contracts including, but not limited to, any payments made on a capitated or prepaid basis. **(Probe:)** Your best estimate will be fine. **(If necessary, say:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, say:)** Managed care includes any type of group health plan using financial incentives or specific controls to encourage utilization of specific providers associated with the plan. Direct contracts with employers that use these mechanisms are also considered managed care. (Open ended **and code actual percent)**

PMC D

000	None -	**(Skip to CLOCK before Section H)**
001	1% or less	**(Continue)**
002-100		**(Continue)**
DK	(DK)	**(Continue)**
RF	(Refused)	**(Continue)**

_____ _____
_____ (1161 - 1163)

G8g. **(If code 2 or 4 in G8e, ask:)** Now thinking about the patient care revenue from ALL sources received by the practice in which you work, what percentage is paid on a capitated or other prepaid basis? **(If necessary, say:)** Under capitation, a fixed amount is paid per patient per month regardless of services provided. **(Probe:)** Your best estimate would be fine. (Open ended **and code actual percent)** **(INTERVIEWER NOTE: Includes payments made on a capitated or other prepaid basis from Medicare or Medicaid)**

PCAP C

000 None
001 1% or less

002-
100

DK (DK)
RF (Refused)

_____ _____
(1191 - 1193)

_____

[Deleted Note]

(There are no questions G9-G10)

(There is no question G11)

(There is no question G12)

CLOCK:

_____ _____
(2224 - 2227)

_____

SECTION H
PHYSICIAN COMPENSATION METHODS AND INCOME LEVEL

(If code 1 in C1, AND code 06 in C2, Skip to H15a; Otherwise, Continue)

(READ:) Now, I'm going to ask you a few questions about how your practice compensates you personally. **(If necessary, say:)** Please answer only about the main practice in which you work.

H1. Are you a salaried physician?
SALPAID

1	Yes -	**(Skip to H3)**
2	No	**(Continue)**
8	(DK)	**(Continue)**
9	(Refused)	**(Continue)**

_____(2510)

H2. **(If code 2, 8, or 9 in H1, ask:)** Are you paid in direct relation to the amount of time you work, such as by the shift or by the hour?
SALTIME

1	Yes -	**(Skip to H4)**
2	No	**(Skip to H4)**
8	(DK)	**(Skip to H4)**
9	(Refused)	**(Skip to H4)**

_____(2511)

H3. **(If code 1 in H1, ask:)** Is your base salary a fixed amount that will not change until your salary is re-negotiated or is it adjusted up or down during the present contract period depending on your performance or that of the practice? **(If necessary, say:)** Adjusted up or down means for example, some practices pay their physicians an amount per month that is based on their expected revenue, but this amount is adjusted periodically to reflect actual revenue produced. **(INTERVIEWER NOTE: Base salary is the fixed amount of earnings, independent of bonuses or incentive payments.)**

SALADJ

1 Fixed amount
2 Adjusted up or down
8 (DK)
9 (Refused) _____(2512)

H4. Are you currently eligible to earn income through any type of bonus or incentive plan? **(INTERVIEWER NOTE: Bonus can include any type of payment above the fixed, guaranteed salary)**

BONUS

1 Yes - **(Skip to Note before H5)**

2 No **(Continue)**
8 (DK) **(Continue)**

9 (Refused) - **(Skip to Note before H5)** _____(2513)

H4a. **(If code 2 or 8 in H4, ask:)** Are you eligible to receive end-of-year adjustments, returns on withholds, or any type of supplemental payments, either from this practice or from health plans?

SUPLPAY

1 Yes
2 No
8 (DK)
9 (Refused) _____(3515)

(If code 1 in H2 OR code 1 in H3, Continue; Otherwise, Skip to H7)

H5. I am going to read you a short list of factors that are sometimes taken into account by medical practices when they determine the compensation paid to physicians in the practice. For each factor, please tell me whether or not it is EXPLICITLY considered: **(INTERVIEWER NOTE: "Practice" refers to main practice)**

[**(If code 1 in H1, AND code 2 or 8-9 in H4 AND H4a, ask:)** When your salary is determined, does the practice consider **(read A-E)**?

(If code 1 in H1 AND code 1 in H4 OR H4a, ask:) When either your base salary or bonus is determined, does the practice consider **(read A-E)**?

(If code 1 in H2, AND code 2, 8, or 9 in H4 AND H4a, ask:) When your pay rate is determined, does the practice consider **(read A-E)**?

(If code 1 in H2, AND code 1 in H4 OR H4a, ask:) When either your pay rate or bonus is determined, does the practice consider **(read A-E)**?

1 Yes
2 No
8 (DK)
9 (Refused)

SPROD A

A. Factors that reflect your own productivity **(If necessary, say:)** Examples include the amount of revenue you generate for the practice, the number of relative value units you produce, the number of patient visits you provide, or the size of your enrollee panel. _____(2514)

SSAT A

B. Results of satisfaction surveys COMPLETED BY YOUR OWN PATIENTS _____(2515)

SQUAL A

C. Specific measures of quality of care, such as rates of preventive care services for your patients

SPROF A

D. Results of practice profiling comparing your pattern of using medical resources to treat patients with that of other physicians **(INTERVIEWER NOTE: A practice profile is a report that is usually computer generated, which compares you to other physicians on things like referrals to specialists, hospitalizations, and other measures of cost effectiveness.)** _____(2517)

H5. (Continued:)

SPERF A

E. The overall financial performance of the practice **(INTERVIEWER NOTE: This item refers to the costs and revenues generated by all of the physicians in the practice)** _____(3516)

(If code 2, 8, or 9 to ALL in H5 A-E, Skip to H15a; Otherwise, Skip to Note before H7a)

(Question H6 deleted)

H7. **(If code 2, 8, or 9 in H2, or code 2, 8, or 9 in H3, ask:)** I am now going to read you a short list of factors that are sometimes taken into account by medical practices when they determine the compensation paid to physicians in the practice. For each factor, please tell me whether or not it is EXPLICITLY considered when your compensation is determined. Does the practice in which you work consider **(read A-E)**? **(INTERVIEWER NOTE: "Practice" refers to main practice)**

1 Yes
2 No
8 (DK)
9 (Refused)

SPROD B

A. Factors that reflect YOUR OWN productivity **(If necessary, say:)** Examples include the amount of revenue you generate for the practice, the number of relative value units you produce, the number of patient visits you provide, or the size of your enrollee panel. _____(2519)

SSAT B

B. Results of satisfaction surveys COMPLETED BY YOUR OWN PATIENTS _____(2520)

SQUAL B

C. Specific measures of quality of care, such as rates of preventive care services for your patients

SPROF B

D. Results of practice profiles comparing your pattern of using medical resources to treat patients with that of other physicians **(INTERVIEWER NOTE: A practice profile is a report that is usually computer generated, which compares you to other physicians on things like referrals to specialists, hospitalizations and other measures of cost effectiveness)** _____(2522)

H7. (Continued:)

SPERF B

E. The overall financial performance of the practice **(INTERVIEWER NOTE: This item refers to the costs and revenues generated by all of the physicians in the practice)** _____(3517)

(If code 1 in H5-A or H7-A, H5-B or H7-B, H5-C or H7-C, H5-D or H7-D OR H5-E or H7-E, Continue; Otherwise, Skip to H15a)

[Deleted CLOCK] HOLD _____(1645-1648)

H7a. For each of the factors you mentioned, tell me whether it is very important, moderately important, not very important, or not at all important in determining your compensation? How about **(read and rotate A-E, as appropriate)**?

4 Very important
3 Moderately important
2 Not very important
1 Not at all important

8 (DK)
9 (Refused)

IMPPROD

A. **(If code 1 in H5-A or H7-A, ask:)** Your own productivity _____(3518)

IMPPSAT

B. **(If code 1 in H5-B or H7-B, ask:)** Satisfaction surveys _____(3519)

IMPQUAL

C. **(If code 1 in H5-C or H7-C, ask:)** Quality of care measures _____(3520)

IMPPROF

D. **(If code 1 in H5-D or H7-D, ask:)** Results of practice profiling _____(3521)

IMPRPRF

E. **(If code 1 in H5-E or H7-E, ask:)** Overall practice performance _____(3522)

(There are no questions H8-H12)

[Deleted CLOCK] HOLD _____(1649-1652)

(Questions H13 and H14 deleted) HOLD _____(3523-3542)

H15a. During 2003, what was your own net income from the practice of medicine to the nearest $1,000, after expenses but before taxes? Please include contributions to retirement plans made for you by the practice and any bonuses as well as fees, salaries and retainers. Exclude investment income. Please include earnings from ALL practices, not just your main practice. **(If necessary, say:)** We define investment income as income from investments in medically related enterprises independent of a physician's medical practice(s), such as medical labs or imaging centers. **(If respondent refuses, say:)** This information is important to a complete understanding of community health care patterns and will be used only in aggregate form to ensure your confidentiality of the information. (Open ended **and code actual number)** **(If response is > $1 million, verify)**

INCOME

0000000-
9999999 **(Skip to H18)**

DK (DK) **(Continue)**
RF (Refused) **(Continue)**

_____ _____
(2527 - 2533)

H15b. **(If code DK in H15a, ask:)** Would you say that it was **(read 01-04)**?

(If code RF in H15a, ask:) Would you be willing to indicate if it was **(read 01-04)**?

INCCAT

01 Less than $100,000
02 $100,000 to less than $150,000
03 $150,000 to less than $250,000
04 $250,000 or more

98 (DK)
99 (Refused)

_____ _____
(2534) (2535)

[Deleted Note]

(Questions H16 and H17 deleted) HOLD _____(3543-3548)

H18. Do you consider yourself to be of Hispanic origin, such as Mexican, Puerto Rican, Cuban, or other Spanish background? **(Probe Refusals with:)** I understand this question may be sensitive. We are trying to understand how physicians from different ethnic and cultural backgrounds perceive some of the changes that are affecting the delivery of medical care.

HISP

1 Yes
2 No
8 (DK)
9 (Refused) _____(1659)

H19. What race do you consider yourself to be? **(If respondent hesitates, read 06-09)** **(Probe Refusals with:)** I understand this question may be sensitive. We are trying to understand how physicians from different ethnic and cultural backgrounds perceive some of the changes that are affecting the delivery of medical care.] (Open ended and code) **(INTERVIEWER NOTE: If respondent specifies a mixed race or a race not pre-coded, code as 01 - Other)**

RACE

01 Other (list)

02-
05 HOLD

06 White/Caucasian
07 African-American/Black
08 Native American (American Indian) or Alaska Native
09 Asian or Pacific Islander

98 (DK)
99 (Refused)

_____ _____
(1660) (1661)

_____

[Deleted CLOCK] HOLD _____(2637-2640)

H20. Finally, I am going to list several problems that may limit physicians' ability to provide high quality care. For each one, tell me whether it is a MAJOR PROBLEM, MINOR PROBLEM, OR NOT A PROBLEM affecting your ability to provide high quality care. How about **(read and rotate A-H, as appropriate)**?

3 Major problem
2 Minor problem
1 Not a problem

8 (DK)
9 (Refused)

QNOTIME
A. Inadequate time with patients during office visits _____(3549)

QPRBPAY
B. Patients' inability to pay for needed care _____(3550)

QINSREJ
C. Rejections of care decisions by insurance companies

QNOSPEC
D. Lack of qualified specialists in your area _____(3552)

QNOREPT
E. Not getting timely reports from other physicians and facilities _____(3553)

QLANG
F. Difficulties communicating with patients due to language or cultural barriers _____(3554)

(Item G deleted) HOLD _____(3555)

QERRHSP
H. Medical errors in hospitals _____(3556)

CLOCK:

_____ _____
_____ (2233 - 2236)

(SURVENT NOTE: If code 2 in S6a, Autocode 2 in I0)

I0. **(If code 1 in S6a, ask:)** Our records indicate that you have already received your $25 honorarium check. Did you receive the check?

CHECK

1 Yes
2 No
8 (DK)
9 (Refused) _____(3275)

SECTION I
ENDING

[Deleted Note]

I1. Let me verify that your name and address are **(read information from fone file/S4)**? **(ENTER ALL THAT ARE INCORRECT)** **(INTERVIEWER NOTE: Verify PRACTICE ADDRESS)**

*

1 First name is incorrect
2 Last name is incorrect
3 Address is incorrect
4 City is incorrect
5 State is incorrect
6 Zip code is incorrect
7 All information correct

_____(2554)

FIRST NAME: **(Display from fone file)**

_____

_____ _____ (1801 - 1816)

LAST NAME: **(Display from fone file)**

_____

_____ _____ (1781 - 1800)

CSTREET

ADDRESS #1: **(Display from fone file)**

_____

_____ _____ (1841 - 1880)

CSTRET2

ADDRESS #2: **(Display from fone file)**

_____

_____ _____ (3013 - 3037)

CCITY

CITY: **(Display from fone file)**

_____

_____ _____ (2682 - 2694)

CSTATE

I1. (Continued:)

STATE: **(Display from fone file)**

_____ _____
(2707) (2708)

CZIP

ZIP CODE: **(Display from fone file)**

_____ _____
_____ (2709 - 2713)

[Deleted Note]

(Question I1a deleted) HOLD _____(2554)

HOLD _____(1781-1816)

(All in I1a, Skip to I4)

(There are no questions #I1a-#I2)

I3. Is the address of the practice we have been talking about during this interview **(read 1-2)**?

ADROKAY

1 **(Address from fone file)** - **(Skip to Note before #I5)**

2 **(If code 3-6 in #I1, say:)** **(Address in #I1)** - **(Skip to Note before #I5)**

3 No/Neither - **(Continue)**

8 (DK) **(Skip to Note before #I5)**
9 (Refused) **(Skip to Note before #I5)** _____(1356)

I4. Will you please give me the address of the practice we have been talking about during this interview? (Open ended)

PSTRET1

STREET ADDRESS #1:

_____ _____
_____ (2732 - 2761)

PSTRET2

STREET ADDRESS #2:

_____ _____
_____ (3088 - 3118)

PCITY

CITY:

_____ _____
_____ (2762 - 2791)

PSTATE

STATE:

_____ _____
_____ (2787) (2788)

PZIP

ZIP:

_____ _____
_____ (2789 - 2793)

(If code 08, 09, or 10 in C2, C3, or C3c, Continue; If code 1 or 2 in C3a, Continue; Otherwise, Skip to J4)

I5. What is the name of the practice we have been talking about during this interview? Include the names of government clinics as eligible responses to this question. **(If necessary, say:)** This information will help us to better understand the nature of physician organizations in your region. (Open ended)

PNAME

00001 Other (list)
00002 HOLD
00003 HOLD
00004 No/Yes mind giving
00005 HOLD

99998 (DK)
99999 (Refused)

_____ _____ (2812 - 2816)

_____

[Deleted Note]

(Question I5a-I5b deleted)

(If code 2 in S1c, Continue; Otherwise, Skip to J4)

I6. Are you with the same medical practice that you were with in January, 2002, or have you changed practices since then? **(If respondent asks, say:)** We will consider you as being in the same practice if your practice changed addresses, clinics, offices, or partners, BUT kept the same parent organization. OR, if your old practice changed ownership; for example, if the practice was sold to an outside organization, but you stayed on under the new ownership. A new practice would be one where you terminated your relationship and joined a different one. **(If respondent has multiple practices and changed one but NOT all of them, say:)** We are interested in whether you are with the same main medical practice that you were with in January, 2002. By main practice, we mean the practice where you spend most of your time.

PRACCHG

1 Yes, same practice - **(Skip to J4)**

2 No, changed practice - **(Continue)**

8 (DK) **(Skip to J4)**
9 (Refused) **(Skip to J4)** _____(1666)

I7. **(If code 2 in I6, ask:)** In what month and year did you change medical practice? (Open ended **and code month and year)**

MTH CHG

MONTH:

01 January
02 February
03 March
04 April
05 May
06 June
07 July
08 August
09 September
10 October
11 November
12 December

13 (DK)
14 (Refused)

_____ _____
(1667) (1668)

YR CHG

YEAR: **(SURVENT NOTE: Block all years expect those listed below)**

2002
2003
2004
2005

9998 (DK)
9999 (Refused)

_____ _____
(1669 - 1672)

(There are no questions #I8-#I9)

CLOCK:

_____ _____
(2229 - 2232)

SECTION J
SWEEP-UP

(There are no questions J1-J3)

J4. This concludes the survey unless you have any brief comment you would like to add. (Open ended)

COMMENT

0001 Other (list)
0002-
0003 HOLD
0004 No/Nothing
9998 (DK)
9999 (Refused)

_____ _____
_____ (2555 - 2558)

J5. INTERVIEWER CODE ONLY: **(INTERVIEWER NOTE: Do NOT offer to send study report to respondent. Encourage use of Center's Website, www.hschange.org, and encourage them to put their name on the Center's mailing list by using the Website. Respondents can receive electronic notices of the Center's research, including results of the physician survey when they become available, by signing up on the Center's Web site, www.hschange.org.)** Did respondent ask any of the following?

1 Yes
2 No

A. Center's Web site address so they can access it themselves _____(2820)

B. To be placed on the Center's mailing list _____(2821)

(There is no Item C) HOLD _____(2822)

J6. INTERVIEWER COMMENTS:

_____ _____
_____ (3118 - 3119)

CLOCK:

_____ _____
_____ (-)

(VALIDATE PHONE NUMBER AND THANK RESPONDENT BY SAYING:)

Again, this is _____, with The Gallup Organization of _____. I would like to thank you for your time. Our mission is to "help people be heard" and your opinions are important to Gallup in accomplishing this.

DESCRIPTIVE NAMES ONLY: NEED ACTUAL FONE FILE NAMES AND NUMBER OF COLUMNS!

1. MEDICAL EDUCATION: **(Code from fone file)**

_____ _____
(-)

2. PHYSICIAN NAME: **(Code from fone file)**

_____ _____
(-)

3. GENDER: **(Code from fone file)** _____(294)

4. PREFERRED PROFESSIONAL MAILING ADDRESS: **(Code from fone file)**

_____ _____
(-)

5. GEOGRAPHIC CODES (STATE, COUNTY, ZIP, MSA, CENSUS REGION OR DIVISION): **(Code from fone file)**

_____ _____
(-)

6. BIRTH DATE: **(Code from fone file)**

_____ _____
(182 - 189)

7. BIRTH PLACE: **(Code from fone file)**

_____ _____
(-)

8. CITIZENSHIP AND VISA: **(Code from fone file)**

_____ _____
_____ (-)

9. LICENSURE DATE: **(Code from fone file)**

_____ _____
_____ (-)

10. NATIONAL BOARD COMPLETION DATE: **(Code from fone file)**

_____ _____
_____ (-)

11. MAJOR PROFESSIONAL ACTIVITY: **(Code from fone file)**

_____ _____
_____ (-)

12. PRIMARY SPECIALTY: **(Code from fone file)**

_____ _____
_____ (-)

13. SECONDARY SPECIALTY: **(Code from fone file)**

_____ _____
_____ (-)

14. PRESENT EMPLOYMENT: **(Code from fone file)**

_____ _____
_____ (-)

15. AMERICAN SPECIALTY BOARD CERTIFICATION: **(Code from fone file)**

_____ _____
_____ (-)

16. CURRENT AND FORMER MEDICAL TRAINING - (INSTITUTION, SPECIALTY, TRAINING DATES): **(Code from fone file)**

_____ _____
_____ (-)

17. CURRENT AND FORMER GOVERNMENT SERVICE: **(Code from fone file)**

_____ _____
_____ (-)

18. ECFMG CERTIFICATE: **(Code from fone file)**

_____ _____
_____ (-)

19. TYPE OF PRACTICE: **(Code from fone file)**

_____ _____
_____ (-)

20. TELEPHONE NUMBER: **(Code from fone file)**

_____ _____
_____ (-)

21. FAX NUMBER: **(Code from fone file)**

_____ _____
_____ (-)

INTERVIEWER I.D. #: _____(571-574)

REVISIONS

6/14/04	**Added:**	**Interviewer Note to I1, Note before I5a, I5a, I5b**
	Revised:	**Note after I4**
7/2/04	**Revised:**	**Wording in D2aa**
7/13/04	**Deleted:**	**Note before I1, Note after I1, I1a, Note after I1a, Note before I5a, I5a, I5b**
	Revised:	**Note after I4**
9/2/04	**Added:**	**Interviewer Note to B2**

jlw\2004\RWJ\RWJ physician R4 0407

Appendix B

List of Variables in CTS Physician Survey Public Use and Restricted Use Data Files by Year

CTS Physician Survey
Survey Administration

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
PHYSIDX	CV	Physician identification number	yes	yes	yes	yes	yes	yes	yes	yes
R1PHYIDX	CV	Physician identification number in 1996-97 (Round 1) data file				yes				
R2PHYIDX	CV	Physician identification number in 1998-99 (Round 2) data file						yes		
R3PHYIDX	CV	Physician identification number in 2000-01 (Round 3) data file								yes
SITEID	CV	Site identification number		yes		yes		yes		yes
MSACAT	CV	Large metro or small metro or non-metro site		yes		yes		yes		yes
FIPS	CV	State and county FIPS code		yes		yes		yes		yes
SUBGRP	CV	Sample (site vs supp.) and whether practice is in any site		yes		yes		yes		
PRACLOC	CV	Practice location in any CTS site								yes
IMGSTAT	AMA/AOA	Country of medical school (US, Canada, Puerto Rico, other)		yes		yes		yes		yes
IMGUSPR	AMA/AOA	Medical school not in US or Puerto Rico	yes	yes	yes	yes	yes	yes	yes	yes
AMAPRIM	AMA/AOA	Whether primary care physician (PCP)		yes		yes		yes		yes
DOCTYP	AMA/AOA	DO or MD		yes		yes		yes		yes
GENDER	AMA/AOA	Gender	yes	yes	yes	yes	yes	yes	yes	yes
BIRTHX	AMA/AOA	Year of birth	yes	BIRTH	yes	BIRTH	yes	BIRTH	yes	BIRTH
GRADYRX	AMA/AOA	Year of graduation from medical school	yes	GRAD_YR	yes	GRAD_YR	yes	GRAD_YR	yes	GRAD_YR

CTS Physician Survey
Section A: Basic Practice Information / Specialty and Certification / Career Satisfaction

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
MULTPR	A4	Multiple practices	yes	yes	yes	yes	yes	yes		
NUMPRX	A4a	Number of practices	yes	NUMPR	yes	NUMPR	yes	NUMPR		
YRBGNX	A6	Year began practicing medicine	yes	YRBGN	yes	YRBGN	yes	YRBGN	yes	YRBGN
NWSPEC	A8	Primary specialty		yes		yes		yes		yes
GENSUB	A9	Spec = general internal or general pediatric: time in primary spec vs subspec		yes		yes		yes		yes
SIPNPED	A9a	Spec = non-pediatric: time in primary spec vs general internal		yes		yes		yes		yes
SIPPED	A9b	Spec = pediatric: time in primary spec vs general pediatric		yes		yes		yes		yes
SUBSPC	A10	Subspecialty		yes		yes		yes		yes
PCPFLAG	CV	Questionnaire definition of PCP	yes	yes	yes	yes	yes	yes	yes	yes
SPECX	CV	Seven-category specialty type	yes	yes	yes	yes	yes	yes	yes	yes
BDCERT	CV	Board certification status (certified, eligible, neither)	yes	yes	yes	yes	yes	yes		
BDCTANY	CV	Board certified in any specialty							yes	yes
BDCTPS	CV	Board certified in primary (sub)specialty	yes	yes	yes	yes		yes	yes	yes
BDELPS	CV	Board eligible in primary (sub)specialty	yes	yes	yes	yes		yes		
CARSAT	A19	Overall career satisfaction	yes	yes	yes	yes	yes	yes	yes	yes

CTS Physician Survey

Section B: Physician Time Allocation / Medical Information Obtained by Patients

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
WKSWRKX	B1	Weeks practiced medicine in previous year	yes	WKSWRK, WKSWRKC	yes	WKSWRK, WKSWRKC	yes	WKSWRK, WKSWRKC	yes	WKSWRK, WKSWRKC
HRSMEDX	CV	Hours in medical activities in previous week	yes	HRSMED	yes	HRSMED	yes	HRSMED	yes	HRSMED
HRSPATX	CV	Hours in direct patient care activities in previous week	yes	HRSPAT	yes	HRSPAT	yes	HRSPAT	yes	HRSPAT
OFFICEVX	B5a	Number of patient visits in the office last week							yes	OFFICEV
OUTPTVX	B5b	Number of patient visits in outpatient clinics last week							yes	OUTPTV
NURSHMVX	B5c	Number of patient visits in nursing homes last week							yes	NURSHMV
HOSPVX	B5d	Number of patient visits on hospital rounds last week							yes	HOSPV
HRFREEX	B6	Hours providing charity care in previous month	yes	HRFREE	yes	HRFREE	yes	HRFREE	yes	HRFREE
LOCFREE	B6a	Location of charity care							yes	yes
PPATMN	CV	Percent patient care time in main practice	yes	yes						
PATINFO	B7	Medical info obtained by patients: percent of patients					yes	yes		
PATACT	B9	Medical info obtained by patients: ordering tests, etc.					yes	yes		
EFINFO	B10	Medical info obtained by patients: effect on quality					yes	yes		
EFEFF	B11	Medical info obtained by patients: effect on efficiency					yes	yes		
CHRNPT	B12	Percent of patients with chronic medical conditions							yes	yes
ASIAPTX	B14	Percent of patients that are Asian or Pacific Islander							yes	ASIAPT
BLCKPTX	B14	Percent of patients that are African American or Black							yes	BLCKPT
HISPPTX	B14	Percent of patients that are Hispanic or Latino							yes	HISPPT
LANGPTX	B15	Percent of patients with language differences							yes	LANGPT

CTS Physician Survey
Section C: Practice Arrangements and Ownership / Priorities Within Practice

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
OWNPR	C1	Full owner or part owner or not an owner of (main) practice	yes	yes	yes	yes	yes	yes	yes	yes
TOPOWN	C2	Type of practice (full and part owners)		yes		yes		yes		yes
TOPOWNX	CV	Type of practice (full and part owners), with C9 recodes	yes	TOPOWNC	yes	TOPOWNC	yes	TOPOWNC	yes	TOPOWNC
TOPEMP	C3	Type of employer (non-owners)		yes		yes		yes		yes
TOPEMPC	CV	Type of employer (non-owners), with C9 recodes		yes		yes		yes		yes
TOPEMPX	CV	Type of employer (non-owners), with C9, C3b, and verbatim recodes	yes	TOPEMPA	yes	TOPEMPA	yes	TOPEMPA	yes	.TOPEMPA
FOSP	CV	Full owner of solo practice							yes	yes
PRCTYPE	CV	Practice type, 6 categories	yes	yes	yes	yes	yes	yes	yes	yes
ALLPRTP	CV	Practice type, detailed categories		yes		yes		yes		yes
OTHSET	C3a	For gov employees: hospital or clinic or other		yes		yes		yes		yes
EMPTYP	C3b	Type of employer (non-owners), other		yes		yes		yes		yes
EMPTYP2	C3c	Type of employer (non-owners), other				yes		yes		yes
GRTYPEX	CV	Type of group practice			yes	GRTYPE	yes	GRTYPE	yes	GRTYPE
OTHPAR	C4	Owned (full or part) by other physician(s) in practice	yes	yes	yes	yes	yes	yes		
OTHGRP	C5A	Owned (full or part) by different physician practice		yes		yes		yes		
HSPPAR	C5B	Owned (full or part) by hospital		yes		yes		yes		
INSPAR	C5C	Owned (full or part) by insurance co or HMO		yes		yes		yes		
ORGPAR	C5D	Owned (full or part) by other organization		yes		yes		yes		
C5OWNX	CV	Any outside ownership of practice	yes	C5OWNER	yes	C5OWNER	yes	C5OWNER		
ORGC_1	CV	Owner org is other		yes		yes		yes		
ORGC_2	CV	Owner org is not known		yes		yes		yes		
ORGC_6	CV	Owner org is integrated health system		yes		yes		yes		
ORGC_7	CV	Owner org is physician practice management		yes		yes		yes		
ORGC_8	CV	Owner org is management services organization		yes		yes		yes		
ORGC_9	CV	Owner org is physician hospital org		yes		yes		yes		
ORGC_10	CV	Owner org is university or medical school		yes		yes		yes		
ORGC_11	CV	Owner org is medical foundation		yes		yes		yes		

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
ORGC_12	CV	Owner org is other non-profit		yes		yes		yes		
ORGC_13	CV	Owner org is other physicians in practice				yes		yes		
ORGC_14	CV	Owner org is another physician group				yes		yes		
ORGC_15	CV	Owner org is hospital				yes		yes		
ORGC_16	CV	Owner org is insurance co or HMO				yes		yes		
SETTING	C6b	Setting for seeing patients (if in medical school or hospital)						yes		yes
NPHYSX	C7	Number of physicians in practice	yes	NPHYS	yes	NPHYS	yes	NPHYS	yes	NPHYS
NASSISX	C8	Number of medical assistants in practice	yes	NASSIST	yes	NASSIST				
NURSLEV	C8a	Level of nursing support							yes	yes
WHYNRSL	C8aa	Reason for worse level of nursing support							yes	yes
ACQUIRD	C10	Practice purchased in last 2 yrs	yes	yes	yes	yes	yes	yes		
OWNPURX	C11	Ownership when practice purchased	yes	OWNPUR	yes	OWNPUR	yes	OWNPUR		
CTL_WRK	C12A	Importance of control over working hours					yes	yes		
CTL_DEC	C12B	Importance of control over clinical decisions					yes	yes		
CTL_INC	C12C	Importance of potential income					yes	yes		
CTL_BUS	C12D	Importance of control over practice's business decisions					yes	yes		

CTS Physician Survey

Section D: Computer Use / Medical Care Management Strategies / Gatekeeping / Scope of Care

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
EFDATA	D1A	Effect of computers on obtaining or recording clinical data	yes	yes	yes	yes				
EFTREAT	D1B	Effect of computers on obtaining information about treatments	yes	yes	yes	yes				
EFRMNDR	D1C	Effect of preventive service reminders	yes	yes	yes	yes				
EFGUIDE	D1D (D4A in 2000-01)	Effect of formal written practice guidelines	yes	yes	yes	yes	yes	yes	yes	yes
EFPROFL	D1E (D4B in 2000-01)	Effect of practice profiles	yes	yes	yes	yes	yes	yes		
EFSURV	D1F (D4C in 2000-01)	Effect of patient satisfaction surveys	yes	yes	yes	yes	yes	yes		
IT_TRT	D1A in 2000-01	Use of computers to obtain information on treatments					yes	yes	yes	yes
IT_FORM	D1B in 2000-01	Use of computers to obtain information on formularies					yes	yes	yes	yes
ITRMNDR	D1C in 2000-01	Use of computers for reminders about preventive services					yes	yes	yes	yes
ITNOTES	D1D in 2000-01	Use of computers to access patient notes etc.					yes	yes	yes	yes
ITPRESC	D1E in 2000-01	Use of computers to write prescriptions					yes	yes	yes	yes
ITCLIN	D1F in 2000-01	Use of computers for clinical data exchanges with other physicians					yes	yes	yes	yes
ITHOSP	D1F1	Use of computers for clinical data and image exchanges w/labs etc							yes	yes
ITCOMM	D1G in 2000-01	Use of computers to communicate with patients by email					yes	yes	yes	yes
ITDRUG	D1H	Use of computers for info on drug interactions							yes	yes
ACC_INT	D2	Internet access at workplace					yes	yes		
EPRESC	D2aa	Percentage of prescriptions written electronically							yes	yes
FORMLRY	D3	Patients with prescription coverage that includes formulary					yes	yes	yes	yes
AWRGUID	D4A1	Awareness of formal written guidelines					yes	yes	yes	yes
AWRPROF	D4B1	Awareness of practice profiling					yes	yes		
AWRSURV	D4C1	Awareness of patient satisfaction surveys					yes	yes		
QU_FRMY	D5B	Effect on efficiency and quality of care: formularies					yes	yes		
QUGUIDE	D5C	Effect on efficiency and quality of care: practice guidelines					yes	yes		
QUPROF	D5D	Effect on efficiency and quality of care: practice profiles					yes	yes		
QUSURV	D5E	Effect on efficiency and quality of care: patient satisfaction surveys					yes	yes		

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
CPOEHSP	D6	Hospital has computerized system to order tests and medications							yes	yes
ERRREPT	D6	Hospital has computerized system to report medical errors							yes	yes
HSPLST	D7	Percent of hospitalized patients who had hospitalist							yes	yes
CMPPROV	D7	PCPs: change in complexity/severity without referral	yes	yes	yes	yes	yes	yes		
CMPEXPC	D8	PCPs: appropriateness of care required without referral	yes	yes	yes	yes	yes	yes	yes	yes
SPECUSE	D9	PCPs: change in number of referrals to specialists	yes	yes	yes	yes	yes	yes	yes	yes
PCTGATE	D10	PCPs: percent of patients for whom gatekeeper	yes	yes	yes	yes	yes	yes	yes	yes
CMPCHG	D11	Spec: change in complexity/severity when referred	yes	yes	yes	yes	yes	yes		
CMPLVL	D12	Spec: appropriateness at referral	yes	yes	yes	yes	yes	yes		
CHGREF	D13	Spec: change in number of referrals from PCPs	yes	yes	yes	yes	yes	yes		

Section E: Practice Styles of Primary Care Physicians

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
WHOCARE	EA	Practice provides care to adults and/or kids	yes	yes	yes	yes				
FORM	EA	Which vignette questions were asked	yes	yes	yes	yes				
VCHOL	E1	Pct oral agents for elevated cholesterol	yes	yes	yes	yes				
VCHOLF	E1a	Freq oral agents for elevated cholesterol	yes	yes	yes	yes				
VHYPER	E3	Pct urology referral for prostatic hyperplasia	yes	yes	yes	yes				
VHYPERF	E3a	Freq urology referral for prostatic hyperplasis	yes	yes	yes	yes				
VCHEST	E4	Pct cardiology referral for chest pain	yes	yes	yes	yes				
VCHESTF	E4a	Freq cardiology referral for chest pain	yes	yes	yes	yes				
VBACK	E5	Pct MRI for low back pain	yes	yes	yes	yes				
VBACKF	E5a	Freq MRI for low back pain	yes	yes	yes	yes				
V60MAN	E9	Pct PSA test for 60 year old male	yes	yes	yes	yes				
V60MANF	E9a	Freq PSA test for 60 year old male	yes	yes	yes	yes				
VVITCH	E10	Pct office visit for vaginal itching	yes	yes	yes	yes				
VVITCHF	E10a	Freq office visit for vaginal itching	yes	yes	yes	yes				
VENUR	E11	Pct DDAVP for child with enuresis	yes	yes	yes	yes				
VENURF	E11a	Freq DDAVP for child with enuresis	yes	yes	yes	yes				
VTHRT	E16	Pct office visit for fever sore throat child	yes	yes	yes	yes				
VTHRTF	E16a	Freq office visit for fever sore throat child	yes	yes	yes	yes				
VCOUGH	E17	Pct x-ray for fever tachypnea child	yes	yes	yes	yes				
VCOUGHF	E17	Freq x-ray for fever tachypnea child	yes	yes	yes	yes				
VSUPOT	E18	Pct ENT referral for suppurative otitis media child	yes	yes	yes	yes				
VSUPOTF	E18a	Freq ENT referral for suppurative otitis media child	yes	yes	yes	yes				
V6FEVR	E20	Pct sepsis workup for fever 6 wk old child	yes	yes	yes	yes				
V6FEVRF	E20a	Freq sepsis workup for fever 6 wk old child	yes	yes	yes	yes				
VECZEM	E21	Pct allergist referral for eczema asthma child	yes	yes	yes	yes				
VECZEMF	E21a	Freq allergist referral for eczema asthma child	yes	yes	yes	yes				

CTS Physician Survey
Section F: Ability to Provide Care / Ability to Obtain Needed Services for Patients / Acceptance of New Patients

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
ADQTIME	CV	Adequate time to spend with patients during typical office visit	yes	yes	yes	yes	yes	yes		
CLNFREE	F1C	Freedom to make clinical decisions in patients' best interest	yes	yes	yes	yes	yes	yes		
HIGHCAR	F1D	Possible to provide high quality care to all patients	yes	yes	yes	yes	yes	yes		
NEGINCN	F1E	Can make clinical decisions without negative effect on income	yes	yes	yes	yes	yes	yes		
RADQTIME	CV	Adequate time to spend with patients during typical office visit							yes	yes
RCLNFREE	F1C	Freedom to make clinical decisions in patients' best interest							yes	yes
RHIGHCAR	F1D	Possible to provide high quality care to all patients							yes	yes
RNEGINCN	F1E	Can make clinical decisions without negative effect on income							yes	yes
USESPCS	F1F	Sufficient communication with specialists	yes	yes	yes	yes	yes	yes		
COMPRM	F1G	Sufficient communication with primary care physicians	yes	yes	yes	yes	yes	yes		
COMMALL	CV	Sufficient communication with other physicians to ensure high quality care	yes	yes	yes	yes	yes	yes		
PATREL	F1H	Possible to maintain continuing patient relationships	yes	yes	yes	yes	yes	yes		
RPATREL	F1H	Possible to maintain continuing patient relationships							yes	yes
OBREFS	F8A	Obtaining referrals to high quality specialists	yes	yes	yes	yes	yes	yes		
OBANCL	F8B	Obtaining high quality ancillary services	yes	yes	yes	yes	yes	yes		
OBHOSP	F8C	Obtaining non-emergency hospital admission	yes	yes	yes	yes	yes	yes		
OBINPAT	F8D	Obtaining adequate number inpatient days	yes	yes	yes	yes	yes	yes		
OBIMAG	F8E	Obtaining high quality diagnostic imaging	yes	yes	yes	yes	yes	yes		
OBMENTL	F8F	Obtaining high quality inpatient mental health care	yes	yes	yes	yes	yes	yes		
OBOUTPT	F8G	Obtaining high quality outpatient mental health care	yes	yes	yes	yes	yes	yes		
REFPROV	F8aAa	Referral difficulties: not enough providers					yes	yes		
REFHP	F8aAb	Referral difficulties: health plan limitations					yes	yes		
REFINS	F8aAc	Referral difficulties: patient has inadequate insurance					yes	yes		
HSPPROV	F8aCa	Hospital admission difficulties: not enough providers					yes	yes		
HSPHP	F8aCb	Hospital admission difficulties: health plan limitations					yes	yes		
HSPINS	F8aCc	Hospital admission difficulties: patient has inadequate insurance					yes	yes		

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
MHPROV	F8aGa	Outpatient mental health care difficulties: not enough providers					yes	yes		
MHHP	F8aGb	Outpatient mental health care difficulties: health plan limitations					yes	yes		
MHINS	F8aGc	Outpatient mental health care difficulties: patient has inadequate insurance					yes	yes		
NOTREFS	F8bA	Unable to get referrals to high-quality specialists							yes	yes
NOTHOSP	F8bC	Unable to get non-emergency hospital admissions							yes	yes
NOTIMAG	F8bD	Unable to get high-quality diagnostic imaging services							yes	yes
NOTOUTP	F8bE	Unable to get high-quality outpatient mental health services							yes	yes
REFPRVR	F8cAa	Importance of reason unable to get referrals: not enough providers/facilities							yes	yes
REFHPR	F8cAb	Importance of reason unable to get referrals: network/admin barriers							yes	yes
REFINSR	F8cAc	Importance of reason unable to get referrals: lack/inadequate patient health plan coverage							yes	yes
HSPPRVR	F8cBa	Importance of reason unable to get hospital admission: not enough providers/facilities							yes	yes
HSPHPR	F8cBb	Importance of reason unable to get hospital admission: network/admin barriers							yes	yes
HSPINSR	F8cBc	Importance of reason unable to get hospital admission: lack/inadequate patient health plan coverage							yes	yes
MHPROVR	F8cCa	Importance of reason unable to get mental health services: not enough providers/facilities							yes	yes
MHHPR	F8cCb	Importance of reason unable to get mental health services: network/admin barriers							yes	yes
MHINSR	F8cCc	Importance of reason unable to get mental health services: lack/inadequate patient health plan coverage							yes	yes
GENERIC	F8dA	Prescribe generic over brand name drug							yes	yes
DIAGCST	F8dB	Consider patient's out-of-pocket costs when deciding tests							yes	yes
IOPTCST	F8dC	Consider patient's out-of-pocket costs for inpatient/outpatient care							yes	yes
NWMCARE	F9A	Practice accepts new Medicare patients	yes	yes	yes	yes	yes	yes	yes	yes
NWMCAID	F9B	Practice accepts new Medicaid patients	yes	yes	yes	yes	yes	yes	yes	yes
NWPRIV	F9C	Practice accepts new privately insured patients	yes	yes	yes	yes	yes	yes	yes	yes
NWNPAY	F9G	Practice accepts new uninsured patients unable to pay					yes	yes	yes	yes

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
ACC_CAP	F10	Practice accepts new patients under capitated contracts					yes	yes		
MRBILL	F11A	Reason no new Medicare patients: Billing requirements							yes	yes
MRAUDIT	F11B	Reason no new Medicare patients: Audit concern							yes	yes
MRREIMB	F11C	Reason no new Medicare patients: Inadequate reimbursement							yes	yes
MRNUFPT	F11D	Reason no new Medicare patients: Already enough patients							yes	yes
MRPTBUR	F11E	Reason no new Medicare patients: Patients have high clinical burden							yes	yes
MDBILL	F12A	Reason no new Medicaid patients: Billing requirements							yes	yes
MDDELAY	F12B	Reason no new Medicaid patients: Delayed reimbursement							yes	yes
MDREIMB	F12C	Reason no new Medicaid patients: Inadequate reimbursement							yes	yes
MDNUFPT	F12D	Reason no new Medicaid patients: Already enough patients							yes	yes
MDPTBUR	F12E	Reason no new Medicaid patients: Patients have high clinical burden							yes	yes

CTS Physician Survey
Section G: Practice Revenue

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
PMCARE	G1A	Percent of practice revenue from Medicare	yes	yes	yes	yes	yes	yes	yes	yes
PMCAID	G1B	Percent of practice revenue from Medicaid or other public ins.	yes	yes	yes	yes	yes	yes	yes	yes
CAPAMTC	CV	Capitated/prepaid revenue from largest managed care contract	yes	yes	yes	yes				
PCAPREV	CV	Percent of practice revenue that is capitated/prepaid	yes	yes	yes	yes	yes	yes	yes	yes
NMCCONX	CV	Number of managed care contracts	yes	NMCCON	yes	NMCCON	yes	NMCCON	yes	NMCCON
PMC	CV	Percent of practice revenue from managed care	yes	yes	yes	yes	yes	yes	yes	yes
PBIGCON	CV	Percent of practice revenue from largest managed care contract	yes	yes	yes	yes				

CTS Physician Survey
Section H: Physician Compensation and Race/Ethnicity

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
SALPAID	H1	Salaried physician	yes	yes	yes	yes	yes	yes	yes	yes
SALTIME	H2	Compensation directly related to time worked	yes	yes	yes	yes	yes	yes	yes	yes
SALADJ	H3	Base salary fixed or adjustable	yes	yes	yes	yes	yes	yes	yes	yes
BONUS	H4	Current inc: eligible for bonus or other performance incentives	yes	yes	yes	yes	yes	yes		
BONUSR	H4	Current inc: eligible for bonus or other performance incentives							yes	yes
SUPLPAY	H4	Eligible for end-of-year adjustments/supplemental pay							yes	yes
ELINCENT	H4	Eligible for bonuses							yes	yes
SPROD	CV	Own productivity affects compensation	yes	yes	yes	yes	yes	yes	yes	yes
SSAT	CV	Patient satisfaction affects compensation	yes	yes	yes	yes	yes	yes	yes	yes
SQUAL	CV	Quality measures affect compensation	yes	yes	yes	yes	yes	yes	yes	yes
SPROF	CV	Profiling results affect compensation	yes	yes	yes	yes	yes	yes	yes	yes
SPERF	CV	Overall financial performance of practice affects compensation							yes	yes
IMPROD	H7aA	Importance of own productivity in determinings compensation							yes	yes
IMPPSAT	H7aB	Importance of results of satisfaction surveys in determining compensation							yes	yes
IMPQUAL	H7aC	Importance of quality of care measures in determining compensation							yes	yes
IMPPROF	H7aD	Importance of results of practice profiling in determining compensation							yes	yes
IMPRPRF	H7aE	Importance of results of overall practice performance in determining compensation							yes	yes
RADJ	CV	Profiles are risk adjusted	yes	yes	yes	yes	yes	yes		
PCTINCN	H9	Previous inc: % from bonus or other performance incentives		yes		yes		yes		
PCTINCX	CV	Previous inc: % from bonus or other performance incentives, edited and imputed	yes	PCTINCC	yes	PCTINCC	yes	PCTINCC		
EBONUS	H9a	Previous inc: eligible for bonus or other performance incentives	yes	yes	yes	yes	yes	yes		
INCOMEX	H10	Previous inc: net income from practice of medicine	yes	INCOMET	yes	INCOMET	yes	INCOMET	yes	INCOMET
INCENT	H10b/CX	Influence of financial incentives on services					yes	yes	yes	yes
EFINCNT	H10b1	Influence of financial incentives on services					yes	yes	yes	yes

Variable name	Question number	Description	1996-97		1998-99		2000-01		2004-05	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
FININCPT	CV	Influence of financial incentives on services					yes	yes	yes	yes
COMPETE	H10c	Competitive situation that practice faces					yes	yes	yes	yes
HISP	H11	Respondent is of Hispanic origin				yes		yes		yes
RACEX	H12	Respondent race			yes	RACE	yes	RACE	yes	RACE
QNOTIME	H20A	Problem providing high-quality care: Inadequate time w/patient							yes	yes
QPRBPAY	H20B	Problem providing high-quality care: Patient unable to pay							yes	yes
QINSREJ	H20C	Problem providing high-quality care: Insurance co. rejects care decision							yes	yes
QNOSPEC	H20D	Problem providing high-quality care: Lack of qualified specialists							yes	yes
QNOREPT	H20E	Problem providing high-quality care: Not getting timely reports							yes	yes
QLANG	H20F	Problem providing high-quality care: Language/cultural barriers							yes	yes
QERRHSP	H20H	Problem providing high-quality care: Medical errors in hospitals							yes	yes

Appendix C

Site Selection for the Community Tracking Study

APPENDIX C

SITE SELECTION FOR THE COMMUNITY TRACKING STUDY

For the first three rounds of the CTS Physician Survey, the survey used a two-tiered sample design that made it possible to develop estimates at the national and community (site) levels.

- The first tier was a sample from 12 communities, in each of which a large number of physicians were surveyed. The sample in each of these "high-intensity" sites was large enough to support estimates in each site.
- The second tier was a sample from 48 communities, in each of which a smaller sample of physicians were surveyed. This sample of "low-intensity" sites allowed us to validate results from the high-intensity sites and permits findings to be generalized to the nation. The first and second tiers together were known as the *site sample*.

Interviews were administered to physicians in the 60 CTS sample sites and to an independent national sample of households, referred to as the "national supplement." To reduce the cost of the Round Four 2004-05 Physician Survey, the national supplement was eliminated. In addition, in Round Four the 12 "high intensity" sites were not oversampled as they had been previously. In addition, the sample allocation was adjusted to achieve approximately equal samples of primary care providers and specialists. Otherwise, the design of the 2004-05 sample was similar to prior rounds, retaining a nationally representative 60-site sample design.

The following paragraphs describe how the sites were selected using terminology (e.g., site sample) from the original sampling design. Although the sampling was changed in the Round Four as described above, the 60 sites in Round Four are the same as those used in the previous rounds of the survey.

1. SITE SAMPLE

As discussed in Chapter 1, the primary goal of the CTS is to track health system change and its effects on people at the local level. Therefore, we selected 60 communities (*sites*) to provide a representative profile of change across the U.S.; the sample drawn from those sites constitutes the *site sample*. The first step in designing the CTS site sample was to determine the appropriate sites to study. Three issues were central to the sample design: the definition of the sites, the number of sites, and the selection of the sites.

1.1. Definition of Sites

The sites encompass local health care markets. Although there are no set boundaries for these local markets, the intent was to define areas such that residents predominately used health care providers in their area and providers served predominately area residents. The sites generally conform to the metropolitan statistical areas (MSAs) defined by the Office of Management and Budget and the nonmetropolitan portions of the economic areas defined by the Bureau of Economic Analysis (BEAEAs) at the beginning of the CTS.[1]

[1]For more details on the definition of CTS sites, refer to Metcalf et al. (1996).

1.2. Number of Sites

The next step in creating the site sample was to determine the number of high-intensity sites. The high-intensity sites have larger samples, and they are also the sites used for the case studies described in Chapter 1. In making this decision, we considered the tradeoffs between data collection costs (case studies plus survey costs) and the research benefits of a large sample of sites. The research benefits of a larger number of sites include a greater ability to empirically examine the relationship between health system change and its effect on care delivery and consumers and to make the study findings more "generalizable" to the nation. Despite the cost advantages of conducting intensive case studies in fewer sites, focusing on a smaller number of communities makes it more difficult to distinguish between changes of general importance and changes or characteristics unique to a community. Solving this problem by increasing the number of case study sites would make the cost of data collection and analysis prohibitively high.

We chose 12 sites for intensive study and added 48 sites for less-intensive study. Physicians from these 60 high-intensity and low-intensity sites form the *site sample*. Although there was no formal scientific basis for choosing 12 high-intensity sites, this number reflects a balance between the benefits of studying a range of different communities and the costs of doing so. The addition of 48 low-intensity sites solves the problem of limited generalizability associated with only 12 sites and provides a benchmark for interpreting how representative the high-intensity sites are.

1.3. Site Selection

Once the number of sites for the site sample had been determined, we selected the actual sites, shown previously in Table 1.1. Sites were sampled by stratifying them geographically by region and selecting them randomly, with probability in proportion to their 1992 population. There were separate strata for large MSAs (population of more than 200,000), small MSAs (population of less than 200,000), and nonmetropolitan areas. The 12 high-intensity sites were selected randomly from the large MSAs. Among the 48 low-intensity sites, 36 are large MSAs, 3 are small MSAs, and 9 are nonmetropolitan sites. The *Community Tracking Study Site-County Crosswalk* identifies the specific counties, by FIPS codes, that make up each CTS site. This sampling approach provided maximum geographic diversity, judged critical for the 12 high-intensity sites in particular, and acceptable natural variation in city size and degree of market consolidation.[2]

[2]Additional information about the number of sites and the random selection of the site sample is available in Metcalf et al. (1996).

Appendix D

Sample SUDAAN Procedure Statements

APPENDIX D

SAMPLE SUDAAN PROCEDURE STATEMENTS

There are a number of releases of the SUDAAN software running on several different platforms. Although the same procedure statements are used for all versions, enhancements or subtle differences can exist from one release to the next, particularly in terms of reading and writing external data files. The statements displayed in the examples in this appendix are tailored for SUDAAN Release 8.0.1, SAS-Callable for Windows. The user should take this into consideration when using these examples or parts of these examples verbatim.

The example procedures represent relatively simple, straightforward applications. The options (various parameters, test statistics, etc.) in the sample programs may not be suitable for all your needs. Likewise, particular types of analyses may require options that are not displayed in the sample program statements. Our intention is not to suggest analytical approaches but to provide the key parameters that capture the relevant characteristics of the sample design. These parameters are found in the SUDAAN *design, weight, nest, totcnt,* and *jointprob* statements.

The CTS Physician Survey is made up of several samples, each of which can be used for certain types of analyses. Each sample and analysis type combination requires different sample design statements and/or weights. The user is encouraged to review Tables 3.1 and 3.2, which indicate the appropriate samples and weights for specific types of analyses. Tables 4.1, 4.2, and 4.3 explain how to choose the design variables appropriate for each sample.

Separate examples are provided for the following six sample components and estimate types:

- ***Site-specific estimates, Round Four only***. The example assumes that the analysis is being performed on all records with WTPHY1>0 and that the data file is sorted by the variables appearing in the NEST statement (SITEPCP, FSU). There are 5,773 physician records that meet this criteria.

- ***National estimates based on the In-site sample, Round Four only***. The example assumes that the analysis is being performed on all records with WTPHY5>0 and that the data file is sorted by the variables appearing in the NEST statement (ASTRATA, APSU, ASECSTRA, AFSU). There are 5,773 physician records that meet this criteria.

- ***National estimates based on the full sample, Round Four only***. The example assumes that the analysis is being performed for all records with WTPHY4>0. The data files is sorted by the variables appearing in the NEST statement (PSTRATA, PPSU, SECSTRA, NFSU). There are 6,628 physician records meet this criteria.

- ***Site-specific estimates, Rounds Three and Four combined to estimate change***. The example assumes that the input file, STACKED1, consists of all records from Round Three and Round Four. The analysis is being performed for cases with WTPHY1>0 and the file sorted by the variables appearing in the NEST statement (SITEPCP2, FSU). There are 16,232 physician records that meet this criteria.

- ***National estimates based on the full sample, Rounds Three and Four combined to estimate change***. The example assumes that the input file, STACKED2, consists of all records from Round Three and Round Four. The analysis is being performed for cases with WTPHY4>0. The file is sorted by the variables appearing in the NEST statement (PSTRATA, PPSU, SECSTRA, NFSU). There are 19,034 physician records meet this criteria.

- ***National estimates based on the full panel sample***. The example assumes that the input file, PANEL, consists of all records from Round Four, with Round Three information for the panel (reinterview) records added (merged) to the corresponding Round Four record. The resulting file is sorted by the variables appearing in the NEST statement (PSTRATA, PPSU, SECSTRA, NFSU). The analysis population consists of all panel (reinterview) records from Round Four (WTPAN2>0) (4,428 physicians).

Preprocessing or recoding may be required for some variables because of missing or nonpositive data. Missing data in the file were assigned an applicable negative value (e.g., "-9 Not Ascertained"; see Chapter 6 for variable coding conventions). Classification (SUBGROUP) variables with zero or negative values will be treated by SUDAAN as missing and dropped from the procedure. This does not hold true for continuous analysis variables (VAR) where zero or negative values are valid. Records with missing, zero, or negative weights will automatically be excluded from the estimates produced in SUDAAN procedures.

Formats (the RFORMAT statement) need to be consistent with SUDAAN rules. Therefore, the preexisting formats provided with the Restricted Use File may need to be modified for use in SUDAAN. An example of this appears in item 1 below: Site-Specific Estimates Based on the In-site Sample. It is a SUDAAN convention to include a total count for each subgroup variable, with a value of "0" representing the total. Therefore, if the subgroup variable can take on the value of "0" in the data, then the value should be changed to a positive integer.

In using SUDAAN, the full population should be processed even when analyses are for subgroups or subpopulations. This is required to ensure the correct computation of the sampling variance. The SUDAAN statement SUBPOPN should be used to identify the specific analytic subpopulation of interest. If the file is reduced to a specific subpopulation, the sampling variance estimates SUDAAN computes may be wrong.

Some of the SUDAAN examples use the DDF option that overrides the default denominator degrees of freedom. We recommend that you use this option when running significance tests on national estimates based on the in-site sample or the full sample (or panel sample). In SUDAAN, the default DDF is the difference between the number of PSUs and the number of first-stage strata, which is appropriate for most surveys. Because the CTS design includes some sites with certainty, the SUDAAN default count is substantially smaller than is the actual count for these national estimates. This undercount would result in significance tests that would be too conservative (that is, that do not reject null hypothesis often enough). We included the DDF value in each of the generic examples to provide researchers with an approximation of the true degrees of freedom that will be valid for most significance tests. The DDF for the full sample is also appropriate for analyses of subpopulations, because the full design is being utilized in the sampling variance computation.

D.1. Site-specific estimates based on the In-site sample, Round Four only

This example estimates the percentage of physicians in each of six practice-type categories (PRCTYPE) within two large metro areas (Boston and Chicago). Standard errors of the percentages, unweighted and weighted population counts, and sample design effects are also included in the output. Note that the SUBPOPN statement is used to identify the Boston/Chicago site subpopulation within the overall in-site sample.

```
proc crosstab data=ctsr4pr1 design=wor;
      subpopn (siteid = 1) or (siteid = 17) / name = "Boston or Chicago";
      nest sitepcp fsu;
      totcnt frame _zero_;
      weight wtphy1;
      subgroup siteid prctype;
      levels 2 6;
      tables siteid*prctype;
      rformat siteid siteid.;
      rformat prctype prctype.;
      print nsum wsum rowper serow deffrow /style=nchs
         wsumfmt=f10.0 rowperfmt=f8.2 serowfmt=f8.2 deffrowfmt=f8.4;
      rtitle "Site-specific Estimates from the In-Site Sample";
```

D.2. National estimates based on the In-site sample, Round Four only

This example estimates the mean number of hours per month that physicians provide charity care (HRFREE) by the primary care/non-primary care provider flag variable (PCPFLAG). Standard errors of the means, population counts, and sample design effects are also included in the output. Note that PCPFLAG, a "0/1" dichotomous variable, has been recoded to "1/2" to conform to SUDAAN conventions for SUBGROUP variables.

```
proc descript data=ctsr4pr1 design=uneqwor ddf=2900;
    nest astrata apsu asecstra afsu / missunit;
    totcnt astrtot _zero_ _minus1_ _zero_;
    weight wtphy5;
    jointprob ap1 ap2 ap3 ap4 ap5 ap6 ap7;
    subgroup pcpflag;
    recode pcpflag=(0 1);
    levels 2;
    var hrfree;
    rformat pcpflag pcpflag.;
    print nsum wsum mean semean deffmean /style=nchs
      wsumfmt=f10.0 meanfmt=f8.4 semeanfmt=f8.4 deffmeanfmt=f8.4;
    rtitle "National Estimates from the In-site Sample";
```

D.3. National estimates based on the full sample, Round Four only

This example estimates the percentage of physicians who respond that is possible to provide high quality care (RHIGHCAR) to their patients by MSA/PMSA size (MSACAT). Standard errors, population counts, and design effects are also included in the output. The SUBPOPN statement is used to exclude cases for which RHIGHCAR is not defined.

```
proc crosstab data=ctsr4pr1 design=uneqwor ddf=2900;
    subpopn rhighcar > 0 / name="Physicians with Valid HIGHCAR";
    nest pstrata ppsu secstra nfsu / missunit;
    totcnt pstrtot3 _zero_ _minus1_ _zero_;
    weight wtphy4;
    jointprob p1x p2x p3x p4x p5x p6x p7x;
    subgroup msacat rhighcar;
    levels 3 5;
    tables msacat*rhighcar;
    rformat msacat msacat.;
    rformat rhighcar highcar.;
    print nsum wsum rowper serow deffrow / style=nchs
      wsumfmt=f10.0 rowperfmt=f8.2 serowfmt=f8.2 deffrowfmt=f8.4;
    rtitle "National Estimates from the Combined Sample";
```

D.4. Site-specific estimates based on the In-site sample, Rounds Three and Four combined to estimate change

This example estimates the change in percent capitated revenue (PCAPREV) within each of the Round 3 large metro sites (MSACAT=1). ROUND4 is a dummy flag that is equal to 1 if the data comes from Round Four and 0 if it comes from Round Three. Coefficients, their standard errors, T-statistics, P-values and design effects are included in the output. The estimate of change in PCAPREV between the two rounds is the coefficient for ROUND4. Note that the SUBPOPN statement is used to identify the large metro site subpopulation within the overall in-site sample.

```
proc regress data=stacked1 design=wor;
     subpopn (msacat=1)/ name="Large Metro Areas";
    nest sitepcp2 fsu;
    totcnt frame _zero_;
    weight wtphy1;
     model pcaprev=round4;
    print beta sebeta t_beta p_beta deft /
      betafmt=f8.4 sebetafmt=f8.4 deftfmt=f8.4;
    rtitle "Change Estimates from the In-site Sample";
```

D.5. National estimates based on the full sample, Rounds Three and Four combined to estimate change

This example estimates the change in charity care hours (HRFREE) for the combined sample. ROUND4 is a dummy flag that is equal to 1 if the data comes from Round Four, and 0 if it comes from Round Three. Coefficients, their standard errors, T-statistics, P-values and design effects are included in the output. The estimate of change in HRFREE between the two rounds is the coefficient for ROUND4.

```
proc regress data=stacked2 design=uneqwor ddf=2900 ;
    nest pstrata ppsu secstra nfsu / missunit;
    totcnt pstrtot3 _zero_ _minus1_ _zero_;
     jointprob p1x p2x p3x p4x p5x p6x p7x;
    weight wtphy4;
    model hrfree=round4;
    print beta sebeta t_beta p_beta deft /
      betafmt=f8.4 sebetafmt=f8.4 deftfmt=f8.4;
    rtitle "Change Estimates from the Combined Sample";
```

D.6. National estimates based on the full panel sample

This example estimates the change in charity care hours (HRFREE) for the panel sample. The SUBPOPN statement (NOCHNG=1) is used to identify those physicians who did not change PCP status between Round Three and Round Four. Before merging the Round Three and Round Four files, we renamed PCPFLAG and HRFREE in the Round Three file to PCPFLAG3 and HRFREE3 and PCPFLAG and HRFREE in the Round Four file to PCPFLAG4 and HRFREE4. After merging the files, we created the variable NOCHNG with a value of 1 if PCPFLAG3=PCPFLAG4 and created the change variable CHHRFREE=HRFREE4-HRFREE3. Note that PCPFLAG3, a "0/1" dichotomous variable, has been recoded to "1/2" to conform to SUDAAN conventions for SUBGROUP variables. Standard errors, population counts, and design effects are also included in the output.

```
proc descript data=panel design=uneqwor ddf=2900;
     subpopn nochng=1 / name= "No Change in PCP Status";
    nest pstrata ppsu secstra nfsu / missunit;
    totcnt pstrtot3 _zero_ _minus1_ _zero_;
    weight wtpan2;
    jointprob p1x p2x p3x p4x p5x p6x p7x;
    subgroup pcpflag3;
    recode pcpflag3 = (0 1);
    levels 2;
    var chhrfree ;
    rformat pcpflag3 pcpflag.;
    print nsum wsum mean semean /
      nsumfmt=f8.0 wsumfmt=f10.0 meanfmt=f6.4 semeanfmt=f8.4;
    rtitle "Panel Estimates from the Combined Sample";
```

Appendix E

Construction of "WR" Sampling Parameters for the 2004-05 CTS Physician Survey

Construction of "WR" Sampling Parameters for the CTS Physician Survey

As described in Chapter 4 of the user's guide, the restricted use data file for the 2004-05 Physician Survey contains sampling parameters for calculating national estimates with some software packages other than SUDAAN. These "with-replacement" (WR) sampling parameters are designed for use with software packages that are able to make national estimates from the CTS data only under the assumption of with-replacement sampling (such as the procedures in Stata and SAS for analyzing data from complex surveys). As indicated in the tables below, the WR parameters were constructed from the SUDAAN sampling parameters that are included on the CTS Physician Survey data files.

If you would like WR sampling parameters for data from the 1996-97 and/or 1998-99 CTS Physician Survey, then you will need to construct them from the SUDAAN parameters that are already on those data files. Refer to Appendix D of the 2000-01 Physician Survey Restricted Use File User's Guide for instructions. More guidance on how to construct the new parameters is provided in an appendix to the report comparing the use of SUDAAN and other statistical software for the analysis of the CTS data.[1]

[1] Schaefer et al., *Comparison of Selected Statistical Software Packages for Variance Estimation in the CTS Surveys*, HSC Technical Publication No. 40, Center for Studying Health System Change, Washington, D.C. (May 2003).

TABLE E.1

DEFINITIONS OF STRATAWR AND PSUWR
FOR NATIONAL ESTIMATES
FROM THE 2004-05 FULL SAMPLE (PRACLOC = A, B)

Survey Year	PSTRATA	SECSTRA	STRATAWR	PSUWR
2004-05	1 – 9	1 or 2	(pstrata * 10) + secstra	Nfsu
	1	3	11	
	1	4	12	
	2	3	21	
	2	4	22	
	3	3	31	
	3	4	32	
	4	3	41	
	4	4	42	
	5	3	51	
	5	4	52	
	6	3	61	
	6	4	62	
	7	3	71	
	7	4	72	
	8	3	81	
	8	4	82	
	9	3	91	
	9	4	92	
	10 – 18	all values	pstrata * 10	Ppsu
	19	all values	pstrata * 10	Nfsu
	20	all values	pstrata * 10	Ppsu

TABLE E.2
DEFINITIONS OF PSTRAWR AND PPSUAWR
FOR NATIONAL ESTIMATES
FROM THE 2004-05 IN-SITE SAMPLE (PRACLOC = A)

Survey Year	PRACLOC	ASTRATA	ASECSTRA	PSTRAWR	PPSUAWR
2004-05	A	1 – 9	1 or 2	(astrata * 10) + asecstra	afsu
		1	3	11	
		1	4	12	
		2	3	21	
		2	4	22	
		3	3	31	
		3	4	32	
		4	3	41	
		4	4	42	
		5	3	51	
		5	4	52	
		6	3	61	
		6	4	62	
		7	3	71	
		7	4	72	
		8	3	81	
		8	4	82	
		9	3	91	
		9	4	92	
		10 – 18	all values	astrata * 10	apsu
		19	all values	astrata * 10	afsu
		20	all values	astrata * 10	apsu
	B	n.a.	n.a.	n.a.	n.a.

n.a. = not applicable (because only observations with PRACLOC = A are used for national estimates from the in-site sample)

Appendix F

Sample Stata and SAS Statements

APPENDIX F

SAMPLE STATA AND SAS STATEMENTS

This appendix provides basic person-level examples to illustrate the use of Stata and SAS with the "with-replacement" (WR) parameters (see Chapter 4, Table 4.5).

There are a number of releases of Stata and SAS software, running on several different platforms. Although the same statements are used, there can be enhancements or subtle differences from one release to the next. The statements displayed in the examples in this appendix are tailored for Stata Release 8.0 and SAS Release 8.2. The user should take this into consideration when using these examples or parts of these examples verbatim.

The CTS Physician Survey is made up of several samples, each of which can be used for certain types of analyses. Each sample requires different sample design statements and weights. The user is encouraged to review Tables 3.1 and 3.2 from Chapter 3, which indicate the appropriate samples and weights for specific types of analyses. Table 4.5 from Chapter 4 explains how to choose the design variables appropriate for each sample.

Examples are provided for the following two samples:

- ***National estimates based on the in-site sample***. The example assumes that the input file, NSITES, consists of all records with PRACLOC = A. The sample would include 5,573 physicians.

- ***National estimates based on the full sample***. The example assumes that the input file, SITECOMB, consists of all records on the data file. The sample would include 6,628 physicians.

In using Stata and SAS, the full sample should be processed even when analyses are limited to subgroups or subpopulations. This is to ensure the correct computation of the sampling variance. The sampling variance estimates may be wrong if the file is reduced to a specific subpopulation.

F.1. National estimates based on the In-site sample

This example estimates the mean income (INCOMET), hours spent in direct patient care activities (HRSPAT) and weeks worked (WKSWRKC) for physicians by PCP designation (PCPFLAG). Standard errors of the means, unweighted and weighted population counts are also included in the output.

```
Stata
    use "c:\data\nsites.dta";
    svyset  [pweight= wtphy5], strata(pstrawr) psu(ppsuawr);
    svymean incomet hrspat wkswrkc, by(pcpflag) obs size;

SAS
    proc surveymeans data=nsites nobs sumwgt mean stderr;
    domain    pcpflag;
    stratum   pstrawr;
    cluster   ppsuawr;
    weight    wtphy5;
    var       incomet hrspat wkswrkc;
```

F.2. National estimates based on the Full sample

This example estimates the mean income (INCOMET), hours spent in direct patient care activities (HRSPAT) and weeks worked (WKSWRKC) for physicians by PCP designation (PCPFLAG). Standard errors of the means, unweighted and weighted population counts are also included in the output.

```
Stata
    use "c:\data\sitecomb.dta";
    svyset  [pweight= wtphy4], strata(stratawr) psu(psuwr);
    svymean incomet hrspat wkswrkc, by(pcpflag) obs size;

SAS
    proc surveymeans data=sitesupp nobs sumwgt mean stderr;
    domain   pcpflag;
    stratum  stratawr;
    cluster  psuwr;
    weight   wtphy4;
    var      incomet hrspat wkswrkc;
```