Community Tracking Study

2000-01 Physician Survey Restricted Use File: User's Guide

(Release 1)

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Community Tracking Study (CTS)
2000-01 Physician Survey
Fact Sheet

Survey Details	
Sample	12,406 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 majority of the sample is clustered in 60 communities, with a smaller supplemental sample drawn from the entire contiguous U.S. Among those 12,406 physicians, 8,527 also appeared in the data from the Round Two (1998-99) survey, providing a panel sample (for users of the Restricted Use File only).
Time period	August 2000 – November 2001
Content	Basic information on practice, specialty, and board certification Career satisfaction Physician time allocation Medical information obtained by patients Practice arrangements and ownership Priorities within practice Computer use Medical care management strategies and gatekeeping Scope of care Ability to provide care Ability to obtain needed services for patients Acceptance of new patients Practice revenue Compensation Race/ethnicity
Differences between the 2000-01 (Round Three) and 1998-99 (Round Two) surveys	The surveys were mostly the same between the two rounds. These are the main differences. See Chapter 2 for details on other differences. Appendix B lists which variables are available for each year. Some questions dropped for the 2000-01 survey: • Selected questions on medical care management techniques • All patient care vignettes • Practice revenue from practice's largest managed care contract Some questions added for the 2000-01 survey: • Medical information obtained by patients from other sources • Importance of various elements of practice, such as control over hours • Physician's use of computers in his/her practice • Additional questions on medical care management techniques • Reasons for difficulties obtaining services for patients • Acceptance of new uninsured patients and new capitated patients • Influence of physician's overall personal financial incentives • Competitive situation that practice faces

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Survey Details *(continued)*	
Terminology	The CTS Physician Survey has been conducted every two years 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.
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 2000-01	These data can be used for calculating cross-sectional estimates representing the period 2000-01.
Change estimates (cross-sectional and panel)	The data from the 2000-01 survey can be combined with data from the earlier rounds (1996-97 or 1998-99) to calculate the difference across rounds. In addition, users of the Restricted Use File can combine the 2000-01 data with data from the 1998-99 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.
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.

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Community Tracking Study (CTS)
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Using the Data Files *(continued)*	
Software requirements	Because the CTS Physician Survey has a complex sample design, most commonly used statistical software packages will not estimate standard errors correctly. The software recommended for analysis of the CTS Physician Survey data is SUDAAN, which accommodates the main features of the sample design. Chapter 4 of this user's guide explains how to use SUDAAN to calculate standard errors correctly. Not all software with the ability to analyze data from surveys with complex sample designs is able to accommodate the design of the CTS Physician Survey. For example, Stata and SAS can account for some features of the CTS sample design for national estimates, but they cannot account for all of the major features. This means that the standard error estimates will differ from those generated by SUDAAN. Those who are interested in using software other than SUDAAN should consult Chapter 4 of this user's guide, as well as HSC Technical Publication No. 40, which describes the effect of using different statistical software packages to analyze the CTS data. For those who decide to use Stata or SAS, Chapter 4 of this user's guide describes the most appropriate way to calculate standard errors given the limitations of those packages for analysis of CTS Physician Survey data.
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 2000-01 (Round Three) and 1998-99 (Round Two) 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 restricted use version of the data file containing information from the 2000-01 Physician Survey.

Data collection for the 2000-01 Physician Survey began in August 2000 and was completed in November 2001. Earlier versions of the survey were conducted in 1996-97 and 1998-99. 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 2000-01 Physician Survey, explains how to select samples and weight variables, 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, such as the survey questions and detailed instructions on variance estimation. The codebook (*Community Tracking Study 2000-01 Physician Survey Restricted 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 both the 1998-99 and 2000-01 Physician Survey samples.

In addition to the public use and restricted use files, there is a 2000-01 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 2000-01 Summary File reflects most of the information collected in the 2000-01 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) 2000-01 Physician Survey Restricted 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 2000-01 Physician Survey Restricted 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). Of these communities ("sites"), 12 are 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."

[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.

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, and 2000-01, and data collection for the fourth survey is scheduled for calendar year 2003. The Physician Survey has also been conducted in 1996-97, 1998-99, and 2000-01, and data collection for the fourth survey is scheduled for calendar year 2004.

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.[3]

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 findings are available from HSC.[4]

[3] 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.

[4] 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)	

Note: The numbers listed above are site identifiers and are provided in the data file as the variable SITEID.

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 tracking 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. 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 1998-99 (Round Two) and 2000-01 (Round Three) are described in Chapter 2.

The survey was administered completely by telephone, using computer-assisted telephone interviewing technology. Bilingual interviewers were used in the few cases where needed. Interviews with 12,389 physicians[5] were completed between August 2000 and November 2001.

The sample frame was developed by combining lists of physicians from the American Medical Association (AMA) and the American Osteopathic Association (AOA). All of the respondents to the 1998-99 survey were selected for the 2000-01 survey, and about 75 percent of those selected agreed to participate. There were 8,527 physicians who participated in both the 1998-99 and 2000-01 surveys.

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 ICPSR web site at www.icpsr.umich.edu.

[5] There are 12,406 records on the file; 17 physicians were sampled twice and therefore appear on the file twice, even though they completed only one interview each. Sampling weights were constructed so that duplicate records do not bias results. Consequently, researchers should not delete the duplicate records.

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 1998-99 and 2000-01 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 and to an independent national sample of physicians. The survey's three-tiered sample design makes it possible to develop estimates at the national and community (site) levels.

- The first tier is 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 is large enough to support estimates in each site.
- The second tier is a sample from 48 communities, in each of which a smaller sample of physicians were surveyed. This sample of "low-intensity" sites allows us to validate results from the high-intensity sites and permits findings to be generalized to the nation. The first and second tiers together are known as the *site sample*.
- The third tier is a smaller, independent national sample known as the *supplemental sample.* This sample augments the site sample and increases the precision of national estimates with a relatively modest increase in the total sample size.

The analysis of survey data from the CTS's three-tier 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. 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.

2.1.1. 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).[6]

2.1.2. 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.

[6] For more details on the definition of CTS sites, refer to Metcalf et al. (1996).

2.1.3. 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 code, 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.[7]

2.2. SUPPLEMENTAL SAMPLE

Although the site sample alone will yield national estimates, the estimates will not be as precise as they could have been if more communities had been sampled or if the sample had been a simple random sample of the entire U.S. population. The *supplemental sample*, the third tier in the design of the CTS Physician Survey sample, was added to increase the precision of national estimates at a relatively small incremental increase in survey costs. The supplemental sample is a relatively small, nationally representative sample made up of physicians randomly selected from the 48 states in the contiguous United States. It is stratified by region but essentially uses simple random sampling techniques within strata.

2.3. RELATIONSHIP BETWEEN THE SITE AND SUPPLEMENTAL SAMPLES

The site sample accounts for about 90 percent of the Physician Survey respondents, and the remaining 10 percent come from the supplemental sample. In many cases it can be useful to combine the two samples to make estimates. The relationship between the two samples is discussed here. See Chapter 3 for a discussion of which types of analyses require which samples.

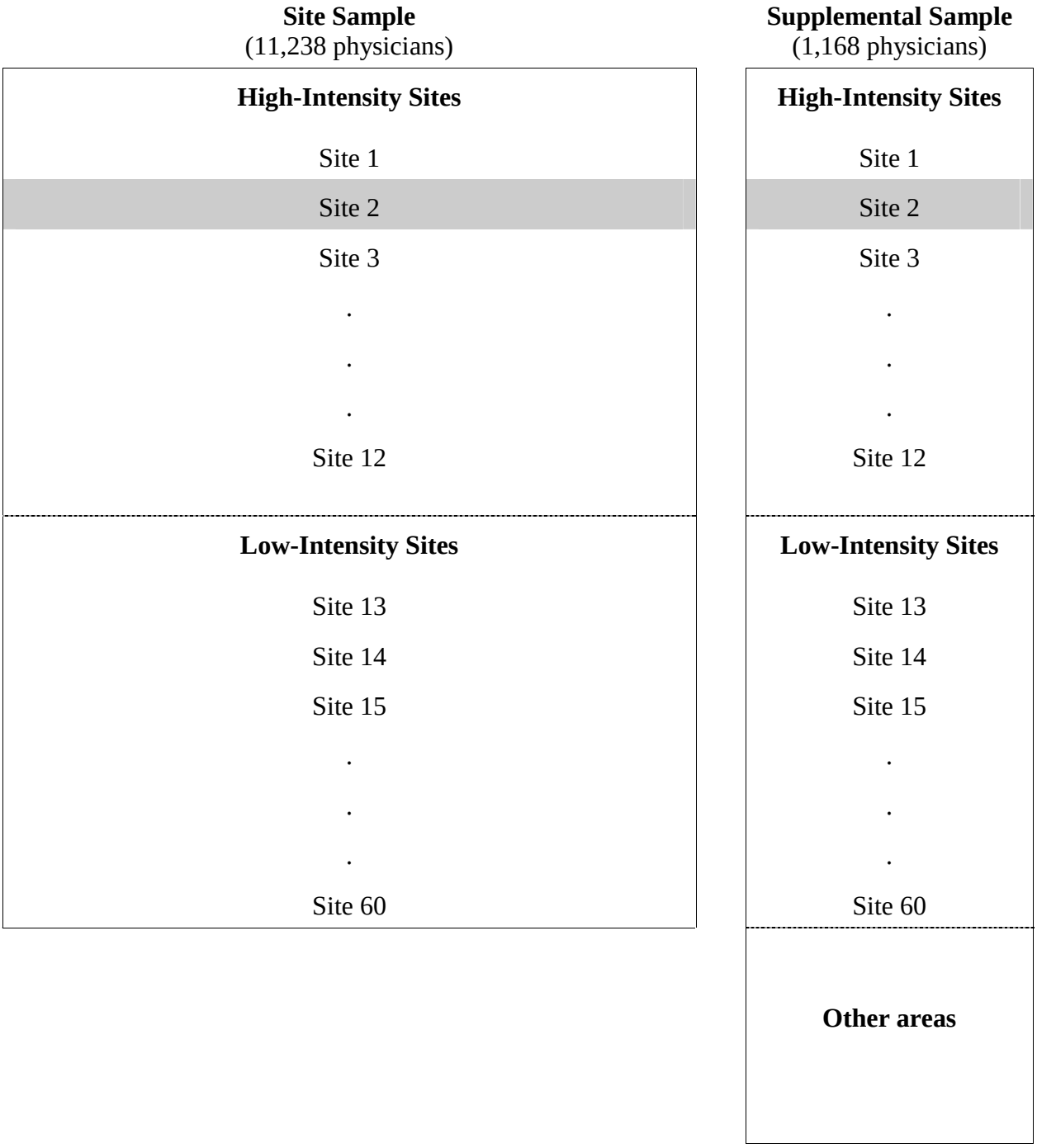
The purpose of the supplemental sample is to increase the precision of national estimates relative to the site sample alone. When it is added to the site sample to produce national estimates, the resulting sample is called the *combined sample*.

As illustrated in Figure 2.1, some of the supplemental sample falls inside of the boundaries of the 60 CTS sites. Therefore, in addition to making national estimates from the site sample more precise, the supplemental sample also slightly enhances site-specific estimates derived from the site sample. Specifically, when a site-specific estimate is made, the sample in a particular site can be augmented with observations from the supplemental sample. The resulting sample (the entire site sample plus the observations from the supplemental sample that fall inside the 60 sites) is known as the *augmented site sample*. The shaded area in Figure 2.1 shows the augmented site sample for site 2.

[7]Additional information about the number of sites and the random selection of the site sample is available in Metcalf et al. (1996).

FIGURE 2.1

THE CTS 2000-01 PHYSICIAN SURVEY SAMPLE STRUCTURE



2.4. CONDUCTING THE PHYSICIAN SURVEY

After selecting the sample sites, we randomly selected physicians within each 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 1998-99 and 2000-01 surveys, we obtained sample frames from the AMA and the AOA but selected the sample ourselves.

In the 2000-01 Physician Survey, the sample design involved randomly selecting both physicians who were part of the 1998-99 survey and physicians who were not. This was true for both the site sample and the supplemental sample. 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. Our goal in also including physicians who were not part of the previous survey's sample was to account for the fact that the re-interviewed physicians might not be fully representative of all physicians. In the final sample of physicians for 2000-01, about 69 percent also participated in the 1998-99 survey.

2.4.1. Eligible Physicians

As the source for our sampling frame, we obtained the May 2000 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,[8] be practicing in the contiguous United States, and be providing direct patient care for at least 20 hours per week.[9] 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[10]
- Federal employees
- Graduates of foreign medical schools who are only temporarily licensed to practice in the United States

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

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

[10] 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.

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.

2.4.2. 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.

After combining the AMA and AOA lists, we developed two sampling frames: one for the site sample and one for the supplemental sample. The physician's location for sampling purposes was determined by the AMA/AOA preferred mailing address.

For the site sample, 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 disposition for the 1998-99 survey, and based upon an optimal sample-allocation plan. The plan resulted in 8 strata in each site.[11] PCPs were oversampled in the site sample.

For the supplemental sample, the sample frame was first divided into the following 10 geographic strata:

1. New England (CT, ME, MA, NH, RI, VT)
2. New York
3. Middle-South Atlantic (DE, NJ, PA, WV)
4. South Atlantic (DC, GA, MD, NC, SC, VA)
5. East South Central (AL, FL, KY, MS, TN)
6. West South Central (AR, LA, MO, OK, TX)
7. East North Central (IN, MI, OH)
8. North Central (IL, IA, MN, WI)
9. Mountain-Pacific (AZ, CO, ID, KS, MT, NE, NV, NM, ND, SD, OR, UT, WY, WA)
10. California

Within each of the 10 geographic strata, we selected a stratified random sample of physicians, independent of the site sample, with eight strata defined as above for the site sample. A probability sample was drawn within each of these strata.

[11] 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 1998-99 sample frame; in 1998-99 sample frame but not sampled for 1998-99; sampled for 1998-99 but did not complete 1998-99 interview; and completed 1998-99 interview).

Because the site and supplemental samples were drawn independently, it was possible for some physicians to be selected into both samples; in fact, 17 physicians were selected twice for the 2000-01 survey. These twice-selected physicians were only interviewed once, but they appear as two different records on the data file. Each has a unique identifier and was dealt with appropriately in the weighting process. Thus, as is mentioned in Chapter 1, researchers do not need to be concerned about deleting duplicate records.

2.4.3. 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.

2.5. 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 many 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. 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 stratification boundaries (site or geographical stratum) according to their survey response regarding practice location. Some crossed from one survey site or stratum 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 stratum or site than the main practice. For example, as can be seen in Table 2.1, movers were a problem in two of the high-intensity sites that are part of larger urban areas – Orange County (19 percent) and Newark (24 percent). The nearby low-intensity sites had high "in-mover" rates (40 percent for Los Angeles and 48 percent for New York).

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 SUBGRP indicates from which sample the physician was selected (site or supplemental) and whether the physician's practice location falls within the 60 CTS sites. The four values of SUBGRP are illustrated in Figure 2.2. While all physicians in the site sample were selected from within the 60 sites (based on their latest preferred mailing address), 1,102 of them turned out to be practicing in an area that is not found within any 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.

TABLE 2.1

NUMBER OF PHYSICIANS INTERVIEWED
FOR THE 2000-01 PHYSICIAN SURVEY,
BY LOCATION WHEN SAMPLED AND LOCATION OF PRACTICE

Site/Geographic Area	Site Sample		Supplemental Sample, Practice Location
	Sampled Location	Practice Location	
TOTAL (See Note)	11,238	11,238	1,168
1,Boston	532	486	24
2,Cleveland	482	413	8
3,Greenville	387	348	1
4,Indianapolis	454	401	7
5,Lansing	332	270	1
6,Little Rock	353	285	0
7,Miami	492	442	9
8,Newark	493	377	14
9,Orange County	404	329	12
10,Phoenix	491	453	11
11,Seattle	509	479	9
12,Syracuse	370	316	1
13,Atlanta	155	158	17
14,Augusta	134	112	3
15,Baltimore	139	126	15
16,Bridgeport	144	122	2
17,Chicago	135	139	39
18,Columbus	135	124	6
19,Denver	143	134	11
20,Detroit	141	139	21
21,Greensboro	152	135	2
22,Houston	135	134	20
23,Huntington	112	91	1
24,Killeen	102	79	1
25,Knoxville	121	101	4
26,Las Vegas	113	115	9
27,Los Angeles	129	180	50
28,Middlesex	126	127	8
29,Milwaukee	127	119	8
30,Minneapolis	136	130	10
31,Modesto	111	97	2

TABLE 2.1

NUMBER OF PHYSICIANS INTERVIEWED
FOR THE 2000-01 PHYSICIAN SURVEY,
BY LOCATION WHEN SAMPLED AND LOCATION OF PRACTICE
(Continued)

Site/Geographic Area	Site Sample		Supplemental Sample, Practice Location
	Sampled Location	Practice Location	
32,Nassau	119	93	10
33,New York City	133	197	42
34,Philadelphia	137	134	28
35,Pittsburgh	135	133	8
36,Portland	133	139	10
37,Riverside	129	126	9
38,Rochester	135	123	6
39,San Antonio	135	115	4
40,San Francisco	158	139	13
41,Santa Rosa	126	113	2
42,Shreveport	132	102	1
43,St. Louis	138	132	9
44,Tampa	124	119	8
45,Tulsa	133	114	3
46,Washington DC	128	148	26
47,W Palm Beach	130	111	4
48,Worchester	147	119	4
49,Dothan	73	64	0
50,Terre Haute	73	62	0
51,Wilmington	104	89	1
52,W-Cen Alabama	33	26	0
53,Cen Arkansas	127	134	2
54,N Georgia	117	105	2
55,NE Illinois	91	74	1
56,NE Indiana	81	68	0
57,E Maine	128	105	3
58,E North Car	112	97	0
59,N Utah	136	107	0
60,NW Washington	102	87	1
Areas other than CTS Sites	Not applicable	1,102	645

Note: The 1,102 site sample cases in which the practice location is outside the 60 sites are not used in estimates that are based on the site sample only. However, they are included in the national estimates using the combined sample. They are listed here to show that those interviews took place. See Chapter 3 for a discussion of when to use a particular sample.

FIGURE 2.2

THE 2000-01 PHYSICIAN SURVEY
SAMPLE AND PRACTICE LOCATIONS

SITE SAMPLE (11,238 physicians)	**SUPPLEMENTAL SAMPLE** (1,168 physicians)
Practice Location: **Site 1** **Site 2** **Site 3** **...** **Site 60** (10,136 physicians) *SUBGRP = 'A'*	**Practice Location:** **Site 1** **Site 2** **Site 3** **...** **Site 60** (523 physicians) *SUBGRP = 'C'*
Practice Location: **Other areas** (1,102 physicians) *SUBGRP = 'B'*	**Practice Location:** **Other areas** (645 physicians) *SUBGRP = 'D'*

2.6. SURVEY CONTENT

Respondents to the survey were questioned about the following:

- Basic information on practice, specialty, and board certification
- Career satisfaction
- Physician time allocation
- Medical information obtained by patients
- Practice arrangements and ownership
- Priorities within practice
- Computer use
- Medical care management strategies and gatekeeping
- Scope of care
- Ability to provide care
- Ability to obtain needed services for patients
- Acceptance of new patients
- Practice revenue
- Compensation
- Race/ethnicity

No proxy respondents were allowed for the Physician Survey. All physicians responded to the interview for themselves. 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.

2.6.1. Changes in the Physician Survey Questionnaire

The questionnaire used for the 2000-01 survey was generally similar to the ones used in 1996-97 and 1998-99. The user's guides for the 1998-99 public and restricted use data files describe the differences between the 1996-97 and 1998-99 surveys, and the main changes made for the 2000-01 survey are listed below. In addition, Appendix B provides a table listing which variables are on the data files for which years.

Questions dropped for the 2000-01 survey

- Questions numbered D1A, D1B, and D1C in the 1998-99 survey, all related to medical care management techniques. These questions were replaced with similar questions in Section D.
- All patient care vignettes [Section E]
- Questions on practice revenue from practice's largest managed care contract [Section G]

Questions added for the 2000-01 survey

- Prevalence and effect of medical information obtained by patients from sources other than the physician [Section B]
- For physicians in medical school or non-governmental hospitals, the setting in which they spend the most time seeing patients [Section C]
- Importance of various elements of practice, such as control over working hours and clinical decisions [Section C]
- Physician's use of computers in his/her practice [Section D]
- Additional questions on awareness and effect of various medical care management techniques [Section D]
- Reasons for difficulties obtaining referrals, hospital admissions, and outpatient mental health care [Section F]
- Practice's acceptance of new uninsured patients and new patients under capitated contracts [Section F]
- Influence of physician's overall personal financial incentives on services to patients [Section H]
- Competitive situation that practice faces [Section H]

2.7. 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 August 2000 and November 2001. For PCPs, the average interview length was 21.7 minutes; for non-PCPs, the average length was 20.5 minutes.

The total number of completed interviews was 12,389,[12] with a response rate among eligibles of 58.6 percent, which is close to the response rate for the 1998-99 survey (60.1 percent when calculated using the same method used for 2000-01).[13]

Physicians were sent advance letters from the Robert Wood Johnson Foundation and were offered a $25 honorarium for participating in the survey, with the option of forwarding the honorarium to a charity.

[12]There are 12,406 records on the file because 17 physicians were selected twice for the survey and appear twice on the file, even though they were only interviewed once. Each of these 17 physicians is represented by two records, each with the same survey data but with different weights.

[13] The original assumptions about unlocatable physicians used for calculating the response rate for the 1998-99 survey yielded a response rate of 60.9 percent. For information on the how the response rate for 2000-01 was calculated, see Diaz-Tena et al. (2003), which is the methodology report for the 2000-01 survey.

TABLE 2.2

CONTENTS OF THE 2000-01 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	Number of practices Location of primary practice Year began medical practice
Specialty and certification	Primary specialty Board eligibility and certification
Satisfaction	Current level of satisfaction with overall career in medicine
Physician Time Allocation / Medical Information Obtained by Patients (Questionnaire Section B)	
Weeks worked	Number of weeks practiced medicine in 1999
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
Charity care in the last month	Hours spent in charity care in the last month
Medical information obtained by patients	Percentage of patients who obtained medical information from sources other than physician Percentage of patients for whom physician ordered tests, procedures, or prescriptions he or she would not otherwise have ordered Effect on ability to provide high-quality care Effect on efficiency
Practice Arrangements and Ownership / Priorities Within Practice (Questionnaire Section C)	
Ownership of practice	Respondent ownership Other owners Whether physician was part of a practice that was purchased during the past two years
Practice description	Type of practice Number of physicians employed Number of non-physician medical practitioners employed
Physician priorities within practice [new for 2000-01]	Importance of control over working hours Importance of control over clinical decisions Importance of potential income Importance of control over practice's business decisions

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 2000-01 PHYSICIAN SURVEY
(Continued)

Computer Use / Medical Care Management Strategies / Gatekeeping / Scope of Care (Questionnaire Section D)	
Use of computers in medical practice [new for 2000-01]	Use of computers Treatments Formularies Preventive service reminders Patient notes Prescriptions Exchange of clinical data Email Internet access
Medical care management [some new questions for 2000-01]	Effect of various care management techniques on practice of medicine Practice guidelines Practice profiles Patient satisfaction surveys Formularies
PCPs	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 Appropriateness Change in number of referrals made
Non-PCPs	Changes in complexity or severity of patients' conditions at time of referral Appropriateness Change in number of referrals received
Practice Styles of Primary Care Physicians (Questionnaire Section E)	
Section E was dropped from the questionnaire for the 2000-01 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 2000-01 PHYSICIAN SURVEY
(Continued)

Ability to Provide Care / Ability to Obtain Needed Services for Patients / Acceptance of New Patients (Questionnaire Section F)	
Ability to provide care	Adequate time to spend with patients Freedom to make clinical decisions Providing high-quality care Making clinical decisions without negative effect on income Level of communication with other physicians Maintaining continuing patient relationships
Ability to obtain needed services for patients	Ability to obtain: Referrals Ancillary services Hospital admissions Adequate inpatient days Diagnostic imaging Inpatient mental health care Outpatient mental health care Reasons for difficulties obtaining: [new for 2000-01] Referrals Hospital admissions Outpatient mental health care
Acceptance of new patients	Practice accepts: New Medicare patients New Medicaid patients New privately insured patients New uninsured patients unable to pay [new for 2000-01] New patients under capitated contracts [new for 2000-01]
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 2000-01 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
Income	Percentage of 1999 income earned in the form of bonuses, returned withholds, or other incentive payments Net income from practice of medicine in 1999
Financial incentives	Influence of physician's overall personal financial incentives on services to patients [new for 2000-01]
Competition	Competitive situation that practice faces [new for 2000-01]
Race/ethnicity	Hispanic origin Race

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

CHAPTER 3

USING THE PHYSICIAN SURVEY RESTRICTED USE FILE

The Physician Survey is made up of several samples, each of which is appropriate for certain types of analyses. In this chapter, we explain how to choose the appropriate sample and weight variable according to various possible "analytic scenarios."[14] 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 2000-01 Physician Survey with data from the 1996-97 and/or 1998-99 surveys.

As background to this discussion, the five 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 augmented site sample and the weight WTPHY1. The augmented site sample was formed by taking the site-sample respondents practicing in a given site and adding respondents from the supplemental sample who also practice in that CTS site. (See Chapter 2 for more information on the relationship among the site sample, the supplemental sample, and the augmented site sample.)

In general, we recommend reporting site-level physician characteristics for the 12 high-intensity sites only. Samples for the low-intensity sites are generally too small to yield precise estimates, although precise estimates for physicians in groups of low-intensity sites can be obtained.

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.

[14] Refer to Diaz-Tena et al. (2003) 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 available to authorized users of the CTS Physician Survey Restricted Use File through the CTS Help Desk at ctshelp@hschange.org.

TABLE 3.1

ANALYTIC SAMPLES IN THE PHYSICIAN SURVEY

Analytic Sample	Description	File Definition
Supplemental sample	An independent sample, separate from the site sample, that consists of physicians randomly selected from the 48 states in the contiguous United States and the District of Columbia.	All records with SUBGRP = C or SUBGRP = D (N = 1,168 physicians)
Augmented site sample	Physicians from the site and supplemental samples whose practice location lies within the 60 CTS sites.	All records with SUBGRP = A or SUBGRP = C (N = 10,659 physicians)
Combined sample	All physicians from the site and supplemental samples, including those site-sample physicians practicing outside the 60 CTS sites.	All records (SUBGRP = A, B, C, or D) (N = 12,406 physicians)
Site panel sample	Physicians from the site sample who responded to both the 1998-99 and 2000-01 surveys (including those site-sample physicians practicing outside the 60 sites).	All records with SUBGRP = A or SUBGRP = B that also have a positive value for R2PHYIDX (N=7,723 physicians)
Combined panel sample	Physicians from the site and supplemental samples who responded to both the 1998-99 and 2000-01 surveys (including those site-sample physicians practicing outside the 60 sites).	All records with a positive value for R2PHYIDX (N=8,527 physicians)

Note: See Chapter 2 for more information on the *site sample* (Section 2.1) and the *supplemental sample* (Section 2.2).

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	Augmented site sample	WTPHY1
Population of Interest: National Population (cross-sectional estimates)		
Model includes site characteristics	Augmented site sample	WTPHY5
Model does not include site characteristics	Supplemental sample[a]	WTPHY3
	Combined sample	WTPHY4
Population of Interest: National Population (panel estimates)		
Model includes site characteristics	Site panel sample	WTPAN2
Model does not include site characteristics	Combined panel sample	WTPAN1

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

[a] Supplemental sample is recommended only for specific purposes discussed in Section 3.1.2.

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 combined 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 augmented site sample and the weight WTPHY5 to produce national estimates.[15] This is because the combined sample comprises in part the supplemental sample, and site information is not available for members of the supplemental sample falling outside the 60 CTS sites.[16]

Because of its smaller size (9 percent of the combined sample), the supplemental sample should generally not be used by itself for analysis. However, you may wish to use this sample alone to prepare national estimates in the following situations:

- ***To Perform Exploratory Analyses***. Because the supplemental sample is an independent national sample, you might want to use the supplemental sample to perform exploratory data analysis.

- ***To Take Advantage of the Supplemental Sample's Smaller Design Effects.*** The relatively straightforward design of the supplemental sample results in smaller design effects than those associated with the site sample. This reduces (but does not eliminate) the need to use more complex statistical packages like SUDAAN to develop variance estimates. A discussion of how to derive appropriate variance estimates follows in Chapter 4.

[15] Note that the recommended sample for this scenario in 1996-97 (Round One) is the site sample, not the augmented site sample, because no Round One weight for the augmented site sample has been developed.

[16] Models that contain site dummy variables as explanatory variables can be estimated using either the augmented site sample or the combined sample. If the augmented site sample is used, one site is typically dropped from the model and used as a reference group. If the combined sample is used, cases from the supplemental sample would constitute a "61st" site. If this "61st" site is used as the excluded reference group, coefficients on site dummy variables can be interpreted as deviations from a national mean. This is a convenient, though not the most precise, way to test whether a characteristic of a given site differs from a national average. More precise site and national means can be obtained from the augmented site sample and from the combined sample, respectively.

3.1.3. Panel Estimates for National Population

As described in Chapter 2, there are some physicians who were interviewed for both the 1998-99 and 2000-01 surveys. For this subgroup, researchers can analyze physician-level changes between those two periods.

Table 3.1 describes the two panel samples that are available, and Table 3.2 indicates when to use them and which weights to use. We generally recommend the combined panel sample and weight WTPAN1 because of larger sample size and therefore greater precision. However, if your estimation model contains explanatory variables that are characteristics of the 60 CTS sites, then you should use the site panel sample and weight WTPAN2. Although there are some physicians in the site panel sample whose practice location is outside the 60 CTS sites, the proportion of such physicians is smaller than in the combined panel sample.

Only national estimates are possible with the panel sample, since there were no weights developed for site-specific analysis.

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. Movers were dealt with in various ways depending on the type of mover, the sample being used (augmented site sample, supplemental sample, or combined sample), and the level of analysis (site-specific or national). Details concerning weight construction are contained in the survey methodology report.[17]

[17] See Diaz-Tena et al. (2003).

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 1998-99 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 Three (2000-01) data file, the variable R2PHYIDX indicates the Round Two (1998-99) physician identifier for those physicians in both rounds. For example, if the Round Three variable R2PHYIDX has a value of 123456, this same physician is on the Round Two data file with PHYSIDX=123456. There is an analogous variable (R1PHYIDX) on the Round Two data file that allows you to identify physicians who were interviewed for both the Round Two (1998-99) and Round One (1996-97) 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 1996-97 and 2000-01), you could of course 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.[18]

Therefore, we recommend combining the data from the two rounds in order to estimate change. Specifically, combine the two rounds of data (e.g., 1998-99 and 2000-01) 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 $SURVEY3_i$ indicate whether the observation comes from the 2000-01 survey ($SURVEY3_i = 0$ if observation i comes from 1998-99, $SURVEY3_i = 1$ if observation i comes from 2000-01). Then run the following weighted regression model.[19]

$$Y_i = a + b(SURVEY3_i) + e_i$$

[18] 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.

[19] 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.

The resulting estimate of *a* represents the mean for 1998-99, and the sum *(a + b)* represents the mean for 2000-01. Therefore, the estimate of change in Y between the two time periods is b, 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 *SURVEY3* 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 1998-99 (Round Two) and 2000-01 (Round Three) surveys, allowing you to analyze physician-level changes between those two periods. To do this, you need to merge the Round Two and Round Three data files, creating a data file with one record per physician by matching the physician identification number on the Round Two file (PHYSIDX) with the variable on the Round Three file that indicates the Round Two identification number (R2PHYIDX). The resulting data file will contain 8,527 records, with each record representing a physician who was interviewed in both rounds.[20]

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 2000-01 and 1998-99 surveys (8,527 physicians in the combined panel sample) with the panel sample of physicians from the 1998-99 and 1996-97 surveys (7,092 physicians in the combined panel sample).

[20] 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 were in different sites in 1998-99 (Round Two) and 2000-01 (Round Three). Because the panel weights were based on the Round Two population, we recommend that those physicians be considered associated with their site in Round Two 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 weights (WTPAN1 and WTPAN2) were adjusted to minimize the differences between characteristics of the panel sample and the characteristics of the full samples from each round. Nevertheless, for the 2000-01 survey, the estimate of average age for the combined panel sample is slightly higher than for the regular combined sample, as is the estimate of the proportion of physicians who are male.

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.

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.[21] Estimates of the standard errors are necessary to construct confidence intervals around estimates and to conduct hypothesis tests.

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.

> **New for 2000-01.** 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.[22] However, 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.**[23] For situations when using Stata or SAS is a reasonable option, we now provide the necessary sampling parameters for those packages in the 2000-01 data files.[24] Use of other software besides SUDAAN is discussed in more detail below in Section 4.3.

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[21] 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.

[22] The exception is national estimates from the supplemental sample, which has a simpler sample design.

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

[24] 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.

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 2000-01 data only.
- See Section 4.2.2 and Table 4.2 for estimates based on data from the 2000-01 survey combined with one or both of the other surveys (1996-97 and/or 1998-99).
- 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 2000-01 Survey Only

If your analysis involves data from the 2000-01 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 with-replacement design (DESIGN=WR) implies that with-replacement sampling can be assumed at the first stage of selection. This design specification is appropriate for estimates based on only the national supplement, where the first stage of selection was physicians within stratum. 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 augmented 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 combined sample or the augmented site sample only 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 variables

- For site-specific estimates, the stratification variable is SITEPCP. This variable specifies the site (or the geographical stratum for the supplemental sample cases), whether the physician is PCP or non-PCP, and the sample type (site or national supplement).
- For estimates based on only the national supplement, the stratification variable is NSTRATA, which has 20 values: the 10 geographical strata by PCP or non-PCP.
- For national estimates based on the combined 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 site sample, SECSTRA is equivalent to SITEPCP as defined above. For nonmetropolitan sites in the site sample, SECSTRA is set to a constant. For the national supplement cases, SECSTRA is equivalent to NSTRATA (defined above) plus 20.
- For national estimates based on the augmented site sample, the first and second stage sampling stratum variables are ASTRATA and ASECSTRA. The values of these variables are identical to PSTRATA and SECSTRA for the site sample cases. For the supplemental sample cases falling within the boundaries of the 60 sites, they were assigned comparable values according to the site in which they fell.

NEST statement clustering variables

- For site-specific estimates, the clustering or primary sampling unit (PSU) variable is FSU, which represents the physician.
- For estimates based only on the national supplement, the PSU variable NFSU represents the physician.
- For national estimates based on the combined 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 supplemental sample cases, PPSU is set to one. 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 supplemental sample cases, NFSU represents the physician.
- For national estimates based on the augmented site sample, the first and second stage clustering variables are APSU and AFSU. For site sample cases, these are identical to APSU and AFSU. For supplemental sample cases that are part of the augmented sample, they are set to the site and physician respectively (for metropolitan sites) or a constant and site (for nonmetropolitan sites).

For national estimates based on the combined sample or augmented site sample, we recommend that you utilize the MISSUNIT option within the NEST statement. This option should not be used for national estimates based on the supplemental sample or site-specific estimates based on the augmented 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[25] 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

- Because estimates based on the national supplement assume with-replacement sampling, the TOTCNT and JOINTPROB statements are not specified when making those estimates.
- 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 combined 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.[26]) 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 augmented 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.[27]) The JOINTPROB statement is specified as the variables AP1 through AP7.

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

[26] 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.

[27] 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 survey uses _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 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 augmented site sample or on the combined sample. In 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 2000-01 Survey Combined with Other Years

As discussed in Chapter 3, two reasons that you would want to combine the 2000-01 data with the 1996-97 data and/or the 1998-99 data 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 2000-01 data) only with respect to the NEST stratification variable (SITEPCP2 instead of SITEPCP). SITEPCP2 is provided on the data file for 2000-01 (SITEPCP2 = 3000000 + SITEPCP), but you will need to construct it for 1996-97 and 1998-99 as follows:

- For 1996-97: SITEPCP2 = 1000000 + SITEPCP
- For 1998-99: SITEPCP2 = 2000000 + 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.[28] 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.

[28] 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 Augmented Sample or Combined Sample

For national estimates from the augmented sample or combined sample, the specifications in Table 4.2 are the same as the specifications in Table 4.1 (for estimates using only 2000-01 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 in Tables 4.1 and 4.2 are only in the TOTCNT statement:

- In the TOTCNT statement for national estimates based on the combined 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 augmented 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 survey uses _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 2000-01 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 1998-99 survey and the 2000-01 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 Three (2000-01) file with the Round Two (1998-99) file by the Round Two physician identifier (PHYSIDX on the Round Two file and R2PHYIDX on the Round Three 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 Two value and the Round Three value for your variables of interest.

The relevant SUDAAN parameters for panel analysis are provided in Table 4.3. The first SUDAAN specification is for national panel estimates based on the site panel sample. The second is for national panel estimates based on the combined panel sample. Other than the weight variable, the SUDAAN parameters are identical for these two types of estimates and match those for national estimates based on the combined sample using 2000-01 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 2000-01 and 1998-99 surveys with the panel sample of physicians from the 1998-99 and 1996-97 surveys.

TABLE 4.1

GUIDELINES FOR SPECIFICATION OF
DESIGN VARIABLES IN SUDAAN WHEN USING
2000-01 PHYSICIAN SURVEY DATA ONLY

SUDAAN Statements	Site-Specific Estimates (augmented site sample only)	National Estimates (augmented site sample only)	National Estimates (national supplement only)	National Estimates (combined sample)
DESIGN=	WOR	UNEQWOR	WR	UNEQWOR
NEST	SITEPCP FSU	ASTRATA APSU ASECSTRA AFSU	NSTRATA NFSU	PSTRATA PPSU SECSTRA NFSU
NESTING OPTIONS	not applicable	MISSUNIT	not applicable	MISSUNIT
TOTCNT	FRAME _ZERO_	ASTRTOT _ZERO_ _MINUS1_ _ZERO_	not applicable	PSTRTOT3 _ZERO_ _MINUS1_ _ZERO_
JOINTPROB	not applicable	AP1 AP2 AP3 AP4 AP5 AP6 AP7	not applicable	P1X P2X P3X P4X P5X P6X P7X
WEIGHT	WTPHY1	WTPHY5	WTPHY3	WTPHY4
DDF=	not applicable	2900	not applicable	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
2000-01 PHYSICIAN SURVEY DATA COMBINED WITH
1996-97 AND/OR 1998-99 DATA

SUDAAN Statements	Site-Specific Estimates (augmented site sample only)	National Estimates (augmented site sample only)	National Estimates (national supplement only)	National Estimates (combined sample)
DESIGN=	WOR	UNEQWOR	WR	UNEQWOR
NEST	SITEPCP2 FSU	ASTRATA APSU ASECSTRA AFSU	NSTRATA NFSU	PSTRATA PPSU SECSTRA NFSU
NESTING OPTIONS	not applicable	MISSUNIT	not applicable	MISSUNIT
TOTCNT	FRAME _ZERO_	ASTRTOT _ZERO_ _MINUS1_ _ZERO_	not applicable	PSTRTOT3 _ZERO_ _MINUS1_ _ZERO_
JOINTPROB	not applicable	AP1 AP2 AP3 AP4 AP5 AP6 AP7	not applicable	P1X P2X P3X P4X P5X P6X P7X
WEIGHT	WTPHY1	WTPHY5	WTPHY3	WTPHY4
DDF=	not applicable	2900	not applicable	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
2000-01 PHYSICIAN SURVEY PANEL SAMPLE
(PHYSICIANS IN BOTH 1998-99 AND 2000-01 SAMPLES)

SUDAAN Statements	National Panel Estimates (site panel sample only)	National Panel Estimates (combined panel sample)
DESIGN=	UNEQWOR	UNEQWOR
NEST	PSTRATA PPSU SECSTRA NFSU	PSTRATA PPSU SECSTRA NFSU
NESTING OPTIONS	MISSUNIT	MISSUNIT
TOTCNT	PSTRTOT3 _ZERO_ _MINUS1_ _ZERO_	PSTRTOT3 _ZERO_ _MINUS1_ _ZERO_
JOINTPROB	P1X P2X P3X P4X P5X P6X P7X	P1X P2X P3X P4X P5X P6X P7X
WEIGHT	WTPAN2	WTPAN1
DDF=	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.

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. There are other statistical software packages for the analysis of data with complex sample designs that can produce correct variance estimates for national estimates from the supplemental sample. However, they do not work as well as SUDAAN for site-specific estimates and national estimates that include the site sample because they cannot accommodate without-replacement (WOR) sampling.[29] (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.[30]

[29] 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.

[30] 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 augmented site sample	WOR	Full population or subpopulation	yes	no[b]
National estimates from national supplement	WR	Full population or subpopulation	yes	yes
National estimates from combined sample or augmented 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 combined sample, although there is no particular reason to think that the overall conclusions would differ for national estimates from the augmented 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

Researchers who use the CTS Physician Survey for national estimates from the supplemental sample will get the same (correct) standard error estimates regardless of whether they use SUDAAN, Stata, or SAS. However, for national estimates from the combined sample, the augmented 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.[31]

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.

[31] 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 2000-01 Physician Survey. Table 4.5 shows which parameters should be used for which types of estimates, and Appendix E 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 D 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.

TABLE 4.5

GUIDELINES FOR SPECIFICATION
OF DESIGN VARIABLES IN STATA AND SAS

Stata Statements	SAS Statements	Site-Specific Estimates	National Estimates (Site Sample Only)	National Estimates (National Supplement Only)	National Estimates (Combined Sample)	National Estimates (Augmented Site Sample)	National Estimates (either panel sample)
strata	stratum	Not available[a]	STRATAWR	NSTRATA	STRATAWR	PSTRAWR	Not available[a]
psu	cluster	Not available[a]	PSUWR	NFSU	PSUWR	PPSUAWR	Not available[a]
pweight	weight	WTPHY1	WTPHY2[b]	WTPHY3	WTPHY4	WTPHY5	WTPAN1, 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 done, and so we currently cannot provide guidance for using any other statistical software packages besides SUDAAN.

[b] Weights for national estimates from the site sample are provided only for 1996-97.

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.[32] 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.

[32] 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 (other than –1's) for selected variables were imputed using unweighted and weighted sequential hot-deck imputation.[33] 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 1998-99 survey.[34] 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.

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. For example, certain "other" responses to question C2: TOPOWN (type of ownership), were recoded to an existing response category based on the verbatim responses to that question.

[33] 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.

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

TABLE 5.1

IMPUTED VARIABLES ON THE 2000-01 PHYSICIAN SURVEY RESTRICTED USE FILE

Description	Variable Name	Nonresponse Rate[a]
Section A:		
Multiple practices	MULTPR	< 1%
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	8%
Section C:		
Acquired practice	ACQUIRD	< 1%
Ownership status	OWNPR	< 1%
Number of physicians	NPHYS	5%
Setting for seeing patients	SETTING	2%
Section D:		
Percent of patients for whom physician is gatekeeper	PCTGATE	2%
Patients with prescription coverage with formulary	FORMLRY	9%
Awareness of formal written guidelines	AWRGUID	5%
Awareness of practice profiling	AWRPROF	4%
Awareness of patient satisfaction surveys	AWRSURV	2%
Section F:		
Accepting Medicare patients	NWMCARE	4%
Accepting Medicaid patients	NWMCAID	2%
Accepting privately insured patients	NWPRIV	2%
Accepting uninsured patients unable to pay	NWNPAY	3%
Accepting patients under capitated contracts	ACC_CAP	7%
Section G:		
Percent Medicare patients	PMCARE	15%
Percent Medicaid patients	PMCAID	13%
Percent captitated revenue	PCAPREV	13%
Number of managed care contracts	NMCCON	24%
Percent of practice revenue from managed care	PMC	1%
Section H:		
Risk adjustment of profiles	RADJ	8%
Percent income from bonuses	PCTINCC	4%
Income	INCOMET	18%
Influence of financial incentives on services	INCENT	3%

[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 Two (1998-99) survey is R2PHYIDX.

- 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 were no major changes to any of the variables since the 1998-99 survey. To find out whether there were any minor changes to a variable that you are using, you should review the codebooks. This is a list of some of the changes to specific variable since 1998-99.

- PCPFLAG (questionnaire definition of PCP) and SPECX (physician specialty): There are some specialty codes that are new for the 2000-01 survey. They have been incorporated into the definitions of PCPFLAG and SPECX, as indicated in Table 5.2. Nothing related to the other specialty codes has changed in the definitions of those variables.

- BDCTPS (board certification in primary specialty or subspecialty) and BDELPS (board eligibility in primary specialty or subspecialty): BDCTPS is "inapplicable" (-1) for hospitalists (specialty code 201) in 2000-01. In 1998-99, it applied to all physicians. (Specialty code 201 is new for the 2000-01 survey). Similarly, the category "inapplicable" for BDELPS in 2000-01 now includes hospitalists. In 1998-99, that category consisted only of physicians with BDCTPS = 1 (board certified in primary specialty or subspecialty).

- NPHYS / NPHYSX (number of physicians in practice): The variable NPHYS comes from question C7, which was skipped erroneously for some physicians in 2000-01. Thus, the imputation rate for this variable is higher than in previous years (about 5 percent in 2000-01, compared to less than 1 percent in 1996-97 and 1998-99).

- NASSIST / NASSISX (number of medical assistants in practice): The variable NASSIST comes from question C8, which was skipped erroneously for some physicians in 2000-01. The resulting rate of missing data was too high for the variable to be included on the 2000-01 data files.

- PMC (percent of practice revenue from managed care) and PCAPREV (percent of practice revenue that is capitated/prepaid): The variables PMC and PCAPREV have slightly revised definitions for 2000-01. As indicated in Table 5.2, the variables PBIGCON (percent of practice revenue from the largest managed care contract) and CAPAMTC (capitated/prepaid revenue from the largest managed care contract) are no longer used in the definitions because those variables do not exist in the 2000-01 survey (the relevant survey questions were dropped).

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. The specialty code 195 is new for the 2000-01 survey and has been added to the variable definition. 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 2000-01 survey and have been added to the lists: 123, 142, 143, 149, 165, 190, 192, 193, 194, 195, 196, 197, 198, 200, 201, 202, 308, 309, 311, 312. 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 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 *(continued on next page)*

TABLE 5.2

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

Variable	Additional Information
SPECX	*(continued from previous page)* <u>5. Surgical Specialties</u> 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 <u>6: Psychiatry</u> 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 <u>7: Obstetrics/Gynecology</u> 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.
ORGC_1 through ORCG_16	These are a series of constructed variables that represent each of the 16 categories in question C6 (types of organizations that have an ownership in the practice). ORGC_3 and ORGC_4 are not present on the file because no one gave these responses. There is no variable corresponding to ORGC_5 in the questionnaire. The responses to question C6a (who owns the practice?) were combined with the responses to C6 to create ORGC_1 through ORGC_16. For example, if C6a=7 (physician practice management or other for profit), then ORGC_7 = 1.

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.
Section H Variables: Physician Compensation Methods & Income Level	
PCTINCC	PCTINCC is a constructed variable that is an edited version of question H9 (percent of 1999 income coming from bonuses). It is edited as follows: Physicians who responded "0: No" to H9a (EBONUS-eligible for bonuses in 1999) are assigned a value of -1: Inapplicable.

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 12,406 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:	CTSR3PR1.TXT
Number of observations:	12,406
Number of variables:	221
Logical record length:	681 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 (681). If RECFM=F is used, the LRECL value must be specified as the logical record length plus two (683). 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 (681). 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.[35]" 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.

[35] 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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Schaefer, Elizabeth, et al., *Comparison of Selected Statistical Software Packages for Variance Estimation in the CTS Surveys*, Technical Publication No. 40, Center for Studying Health System Change, Washington, D.C. (May 2003).

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Diaz-Tena, Nuria, et al., *Community Tracking Study Physician Survey Methodology Report, 2000-01 (Round Three)*, Technical Publication No. 38, Center for Studying Health System Change, Washington, D.C. (May 2003).

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Keil, Linda, et al., *Community Tracking Study Physician Survey Methodology Report, 1996-97 (Round One)*, Technical Publication No. 9, Center for Studying Health System Change, Washington, D.C. (October 1998).

Documentation for the Physician Survey Public Use, Restricted Use, and Summary Files

2000-01 Physician Survey:

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Community Tracking Study Physician Survey Public Use File: Codebook, 2000-01, Technical Publication No. 48, Center for Studying Health System Change, Washington, D.C. (September 2003).

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Community Tracking Study Physician Survey Summary File: User's Guide and Codebook, 2000-01, Technical Publication No. 51, Center for Studying Health System Change, Washington, D.C. (September 2003).

1998-99 Physician Survey:

Community Tracking Study Physician Survey Public Use File: User's Guide, 1998-99, Technical Publication No. 25, Center for Studying Health System Change, Washington, D.C. (July 2001, revised December 2001).

Community Tracking Study Physician Survey Public Use File: Codebook, 1998-99, Technical Publication No. 26, Center for Studying Health System Change, Washington, D.C. (July 2001).

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1996-97 Physician Survey:

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Community Tracking Study Physician Survey Summary File: User's Guide and Codebook, 2000-01, Technical Publication No. 14, Center for Studying Health System Change, Washington, D.C. (July 1999).

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

Appendix A

The CTS 2000-01 Physician Survey Instrument

See Appendix B for the names of the variables associated with the survey questions.

CRT

HARD COPY REQUIRED

FINANCE,RWJ50259
F259

ROUND #3

FIELD FINAL – AUGUST 28, 2000
(Columns are "absolute")
(Revisions listed on last page)

AC6934
PROJECT REGISTRATION #130663
THE CENTER FOR STUDYING HEALTH SYSTEM CHANGE (RWJ)
Washington, D.C.
Physicians Study - Round #3
Government/Max Larsen
Mike Ellrich/Stacey Richter
Brenda Sonksen, Specwriter
August, 2000 n=12,600

THE GALLUP ORGANIZATION

X APPROVED BY CLIENT

X APPROVED BY PROJECT MANAGER

I.D.#: 0 (1-6)

**AREA CODE AND TELEPHONE NUMBER:

_____ (649 - 658)

**INTERVIEW TIME:

_____ (716 - 721)

SPECIALTY: **(Code from "Fone" file) (NOTE TO SURVENT: Show on "Intro" screen)

_____ (232 - 234)

See Appendix B for the names of the variables associated with the survey questions.

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		

_____ (213) (214)

COUNTY: **(Code from "Fone" file)

_____ (274 - 303)

See Appendix B for the names of the variables associated with the survey questions.

SECTION A
INTRODUCTION AND SCREENING

("FONE" MANAGEMENT NOTE: Any T&T's should send the case to a special "HOLD" category that could be reactivated by refusal converters if necessary)

S1. DOCTOR TYPE: **(Code from "Fone" file)**

1 MD
2 DO _____ (227)

S1b. REPLICATE NUMBER: **(Code from "Fone" file)**

[SET BY JOHN SELIX]

S1c. PANEL: **(Code from "Fone" file)**

1 New
2 Re-interview
3 Non-respondent _____ (228)

(There are no S1d-S1f)

S2. DOCTOR NAME: **(Code from "Fone" file)**

_____ _____ _____
(-)

S3. PRIMARY SPECIALTY: **(Code from "Fone" file)**

_____ _____
(232 - 234)

S4. SITE NUMBER: **(Code from "Fone" file)**

_____ _____
(229 - 231)

See Appendix B for the names of the variables associated with the survey questions.

S5. SITE TYPE: **(Code from "Fone" file)**

1 High intensity
2 Low intensity/National _____ ( )

S6. ZIP CODE: **(Code from "Fone" file)**

_____ _____
_____ (203 - 207)

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

1 Yes
2 No _____ (267)

(NOTE TO SURVENT: Display "doctor's name" and "gender" at top of screen)

(If code "1" or "3" in S1c, Continue; Otherwise, Skip to "Intro #2"

INTRO #1

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.

See Appendix B for the names of the variables associated with the survey questions.

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)

INTRO #2

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 third 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)

See Appendix B for the names of the variables associated with the survey questions.

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

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

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

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

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

S8. **(If code "3" in "Intro", 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)?

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?

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.

WORK PHONE NUMBER:

_____ (2421 - 2430)

HOME PHONE NUMBER:

_____ (2441 - 2450)

STREET ADDRESS:

_____ (2892 - 2931)

CITY:

_____ (2591 - 2620)

STATE:

_____ (2431) (2432)

ZIP CODE:

_____ (2433 - 2437)

**(All in S10, Thank and Terminate;
Call new number and reset to "Intro";
If "blank" in "WORK PHONE NUMBER" and
"HOME PHONE NUMBER" in S10, Continue)**

See Appendix B for the names of the variables associated with the survey questions.

S11. ***(FDIRECTA)*** **(If code "1", "3" or "4" in S7, OR code "6" in "Intro", 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)

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 "Intro")

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?

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, INTERVIEWER 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?

1 Yes - **(Continue)**

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

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

(If code "1" in #A2, INTERVIEWER 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? [**(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.]

1 Yes - **(Skip to "Note" before #A3a)**

2 No - **(Continue)**

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

(If code "2" in #A3, INTERVIEWER 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)**

(If code "1" or "3" in S1c, Continue; Otherwise, Skip to #A4)

A3a. Thinking back to April, 1998, at that time, were you a full-time employee of a federal agency?

1 Yes
2 No
8 (DK)
9 (Refused) _____ (1615)

A3b. In April, 1998, were you a resident or fellow?

1 Yes
2 No
8 (DK)
9 (Refused) _____ (1616)

A3c. In April, 1998, were you providing direct patient care for at least twenty hours a week?

1 Yes
2 No
8 (DK)
9 (Refused) _____ (1617)

A4. Do you currently provide patient care in one practice, or more than one practice? [**(If necessary, say:)** We consider multiple sites or offices associated with the same organization to be only one practice.] **(INTERVIEWER NOTE #1: Examples are: a private MD with a downtown and suburban office is one practice; a regional organization with member doctors practicing in numerous satellite clinics or offices is one practice; and multiple sites with DIFFERENT organizations are different practices.) (INTERVIEWER NOTE #2: Do not count non-patient-care activity, such as teaching or administrative jobs, as practices.)**

1 One - **(Skip to #A5)**

2 More than one - **(Continue)**

8 (DK) **(Skip to #A5)**
9 (Refused) **(Skip to #A5)** _____ (1056)

A4a. **(If code "2" in #A4, ask:)** In how many different practices do you provide patient care? (Open ended **and code actual number)**

DK (DK)
RF (Refused)

_____ _____ _____
(1057) (1058)

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.)**

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

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

See Appendix B for the names of the variables associated with the survey questions.

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

DK (DK)
RF (Refused)

COUNTY:

_____ (2834 - 2858)

STATE:

_____ (2859) (2860)

(If code "15 - Hawaii" or "02 - Alaska" in #A5a - "State", Continue with "Interviewer Read"; Otherwise, Skip to #A5b)

(INTERVIEWER 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)**

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)** **(NOTE TO SURVENT: Force interviewers to enter FOUR DIGITS)**

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.]

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)**

(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)
049	Clinical Biochemical Genetics	(CBG)
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)
105	Clinical Pathology	(CLP)
052	Clinical Molecular Genetics	(CMG)
055	Clinical Neurophysiology	(CN)
011	Colon & Rectal Surgery	(CRS)
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)
140	Medical Toxicology (Emergency Medicine)	(ETX)
303	Flex Residents	(FLX)
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	
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)
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)
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)
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)
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)
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)
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)

A8. (Continued:)

(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
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

A8. (Continued:)

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
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

A8. (Continued:)

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
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

A8. (Continued:)

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
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

A8. (Continued:)

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
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

A8. (Continued:)

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

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" or "301-307" in #A8, INTERVIEWER 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", "314" or "313" in #A8, Skip to #A9a;
If code "017", "049-054", "063", "086-087", "089-094", "095-098", "133", "144-145", "192", "193", "200" or "210" 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")**

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" OR "314" in #A8, ask:)** Do you spend most of your time practicing in **(response in #A8)**, or in general internal medicine? **(NOTE TO INTERVIEWER: If respondent says "50/50 split", code as "1")**

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" or "210" in #A8, ask:)** Do you spend most of your time practicing in **(response in #A8)**, or in general pediatrics? **(NOTE TO INTERVIEWER: If respondent says "50/50 split", code as "1")**

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)**

(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)
049	Clinical Biochemical Genetics	(CBG)
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)
105	Clinical Pathology	(CLP)
052	Clinical Molecular Genetics	(CMG)
055	Clinical Neurophysiology	(CN)
011	Colon & Rectal Surgery	(CRS)
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)
140	Medical Toxicology (Emergency Medicine)	(ETX)
303	Flex Residents	(FLX)
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	(HS)
201	Hospitalists	
039	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	
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)
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)
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)
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)	(PRN)
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)
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)
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)
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 Medicine/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)

A10. (Continued:)

(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
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

A10. (Continued:)

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
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

A10. (Continued:)

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
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

A10. (Continued:)

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
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

A10. (Continued:)

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
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

A10. (Continued:)

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

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" or "301-307" in #A10, INTERVIEWER 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)

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

1 Yes - **(Skip to #A13)**

2 No - **(Continue)**

8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____ (1358)

(There is no #A11a) HOLD 0 (1629)

A12. **(If code "2", "8" or "9" in #A11, ask:)** Are you board-eligible in **(response in #A10)**?

1 Yes
2 No
8 (DK)
9 (Refused) _____ (1630)

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

1 Yes - **(Skip to #A19)**

2 No - **(Continue)**

8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____ (1631)

(There is no #A13a) HOLD 0 (1632)

(If code "1" in #A12, Skip to #A19; Otherwise, Continue)

A14. Are you board-eligible in **(response in #A8)**?

1 Yes
2 No
8 (DK)
9 (Refused) _____ (1633)

(All in #A14, Skip to #A19)

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

1 Yes - **(Skip to #A19)**

2 No - **(Continue)**

8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____ (1634)

(There is no #A15a) HOLD 0 (1635)

A16. Are you board-eligible in **(response in #A8)**? **(NOTE TO INTERVIEWER: If physician says "Board-eligible in Internal Medicine" or "Board-eligible in Pediatrics", code as "1")**

1 Yes
2 No
8 (DK)
9 (Refused) _____ (1636)

(If code "019", "023", "042", "088", "137" or "201" in #A8, Skip to #A19; Otherwise, Continue)

A17. Are you board certified in any specialty?

1 Yes - **(Skip to #A19)**

2 No **(Continue)**
8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____ (1078)

(If code "1" in #A16, Skip to #A19; Otherwise, Continue)

A18. **(If code "2" or "8-9" in #A17, ask:)** Are you board eligible in any specialty?

1 Yes
2 No
8 (DK)
9 (Refused) _____ (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)**?

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

B1. **(If code "2" in #A4, AND code "03-97", "DK" or "RF" in #A4a, OR code "8" or "9" in #A4, ask:)** Considering all of your practices, approximately how many weeks did you practice medicine during 1999? 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.] (Open ended **and code actual number)**

(If code "2" in #A4, AND code "02" in #A4a, ask:) Considering both of your practices, approximately how many weeks did you practice medicine during 1999? 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.] (Open ended **and code actual number)**

(If code "1" in #A4, ask:) Approximately how many weeks did you practice medicine during 1999? 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.] (Open ended **and code actual number)**

53-
97 (BLOCK)

DK (DK)
RF (Refused)

_____ (1081) (1082)

B2. **(If code "2" in #A4, AND code "03-97", "DK" or "RF" in #A4a, OR code "8" or "9" in #A4, ask:)** Considering all of your practices, 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. (Open ended **and code actual number)**

(If code "2" in #A4, AND code "02" in #A4a, ask:) Considering both of your practices, 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. (Open ended **and code actual number)**

(If code "1" in #A4, ask:) 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. (Open ended **and code actual number)**

169-
997 (BLOCK)

DK (DK)
RF (Refused)

_____ (1083 - 1085)

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. [**(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)**

169-
997 (BLOCK)

DK (DK) **(Skip to #B6)**
RF (Refused) **(Skip to #B6)**

_____ (1086 - 1088)

(If response in #B3 = response in #B2, Continue;
If response in #B3 > response in #B2, Skip to #B4;
Otherwise, Skip to #B6)

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

1 Yes - **(Skip to #B6)**

2 No - **(Continue)**

8 (DK) **(Skip to #B6)**
9 (Refused) **(Skip to #B6)** _____ (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?

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 #B6)**
8 (DK) **(Skip to #B6)**
9 (Refused) **(Skip to #B6)** _____ (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)**

169-
997 (BLOCK)

DK (DK)
RF (Refused)

_____ (1117 - 1119)

(If code "1" in #B3b, Skip to #B6)

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)**

169-
997 (BLOCK)

DK (DK)
RF (Refused)

_____ (1194 - 1196)

(All in #B3d, Skip to #B6)

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)**

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)**

169-
997 (BLOCK)

DK (DK)
RF (Refused)

_____ (1092 - 1094)

(There is no #B5a and #B5b) HOLD 0 (3201-3206)

B6. **(If code "8" or "9" in #A4, OR code "03-97", "DK" or "RF" in #A4a, ask:)** Again thinking of all your practices, 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 code "02" in #A4a, ask:) Again thinking of both of your practices, 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 code "1" in #A4, ask:) 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)**

B6. (Continued:)

(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", say:) MediCAL patients.

(If code "04" in "STATE", say:) AHCCCS ("Access") patients.

(If code "01-03", "05" or "07-56" in "STATE", say:) Medicaid patients.

(If necessary, say:) By the LAST MONTH, we mean the last four weeks.

DK (DK)
RF (Refused)

_____ (2544 - 2546)

B7. During the last month, what percentage of your patients talked about medical conditions, tests, treatments, or drugs they had read or heard about from various sources other than you, such as the Internet, their friends or relatives, TV, radio, books, or magazines? [**(If necessary, say:)** Your best estimate is fine.] (Open ended **and code actual percent)**

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

_____ (3207 - 3209)

(There is no #B8) HOLD 0 (3210-3212)

B9. During the last month, for what percentage of your patients did you order tests, procedures, or prescriptions SUGGESTED BY PATIENTS that you would not otherwise have ordered? (Open ended **and code actual percent)**

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

_____ _____ (3256 - 3258)

(If code "001-100" in #B7, #B8 or #B9, Continue; Otherwise, Skip to #B11)

B10. On balance, what do you think is the effect of medical information obtained by your patients from sources other than you on your ability to provide HIGH QUALITY CARE? Would you say it is generally positive, generally negative, or neither?

3 Positive
2 Neither
1 Negative

6 (Can't choose/Unsure)
8 (DK)
9 (Refused) _____ (3215)

See Appendix B for the names of the variables associated with the survey questions.

B11. On balance, what do you think is the effect of medical information obtained by your patients from sources other than you on your EFFICIENCY? Would you say it is generally positive, generally negative, or neither.

3 Positive
2 Neither
1 Negative

6 (Can't choose/Unsure)
8 (DK)
9 (Refused) _____ (3216)

CLOCK:

_____ _____ (2184 - 2187)

See Appendix B for the names of the variables associated with the survey questions.

SECTION C
TYPE AND SIZE OF PRACTICE

CA. PRACTICE: **(Code only)**

1 **(If code "1" in #A4:)** Practice

2 **(If code "2", "8" or "9" in #A4:)** Main Practice _____ (11033)

(INTERVIEWER READ:) Now, I would like to ask you a series of questions about the **(response in #CA)** 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")**

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)**

01 OR, something else (list) - **(Skip to #C4)**

02-
05 HOLD

06 A practice owned by one physician (solo practice) - **(Skip to "Note" before #C3)**

07 A two physician-owned practice - **(Skip to #C4)**

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)**

11-
15 HOLD

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

98 (DK) **(Skip to #C4**
99 (Refused) **(Skip to #C4)**

_____ (1105) (1106)

C2a. **(If code "08" or "16" in #C2, ask:)** Is the practice a single-specialty or multi-specialty practice?

1 Single-specialty - **(Skip to "Note" before #C3)**

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

8 (DK) **(Skip to "Note" before #C3)**
9 (Refused) **(Skip to "Note" before #C3)** _____ (1637)

(If code "019", "023", "042", "088", "137" or "195" in #A10/#A8, OR if code "2" in #A9a, or code "3" in #A9a, or code "2" in #A9b, or code "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.

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

(All in #C2b, Skip to "Note" before #C3)

C2c. **(If code "019", "023", "042", "088", "137" or "195" in #A10/#A8, or if code "2" in #A9a, or code "3" in #A9a, or code "2" in #A9b, or code "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?

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

(If code "1" in #C1, AND code "06" in #C2, Skip to #C7; Otherwise, Skip to #C4)

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]

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 #C5)**

07 A two physician-owned practice - **(Skip to #C4)**

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?

1 Single-specialty - **(Skip to #C4)**

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

8 (DK) **(Skip to #C4)**
9 (Refused) **(Skip to #C4)** _____ (1640)

(If code "019", "023", "042", "088", "137" or "195" in #A10/#A8, OR if code "2" in #A9a, or code "3" in #A9a, or code "2" in #A9b, or code "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.

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

(All in #C3ab, Skip to #C4)

C3ac. **(If code "019", "023", "042", "088", "137" or "195" in #A10/#A8, or if code "2" in #A9a, or code "3" in #A9a, or code "2" in #A9b, or code "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?

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

(All in #C3ac, Skip to #C4)

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

1 Hospital
2 Clinic
3 Other (do NOT list)

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

(All in #C3a, Skip to "Note" before #C7)

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)**?

01 OR, something else (do NOT list here) - **(Continue)**

02-10 HOLD

11 Other HMO, insurance company or health plan - **(Skip to "Note" before #C7)**

15 An integrated health or delivery system - **(Skip to "Note" before #C7)**

17 A physician practice management company or other for-profit investment company - **(Skip to "Note" before #C7)**

18 Community health center - **(Skip to #C7)**

19 Management Services Organization (MSO) - **(Skip to "Note" before #C7)**

20 Physician-Hospital Organization (PHO) - **(Skip to "Note" before #C7)**

21 Locum tenens - **(Skip to "Note" before #C7)**

22 Foundation - **(Skip to #C3ca)**

25 Independent contractor - **(Skip to "Note" before #C7)**

26 Industry clinic - **(Skip to "Note" before #C7)**

98 (DK) **(Skip to #C4)**
99 (Refused) **(Skip to #C4)**

_____ (1199) (1200)

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

01 Other (list) - **(Skip to "Note" before #C7)**

02-
05 HOLD

06 A practice owned by one physician (solo practice) - **(Skip to #C5)**

07 A two physician-owned practice - **(Skip to #C4)**

08 A group practice of three or more physicians (see) AMA definition on card) - **(Skip to #C3ca)**

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 #C3d)**

16 A free-standing clinic - **(Skip to #C3ca)**
17 HOLD

18 Community health center - **(Skip to #C4)**
19-
21 HOLD
22 Foundation - **(Skip to #C3ca)**

25 Independent Contractor - **(Skip to "Note" before #C7)**

26 Industry Clinic - **(Skip to "Note" before #C7)**

98 (DK) **(Skip to #C4)**
99 (Refused) **(Skip to #C4)**

(1643) (1644)

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

1 Single-specialty - **(Skip to #C4)**

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

8 (DK) **(Skip to #C4)**
9 (Refused) **(Skip to #C4)** _____ (1097)

(If code "019", "023", "042", "088", "137" or "195" in #A10/#A8, OR if code "2" or "3" in #A9a, OR 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.

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

(All in #C3cb, Skip to #C4)

C3cc. **(If code "019", "023", "042", "088", "137" or "195" in #A10/#A8, OR code "2" or "3" in #A9a, OR 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?

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

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

1 Hospital
2 Clinic
3 Other (do NOT list)

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

(All in #C3d, Skip to "Note" before #C7)

C4. Do one or more of the other physicians in the practice in which you work have an ownership interest?

1 Yes
2 No
8 (DK)
9 (Refused) _____ (1109)

C5. Do any of the following have an ownership interest in the practice in which you work? This ownership interest may include ownership of only the assets or accounts receivable. Does **(read A-D)** have an ownership interest in the practice? [**(If necessary, say:)** Do not include leased equipment.]

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

A. Another physician group _____ (1132)

B. A hospital or group of hospitals _____ (1133)

C. An insurance company, health plan or HMO _____ (1134)

D. Any other organization **(listed on next screen)** _____ (1135)

(If code "1" in #C5-D, Continue;
If code "2" to ALL in #C5 A-D, Skip to #C6a;
Otherwise, Skip to "Note" before #C6b)

C6. **(If code "1" in #C5-D, ask:)** What kinds of organizations are these? (Open ended and code) **(ENTER ALL RESPONSES)**

			*	
01	Other (list)	1	_____	(1136)
02	(DK)	2		
03	(Refused)	3		
04	No others	4		
05	HOLD	5		
06	Integrated health or delivery system	6		
07	Physician practice management or other for-profit investment company	7		
08	Management Services Organization (MSO)	8		
09	Physician-Hospital Organization (PHO)	9		
10	University/Medical school	0		
11	Medical Foundation or Non-profit Foundation	1	_____	(1137)
12	Other Non-profit or community-based organization	2		
13	Other physicians in this practice	3		
14	Another physician group	4		
15	A hospital or group of hospitals	5		
16	An insurance company, health plan or HMO	6		
		HOLD	0	(1138-1147)

C6a. **(If code "3" in #C1, AND code "2" in #C4, AND code "2" to ALL in #C5 A-D, ask:)** Who owns the practice in which you work? (Open ended)

01	Other (list)			
02	(DK)			
03	(Refused)			
04	HOLD			
05	HOLD			
	_____		(1272)	(1273)

(If code "12" or "13" in #C3 or #C3c, Continue; Otherwise, Skip to "Note" before #C7)

C6b. **(If code "12" or "13" in #C3 or #C3c, ask:)** 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?

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 #C2, or code "06", "07", "08" or "16" in #C3, or code "06" in #C6b, Continue; Otherwise, Skip to #C10)

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)**

997 997+
DK (DK)
RF (Refused)

_____ _____ _____
(1148 - 1150)

C8. How many physician assistants, nurse practitioners, nurse midwives, and clinical nurse specialists are employed by the practice including all locations? Include both full- and part-time employees in your answer. **(Probe:)** Please include only those who fit these categories. Your best estimate would be fine. (Open ended **and code actual number)** **(INTERVIEWER NOTE: Do NOT include office staff or nursing or other personnel who do not fit these categories; examples: LPNs or RNs who are not nurse practitioners or clinical nurse specialists should not be included)**

997 997+
DK (DK)
RF (Refused)

_____ _____ (1151 - 1153)

(If code "06" in #C6b, Skip to #C10; If code "08" in #C2 or #C3 AND code "025-997" in #C7, Continue; Otherwise, Skip to #C10)

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

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

C10. In the last two years, were you part of a practice that was purchased by another practice or organization? **(If necessary, say:)** We are only interested in purchases over the last two years that occurred while you were part of the practice.

1 Yes - **(Continue)**

2 No **(Skip to #C12)**
8 (DK) **(Skip to #C12)**
9 (Refused) **(Skip to #C12)** _____ (1155)

C11. **(If code "1" in #C10, ask:)** At the time of the purchase, were you a full owner, a part owner, or not an owner of the practice that was purchased? **(INTERVIEWER NOTE: If multiple purchases, ask about the most recent)**

1 Full owner
2 Part owner
3 Not an owner

8 (DK)
9 (Refused) _____ (1156)

C12. Next, I am going to list several aspects of a medical practice. Using any number from one to ten, where "1" is not important, and "10" is very important, tell me how important each one is to you. How about **(read and rotate A-D)**?

10 Very important
09
08
07
06
05
04
03
02
01 Not important

11 (DK)
12 (Refused)

C12. (Continued:)

A. Control over your working hours

_____ (3219) (3220)

B. Control over your clinical decisions

_____ (3221) (3222)

C. Your potential income

_____ (3223) (3224)

D. Control over your practice's business decisions

_____ (3225) (3226)

(Form 1)

H10b. 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?

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

3 Favor neither - **(Skip to "Section D")**

8 (DK) **(Skip to "Section D")**
9 (Refused) **(Skip to "Section D")** _____ (3271)

(Form 1)

H10b-1. **(If code "1" or "2" in #H10b, ask:)** Have these incentives [**(if code "1" in #H10b, say:)** reduced/**(if code "2" in #H10b, say:)** expanded] services a little, a moderate amount, or a lot?

1 A little
2 A moderate amount
3 A lot

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

CLOCK:

_____ _____
_____ (2192 - 2195)

See Appendix B for the names of the variables associated with the survey questions.

SECTION D
MEDICAL CARE MANAGEMENT

MANAGEMENT STRATEGIES

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 (main) practice, are computers or other forms of information technology used **(read and rotate A-G)**?

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

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

B. To obtain information on formularies _____ (3228)

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

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

E. To write prescriptions _____ (3231)

F. For clinical data and image exchanges with other physicians _____ (3232)

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

D2. Do you have access to the Internet at the place where you provide most of your patient care? [**(If necessary, say:)** Patient care 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.]

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

_____ (3234)

(There are no D2a and D2b) HOLD 0 (3235-3236)

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

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

_____ (3237 - 3239)

(INTERVIEWER READ:) Now, I would like to ask you a series of questions about various medical care management techniques or strategies that are sometimes used to manage the care physicians provide to their patients. For each, I'll ask you how large an effect they have on your practice of medicine. The choices are: a very large effect, large, moderate, small, very small, or no effect at all. **(If code "2", "8" or "9" in #A4, say:)** As you answer, please think only about your main practice.

D4. At present, **(read and rotate A-C)**? Would you say that (it has/they have) a **(read 5-0)**?

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

8 (DK)
9 (Refused)

D4. (Continued:)

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 s/he 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.]

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?

1 Not aware
2 Aware, no effect

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

D4. (Continued:)

B. How large an effect do the results of practice profiles comparing your pattern of using medical resources to treat patients with that of other physicians have on your practice of medicine? [**(If necessary, say:)** A practice profile is a report that is usually computer generated which compares you to other physicians on things like referrals to specialists, hospitalizations, or other measures of cost-effectiveness.] **(INTERVIEWER NOTE: We are not interested in informal feedback, but only specific, quantified information about the physician's practice patterns.)** _____ (3242)

B1. **(If code "0" in #D4-B, say:)** Is that because you are not aware of practice profiling, or you are aware of it, but it has no effect on your practice of medicine? **(If necessary say:)** A practice profile is a report that is usually computer generated, which compares you to other physicians on things like referrals to specialists, hospitalizations, or other measures of cost effectiveness.

1 Not aware
2 Aware, but no effect

8 (DK)
9 (Refused) _____ (3243)

D4. (Continued:)

C. How large an effect does feedback from patient satisfaction surveys have on your practice of medicine?

C1. **(If code "0" in #D4-C, ask:)** Is that because patient satisfaction surveys are not used in your practice, or because they are used, but they have no effect on your practice of medicine?

1 Not used
2 Used, but no effect

8 (DK)
9 (Refused) _____ (3245)

D5. On balance, would you say the effect of **(read and rotate A-E, as appropriate)** on your ability to provide efficient and high-quality care is generally positive, generally negative, or neither?

3 Positive
2 Neither
1 Negative

6 (Can't choose/Unsure)
7 (Not applicable)
8 (DK)
9 (Refused)

(There is no A) HOLD 0 (3246)

B. **(If code "001-100" in D3, ask:)** Prescription drug formularies _____ (3247)

C. **(If code "3-5" in D4a, ask:)** Practice guidelines _____ (3248)

D. **(If code "3-5" in D4b, ask:)** Practice profiles _____ (3249)

E. **(If code "3-5" in D4c, ask:)** Patient's satisfaction surveys _____ (3250)

(There is no D6) HOLD 0 (3251-3255)

(If code "019-020", "023", "043", "085", "133" or "195" 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 "Interviewer Read" before #D11)

(INTERVIEWER 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.

D7. During the last two years, has the complexity or severity of patients' conditions for which you provide care without referral to specialists **(read 5-1)**? **(INTERVIEWER NOTE: If respondent says he/she has not been practicing medicine for two years, ask about time since he/she started.)**

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) _____ (1169)

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)**?

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)**?

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.]

000	None	**(Skip to "Section F")**
001	1% or less	**(Skip to "Section F")**
002-100		**(Skip to "Section F")**
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)**?

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 "Section F")**
9 (Refused) **(Skip to "Section F")** _____ (1175)

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

1 Less than 50 percent of your patients

OR

2 50 percent or more of your patients

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

(All in #D10b, Skip to "Section F")

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

1 Less than 10 percent of your patients

OR

2 10 percent or more of your patients

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

(All in #D10c, "Skip to Section F")

(INTERVIEWER READ:) Now, I would like to ask you a couple of questions about the range and complexity of conditions you treat.

D11. During the last two years, has the complexity or severity of patients' conditions at the time of referral to you by primary care physicians **(read 5-1)**? **(NOTE TO INTERVIEWER: If Emergency Department Physician is confused by the question, code as "8", NOT "9")**

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) _____ (1178)

D12. In general, would you say that the complexity or severity of patients' conditions at the time of referral to you by primary care physicians is **(read 5-1)**? **(NOTE TO INTERVIEWER: If Emergency Department Physician is confused by the question, code as "8", NOT "9")**

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) _____ (1179)

D13. During the last two years, has the number of patients referred to you by primary care physicians **(read 5-1)**? **(NOTE TO INTERVIEWER: If Emergency Department Physician is confused by the question, code as "8", NOT "9")**

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) _____ (1180)

CLOCK:

_____ _____ _____ (2200 - 2204)

(There is no Section E)

SECTION F
PHYSICIAN-PATIENT INTERACTIONS

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 code "2" or "8-9" in #A4, say:)** As you answer, please think only about your main practice.] **(Read and rotate A-E and H, then F and G)** 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 Disagree somewhat
2 Disagree strongly, OR
1 Do you neither agree nor disagree

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

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)

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)

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

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

F1. (Continued:)

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

F. **(If code "019-020", "023", "043", "085" or "133" or "195" 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, ask:)** The level of communication I have with specialists about the patients I refer to them is sufficient to ensure the delivery of high quality care _____ (1312)

G. **(If "Blank" in F1-F, ask:)** The level of communication I have with primary care physicians about the patients they refer to me is sufficient to ensure the delivery of high quality care _____ (1313)

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 #F2-#F7)

F8. Now, I'm going to ask you about obtaining certain services for patients in your **(response in #CA)** when you think they are medically necessary. How often are you able to obtain **(read and rotate A, B and E, then read and rotate C and D, then read and rotate F and G, as appropriate)** when you think (they are/it is) medically necessary? Would you say **(read 6-1)**? [**(If physician says it depends on which patients, say:)** We'd like you to think across all the patients that you see in your **(response in #CA)** and tell us how often you are able to obtain these services when you think they are medically necessary.]

6 Always
5 Almost always
4 Frequently
3 Sometimes
2 Rarely, OR
1 Never

7 (Does not apply)
8 (DK)
9 (Refused)
0 (Facility/Service not available in my area)

A. [**(If code "019", "020", "023", "043", "085", "133" or "195" 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] _____ (1315)

B. High quality ancillary services, such as physical therapy, home health care, nutritional counseling and so forth _____ (1316)

C. Non-emergency hospital admissions _____ (1317)

D. Adequate number of inpatient days for your hospitalized patients _____ (1318)

E. High quality diagnostic imaging services _____ (1319)

F8. (Continued:)

F. **(If code "010", "019", "020", "023", "043", "062", "064-065", "082-085", "127", "132", "133", "210", "312", "313", "192" or "195" 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 inpatient mental healthcare _____ (1320)

G. **(If code "010", "019", "020", "023", "043", "062", "064-065", "082-085", "127", "132", "133", "210", "312", "313", "192" or "195" 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 _____ (1321)

(If code "0", "1" or "4-9" to ALL of #F8-A, #F8-C and #F8-G, Skip to #F9; Otherwise, Continue)

F8a. I am now going to read some reasons why you might be unable to obtain various services. Using any number from one to ten, where "1" is not important, and "10" is very important, rate each of the following reasons for your being unable to obtain **(read A, C or G, as appropriate)**, when you think it is medically necessary. **(Read and rotate a-c)**

10 Very important
09
08
07
06
05
04
03
02
01 Not important

98 (DK)

See Appendix B for the names of the variables associated with the survey questions.

99 (Refused)

F8a. (Continued:)

A. **(If code "2" or "3" in #F8-A, ask:)** [**(If code "019", "020", "023", "043", "085", "133" or "195" 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]

a. There aren't enough qualified service providers or facilities in my area

_____ (2245) (2246)

b. Health plan networks and administrative barriers limit patient access

_____ (2247) (2248)

c. Patients lack health insurance or have inadequate insurance coverage

_____ (2249) (2250)

(There is no B)

F8a. (Continued:)

C. **(If code "2" or "3" in #F8-C, ask:)** Non-emergency hospital admissions

a. There aren't enough qualified service providers or facilities in my area

_____ (2251) (2252)

b. Health plan networks and administrative barriers limit patient access

_____ (2253) (2254)

c. Patients lack health insurance or have inadequate insurance coverage

_____ (2255) (2256)

(There are no D-F)

G. **(If code "2" or "3" in #F8-G, ask:)** High quality OUTPATIENT MENTAL health services

a. There aren't enough qualified service providers or facilities in my area

_____ (2257) (2258)

b. Health plan networks and administrative barriers limit patient access

_____ (2259) (2260)

c. Patients lack health insurance or have inadequate insurance coverage

_____ (2261) (2262)

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-C and G)**? **(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)

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

B. **(If code "06" in "STATE", ask:)** New patients who are insured through MediCAL, including MediCAL managed care patients

(If code "04" in "STATE", ask:) New patients who are insured through AHCCCS ("Access")

(If code "01-03", "05" or "07-56" in "STATE", ask:) New patients who are insured thrugh Medicaid, including Medicaid managed care patients _____ (1322)

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, say:)** 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)

G. New uninsured patients who are unable to pay your fees _____ (3269)

F10. Is the practice accepting any new patients under Capitated contracts; under capitation, a fixed amount is paid per patient per month regardless of services provided? [**(If respondent requests clarification, ask:)** Is the practice accepting any new patients under existing capitated contracts?]

1 Yes
2 No

3 (No capitated contracts in the area)
8 (DK)
9 (Refused) _____ (3270)

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)

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

_____ (1325 - 1327)

B. **(If code "06" in "STATE", ask:)** Payments from MediCAL or any other public insurance, including Medical managed care

(If code "04" in "STATE", ask:) Payments from AHCCCS ("Access") or any other public insurance

(If code "01-03", "05" or "07-56" in "STATE", ask:) Payments from Medicaid or any other public insurance, including Medicaid managed care

_____ (1328 - 1330)

(There are no C and D)

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

G1a. I have recorded that the combined practice revenue from Medicare and 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)

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

_____ _____ (1334 - 1336)

B. **(If code "06" in "STATE", ask:)** Payments from MediCAL or any other public insurance, including Medical managed care

(If code "04" in "STATE", ask:) Payments from AHCCCS ("Access") or any other public insurance

(If code "01-03", "05" or "07-56" in "STATE", ask:) Payments from Medicaid or any other public insurance, including Medicaid managed care

_____ _____ (1337 - 1339)

(There is no #G2)

(If code "3" in #F10, Autocode "000" in #G3, and Skip to #G6; Otherwise, Continue)

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)

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

_____ _____
(2438 - 2440)

(There are no #G3a-#G5)

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)**

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?

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?

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)**

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)**

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 "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)**

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)**

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

_____ (2551 - 2553)

(All in #G7b, Skip to "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)**

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

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 "Note" before #G9)**
8 (DK) **(Skip to "Note" before #G9)**
9 (Refused) **(Skip to "Note" before #G9)** _____ (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)**

000 None - **(Skip to "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)**

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?

1 Yes - **(Skip to "Note" before #G9)**

2 No - **(Continue)**

8 (DK) **(Skip to "Note" before #G9)**
9 (Refused) **(Skip to "Note" before #G9)** _____ (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?

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

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

3 Both are correct - **(Skip to "Note" before #G9)**

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

8 (DK) **(Skip to "Note" before #G9)**
9 (Refused) **(Skip to "Note" before #G9)** _____ (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)**

G8f. (Continued:)

000 None - **(Skip to "Section H")**

001 1% or less **(Continue)**

002-100 **(Continue)**

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

_____ (1348 - 1350)

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)**

000 None
001 1% or less

002-
100

DK (DK)
RF (Refused)

_____ (1191 - 1193)

(There are no #G9-#G10)

(There is no #G11) HOLD 0 (2508)

(There is no #G12)

CLOCK:

_____ (2224 - 2227)

See Appendix B for the names of the variables associated with the survey questions.

SECTION H
PHYSICIAN COMPENSATION METHODS AND INCOME LEVEL

(If code "1" in #C1, AND code "06" in #C2, Skip to #H9; Otherwise, Continue)

(INTERVIEWER READ:) Now, I'm going to ask you a few questions about how the practice compensates you personally. [**(If code "2" or "8-9" in #A4, say:)** Again, please answer only about the main practice in which you work.]

H1. Are you a salaried physician?

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?

1	Yes - **(Skip to #H4)**	
2	No	**(Skip to #H7)**
8	(DK)	**(Skip to #H7)**
9	(Refused)	**(Skip to #H7)**

_____ (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.)**

1 Fixed amount - **(Continue)**

2 Adjusted up or down - **(Skip to #H7)**

8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____ (2512)

H4. **(If code "1" in #H2, OR code "1", "8" or "9" in #H3, ask:)** Are you also 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)**

1 Yes
2 No
8 (DK)
9 (Refused) _____ (2513)

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

(If code "1" in #H1, AND code "2" or "8-9" in #H4, ask:) When your salary is determined, does the **(response in #CA)** consider **(read A-D)**?

(If code "1" in #H1 AND code "1" in #H4, ask:) When either your base salary or bonus is determined, does the **(response in #CA)** consider **(read A-D)**?

(If code "1" in #H2, AND code "2", "8" or "9" in #H4, ask:) When your pay rate is determined, does the **(response in #CA)** consider **(read A-D)**?

(If code "1" in #H2, AND code "1" in #H4, ask:) When either your pay rate or bonus is determined, does the **(response in #CA)** consider **(read A-D)**?

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

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)

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

C. Specific measures of quality of care, such as rates of preventive care services for your patients _____ (2516)

H5. (Continued:)

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)

(If code "2", "8" or "9" in #H5-D, Skip to #H9; Otherwise, Continue)

H6. **(If code "1" in #H5-D, ask:)** Are these profiles risk-adjusted to consider the health status of your patients or the severity of their illnesses? **(INTERVIEWER NOTE: Other than by age and gender)**

1 Yes
2 No
8 (DK)
9 (Refused) _____ (2518)

(All in #H6, Skip to #H9)

H7. **(If code "2", "8" or "9" in #H2, or code "2" 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 **(response in #CA)** in which you work consider **(read A-D)**?

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

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)

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

C. Specific measures of quality of care, such as rates of preventive care services for your patients _____ (2521)

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)

(If code "2", "8" or "9" in #H7-D, Skip to #H9; Otherwise, Continue)

H8. **(If code "1" in #H7-D, ask:)** Are these profiles risk-adjusted to consider the health status of your patients or the severity of their illnesses? **(INTERVIEWER NOTE: Other than by age and gender)**

1 Yes
2 No
8 (DK)
9 (Refused) _____ (2547)

H9. Of your total income from your **(response in #CA)** during calendar year 1999, approximately what percent would you estimate was earned in the form of bonuses, returned withholds, or other incentive payments based on your performance? **(INTERVIEWER NOTE: Do not include income based on productivity, only specific incentives or returned withholds/ bonuses.)** (Open ended **and code actual percent)**

000 None - **(Continue)**

001 1% or less - **(Skip to #H10)**

002-
100 **(Skip to #H10)**

DK (DK) **(Skip to #H10)**
RF (Refused) **(Skip to #H10)**

_____ _____ (2523 - 2525)

H9a. **(If code "000" in #H9, ask:)** Were you eligible to earn any bonuses or other performance-based payments in 1999? **(INTERVIEWER NOTE: This question is asking about eligibility to earn bonuses in 1999. Earlier question (#H4) asked about whether the physician is eligible to earn a bonus at the time of the interview.)**

1 Yes
2 No
8 (DK)
9 (Refused) _____ (2526)

H10. During 1999, 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. [**(If code "2" in #A4, say:)** Also, 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 "Refused", 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)**

0000000-
9999999 **(Skip to #H10b)**

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

_____ ____ ____ (2527 - 2533)

H10a. **(If code "DK" in #H10, ask:)** Would you say that it was **(read 01-04)**?

(If code "RF" in #H10, ask:) Would you be willing to indicate if it was **(read 01-04)**?

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)

(Form 2)

H10b. 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?

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

3 Favor neither - **(Skip to #H10c)**

8 (DK) **(Skip to #H10c)**
9 (Refused) **(Skip to #H10c)** _____ (3271)

(Form 2)

H10b-1. **(If code "1" or "2" in #H10b, ask:)** Have these incentives [**(if code "1" in #H10b, say:)** reduced/**(if code "2" in #H10b, say:)** expanded] services a little, a moderate amount, or a lot?

1 A little
2 A moderate amount
3 A lot

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

H10c. 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?

3 Very competitive
2 Somewhat competitive
1 Not at all competitive

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

H11. Do you consider yourself to be of Hispanic origin, such as Mexican, Puerto Rican, Cuban, or other Spanish background? [**(Probe for 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.]

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

H12. What race do you consider yourself to be? [**(If respondent hesitates, read 06-09)**] [**(Probe for 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) **(NOTE TO INTERVIEWER: If respondent specifies a mixed race or a race not pre-coded, code as "01 - Other")**

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)

CLOCK:

_____ (2233 - 2236)

(NOTE TO SURVENT: 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?

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

SECTION I ENDING

I1. Let me verify that your name and address are **(read information from "Fone" file/S4)**? **(ENTER ALL THAT ARE INCORRECT)**

*

1 First name is incorrect _____ (2554)
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

1ST NAME:

_____ (1772 - 1780)

LAST NAME: **(Display from "Fone" file)**

_____ (1781 - 1800)

ADDRESS #1: **(Display from "Fone" file)**

_____ (1841 - 1879)

ADDRESS #2: **(Display from "Fone" file)**

_____ (3013 - 3037)

I1. (Continued:)

CITY: **(Display from "Fone" file)**

_____ (2682 - 2694)

STATE: **(Display from "Fone" file)**

_____ (2707) (2708)

ZIP CODE: **(Display from "Fone" file)**

_____ (2709 - 2713)

(There are no #I1a-#I2)

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

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)

See Appendix B for the names of the variables associated with the survey questions.

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

STREET ADDRESS #1:

_____ (2732 - 2761)

STREET ADDRESS #2:

_____ (3088 - 3117)

CITY:

_____ (2762 - 2786)

STATE:

_____ (2787) (2788)

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)

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

99998 (DK)
99999 (Refused)

_____ (2812 - 2816)

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

I6. Are you with the same medical practice that you were with in July, 1998, 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 July, 1998. By main practice, we mean the practice where you spend most of your time.]

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

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

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

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

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)

_____ ( ) ( )

YEAR:

9998 (DK)
9999 (Refused)

_____ (-)

(There are no #I8-#I9)

CLOCK:

_____ (2229 - 2232)

SECTION J
SWEEP-UP

(There are no #J1-#J3)

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

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)** Did respondent ask any of the following?

1 Yes
2 No

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

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

(There is no C) HOLD 0 (2822)

J6. INTERVIEWER COMMENTS:

_____ (3118) (3119)

See Appendix B for the names of the variables associated with the survey questions.

(INTERVIEWER READ:) Again, this is _____, with The Gallup Organization of Lincoln, Nebraska. I'd 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.

(VALIDATE PHONE NUMBER AND THANK RESPONDENT)

INTERVIEWER I.D.# _____ (571-574)

CLOCK:

_____ _____ (2204 - 2207)

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)** _____ ( )

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

_____ _____ (-)

See Appendix B for the names of the variables associated with the survey questions.

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

_____ (-)

6. BIRTH DATE: **(Code from "Fone" file)**

_____ (-)

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)**

_____ (-)

See Appendix B for the names of the variables associated with the survey questions.

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)**

_____ (_____ - _____)

See Appendix B for the names of the variables associated with the survey questions.

REVISIONS

7/17/00

Revised wording in B8, B10, B11, D4-A1, D4-B1, D4-C1 and D5

Added "Note" before B10

Revised "If" condition on D5-B, D5-C, D5-D and D5-E

7/25/00

Revised "Note" before #B3a, #B3d and #G1a

Revised "Note" after #B3d

Revised "Skips" on #B3a and #B3b,

Deleted #B5a, #B5b, #B8, D2a, D2b, D5-A and D6

Revised wording in #B10, #B11, #D5 and #F8a

Revised codes in #B10, #B11 and #D5

Deleted "Skips" on #D2

Added code "7" to #D5

Added "Note' before #G3

Moved #H10b and #H10b-1 after #H10a to before #H1

Deleted #H10c

7/26/00

Added #H10c back in

Added #H10b and #H10b-1 (Form 1) after #C12

Moved #H10b and #H10b-1 back to after #H10a and changed to "Form 2"

See Appendix B for the names of the variables associated with the survey questions.

Revisions (Continued:)

8/10/00

Added S6a and #I0

Added code "3", "4" and "5" to #A1

Added code "4" to #H10b-1 and #H10b-1

Added code "0" to #F8

Revised "Note" before #F8a

Revised wording in #F8a

Revised "If" condition on #F8a-A, #F8a-C and #F8a-G

8/29/00

Added "Note to Interviewer" to D3

Added "If" condition to F8-F

Revised web site address in J5

10/16/00

Revised codes in A8

1/8/01

Added verbiage to F10

Added I6 and I7

Revisions (Continued:)

5/3/01

Revised "Note" after C3a and C3d

Revised "Skip" on code "11", "15", "17", "19", "20", "21", "25" and "26" in C3b

Revised "Skip" on code "01", "25" and "26" in C3c

Revised "Note" before C6b and C7

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	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
PHYSIDX	CV	Physician identification number	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
SITEID	CV	Site identification number		yes		yes		yes
MSACAT	CV	Large metro or small metro or non-metro site		yes		yes		yes
FIPS	CV	State and county FIPS code		yes		yes		yes
SUBGRP	CV	Sample (site vs supp.) and whether practice is in any site		yes		yes		yes
IMGSTAT	AMA/AOA	Country of medical school (US, Canada, Puerto Rico, other)		yes		yes		yes
IMGUSPR	AMA/AOA	Medical school not in US or Puerto Rico	yes	yes	yes	yes	yes	yes
AMAPRIM	AMA/AOA	Whether primary care physician (PCP)		yes		yes		yes
DOCTYP	AMA/AOA	DO or MD		yes		yes		yes
GENDER	AMA/AOA	Gender	yes	yes	yes	yes	yes	yes
BIRTHX	AMA/AOA	Year of 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

CTS Physician Survey
Section A: Basic Practice Information / Specialty and Certification / Career Satisfaction

Variable name	Question number	Description	1996-97		1998-99		2000-01	
			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
NWSPEC	A8	Primary specialty		yes		yes		yes
GENSUB	A9	Spec = general internal or general pediatric: time in primary spec vs subspec		yes		yes		yes
SIPNPED	A9a	Spec = non-pediatric: time in primary spec vs general internal		yes		yes		yes
SIPPED	A9b	Spec = pediatric: time in primary spec vs general pediatric		yes		yes		yes
SUBSPC	A10	Subspecialty		yes		yes		yes
PCPFLAG	CV	Questionnaire definition of PCP	yes	yes	yes	yes	yes	yes
SPECX	CV	Seven-category specialty type	yes	yes	yes	yes	yes	yes
BDCERT	CV	Board certification status (certified, eligible, neither)	yes	yes	yes	yes	yes	yes
BDCTPS	CV	Board certified in primary (sub)specialty	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

CTS Physician Survey
Section B: Physician Time Allocation / Medical Information Obtained by Patients

Variable name	Question number	Description	1996-97		1998-99		2000-01	
			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
HRSMEDX	CV	Hours in medical activities in previous week	yes	HRSMED	yes	HRSMED	yes	HRSMED
HRSPATX	CV	Hours in direct patient care activities in previous week	yes	HRSPAT	yes	HRSPAT	yes	HRSPAT
HRFREEX	B6	Hours providing charity care in previous month	yes	HRFREE	yes	HRFREE	yes	HRFREE
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

CTS Physician Survey
Section C: Practice Arrangements and Ownership / Priorities Within Practice

Variable name	Question number	Description	1996-97		1998-99		2000-01	
			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
TOPOWN	C2	Type of practice (full and part owners)		yes		yes		yes
TOPOWNX	CV	Type of practice (full and part owners), with C9 recodes	yes	TOPOWNC	yes	TOPOWNC	yes	TOPOWNC
TOPEMP	C3	Type of employer (non-owners)		yes		yes		yes
TOPEMPC	CV	Type of employer (non-owners), with C9 recodes		yes		yes		yes
TOPEMPX	CV	Type of employer (non-owners), with C9, C3b, and verbatim recodes	yes	TOPEMPA	yes	TOPEMPA	yes	TOPEMPA
PRCTYPE	CV	Practice type, 6 categories	yes	yes	yes	yes	yes	yes
ALLPRTP	CV	Practice type, detailed categories		yes		yes		yes
OTHSET	C3a	For gov employees: hospital or clinic or other		yes		yes		yes
EMPTYP	C3b	Type of employer (non-owners), other		yes		yes		yes
EMPTYP2	C3c	Type of employer (non-owners), other				yes		yes
GRTYPEX	CV	Type of group practice			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	
			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
NPHYSX	C7	Number of physicians in practice	yes	NPHYS	yes	NPHYS	yes	NPHYS
NASSISX	C8	Number of medical assistants in practice	yes	NASSIST	yes	NASSIST		
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	
			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
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
IT_FORM	D1B in 2000-01	Use of computers to obtain information on formularies					yes	yes
ITRMNDR	D1C in 2000-01	Use of computers for reminders about preventive services					yes	yes
ITNOTES	D1D in 2000-01	Use of computers to access patient notes etc.					yes	yes
ITPRESC	D1E in 2000-01	Use of computers to write prescriptions					yes	yes
ITCLIN	D1F in 2000-01	Use of computers for clinical data exchanges with other physicians					yes	yes
ITCOMM	D1G in 2000-01	Use of computers to communicate with patients by email					yes	yes
ACC_INT	D2	Internet access at workplace					yes	yes
FORMLRY	D3	Patients with prescription coverage that includes formulary					yes	yes
AWRGUID	D4A1	Awareness of formal written guidelines					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
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
SPECUSE	D9	PCPs: change in number of referrals to specialists	yes	yes	yes	yes	yes	yes

Variable name	Question number	Description	1996-97		1998-99		2000-01	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
PCTGATE	D10	PCPs: percent of patients for whom gatekeeper	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

CTS Physician Survey
Section E: Practice Styles of Primary Care Physicians

Variable name	Question number	Description	1996-97		1998-99		2000-01	
			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	
			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
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
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
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
NWMCARE	F9A	Practice accepts new Medicare patients	yes	yes	yes	yes	yes	yes

Variable name	Question number	Description	1996-97		1998-99		2000-01	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
NWMCAID	F9B	Practice accepts new Medicaid patients	yes	yes	yes	yes	yes	yes
NWPRIV	F9C	Practice accepts new privately insured patients	yes	yes	yes	yes	yes	yes
NWNPAY	F9G	Practice accepts new uninsured patients unable to pay					yes	yes
ACC_CAP	F10	Practice accepts new patients under capitated contracts					yes	yes

CTS Physician Survey
Section G: Practice Revenue

Variable name	Question number	Description	1996-97		1998-99		2000-01	
			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
PMCAID	G1B	Percent of practice revenue from Medicaid or other public ins.	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
NMCCONX	CV	Number of managed care contracts	yes	NMCCON	yes	NMCCON	yes	NMCCON
PMC	CV	Percent of practice revenue from managed care	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	
			Public Use	Restr. Use	Public Use	Restr. Use	Public Use	Restr. Use
SALPAID	H1	Salaried physician	yes	yes	yes	yes	yes	yes
SALTIME	H2	Compensation directly related to time worked	yes	yes	yes	yes	yes	yes
SALADJ	H3	Base salary fixed or adjustable	yes	yes	yes	yes	yes	yes
BONUS	H4	Current inc: eligible for bonus or other performance incentives	yes	yes	yes	yes	yes	yes
SPROD	CV	Own productivity affects compensation	yes	yes	yes	yes	yes	yes
SSAT	CV	Patient satisfaction affects compensation	yes	yes	yes	yes	yes	yes
SQUAL	CV	Quality measures affect compensation	yes	yes	yes	yes	yes	yes
SPROF	CV	Profiling results affect compensation	yes	yes	yes	yes	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
INCENT	H10b	Influence of financial incentives on services					yes	yes
EFINCNT	H10b1	Influence of financial incentives on services					yes	yes
FININCPT	CV	Influence of financial incentives on services					yes	yes
COMPETE	H10c	Competitive situation that practice faces					yes	yes
HISP	H11	Respondent is of Hispanic origin				yes		yes
RACEX	H12	Respondent race			yes	RACE	yes	RACE

Appendix C

Sample SUDAAN Procedure Statements

APPENDIX C

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 seven samples and estimate types:

- ***Site-specific estimates based on the augmented sample, Round Three only***. The example assumes that the input file, ASITES, consists of all records with WTPHY1>0 and is sorted by the variables appearing in the NEST statement (SITEPCP, FSU). The sample would include 10,659 physician records.

- ***National estimates based on the augmented sample, Round Three only***. The example assumes that the input file, NSITES, consists of all records with WTPHY5>0 and is sorted by the variables appearing in the NEST statement (ASTRATA, APSU, ASECSTRA, AFSU). The sample would include 10,659 physician records.

- ***National estimates based on the supplemental sample, Round Three only***. The example assumes that the input file, SUPP, consists of all records with WTPHY3>0 and is sorted by the variables appearing in the NEST statement (NSTRATA, NFSU). The sample would include 1,168 physician records.

- ***National estimates based on the combined sample, Round Three only***. The example assumes that the input file, SITESUPP, consists of all records on the file and is sorted by the variables appearing in the NEST statement (PSTRATA, PPSU, SECSTRA, NFSU). The sample would include 12,406 physician records.

- ***Site-specific estimates based on the augmented sample, Rounds Two and Three combined to estimate change*** . The example assumes that the input file, STACKED1, consists of all records from Round Two and Round Three with WTPHY1>0 and is sorted by the variables appearing in the NEST statement (SITEPCP2, FSU). The sample would include 21,579 physician records.

- ***National estimates based on the combined sample, Rounds Two and Three combined to estimate change***. The example assumes that the input file, STACKED2, consists of all records from Round Two and Round Three and is sorted by the variables appearing in the NEST statement (PSTRATA, PPSU, SECSTRA, NFSU). The sample would include 24,710 physician records.

- ***National estimates based on the combined panel sample***. The example assumes that the input file, PANEL, consists of all panel (reinterview) records from Round Three (WTPAN1>0) merged with corresponding records from Round Two and is sorted by the variables appearing in the NEST statement (PSTRATA, PPSU, SECSTRA, NFSU). The sample would include 8,527 physician records.

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 Augmented 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.[1]

[1] Note that you can create a file that excludes those cases not in the sample you have chosen to analyze. For example, when you are using the augmented site sample, cases with SITEID=0 can be excluded but your file should include all cases that are part of the augmented sample (SITEID>0). Removing the out-of-sample cases is optional, as these cases will have a value of zero for the weight you will be using and Stata and SAS will ignore them as part of the design.

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 augmented site sample or the combined sample (or panel samples). 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.

C.1. Site-specific estimates based on the augmented sample, Round Three only

This example estimates the percentage of physicians in each of six practice-type categories (PRCTYPE) within each of the 12 high-intensity sites (SITEID=1-12). 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 high-intensity site subpopulation within the overall augmented sample.

```
proc crosstab data=asites design=wor;
      subpopn (siteid>=1) & (siteid<=12) / name="High Intensity Sites";
      nest sitepcp fsu;
      totcnt frame _zero_;
      weight wtphy1;
      subgroup siteid prctype;
      levels 12 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 Augmented Site Sample";
```

C.2. National estimates based on the augmented sample, Round Three 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=nsites 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 Augmented Site Sample";
```

C.3. National estimates based on the supplemental sample, Round Three only

This example estimates the mean percentage of patient care revenue a physician receives from managed care (PMC) by gender (GENDER). Standard errors, population counts, and design effects are also included in the output.

```
proc descript data=supp design=wr;
    nest nstrata nfsu;
    weight wtphy3;
    subgroup gender;
    levels 2;
    var pmc;
    rformat gender gender.;
    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 Supplemental Sample";
```

C.4. National estimates based on the combined sample, Round Three only

This example estimates the percentage of physicians who respond that is possible to provide high quality care (HIGHCAR) 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 HIGHCAR is not defined.

```
proc crosstab data=sitesupp design=uneqwor ddf=2900;
    subpopn highcar > 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 highcar;
    levels 3 5;
    tables msacat*highcar;
    rformat msacat msacat.;
    rformat highcar 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";
```

C.5. Site-specific estimates based on the augmented sample, Rounds Two and Three combined to estimate change

This example estimates the change in percent capitated revenue (PCAPREV) within each of the 12 high-intensity sites (SITEID=1 to 12). ROUND3 is a dummy flag that is equal to 1 if the data comes from Round Three and 0 if it comes from Round Two. 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 ROUND3. Note that the SUBPOPN statement is used to identify the high-intensity site subpopulation within the overall augmented sample.

```
proc regress data=stacked1 design=wor;
     subpopn (siteid>=1) & (siteid<=12) / name="High Intensity Sites";
    nest sitepcp2 fsu;
    totcnt frame _zero_;
    weight wtphy1;
     model pcaprev=round3;
    print beta sebeta t_beta p_beta deft /
      betafmt=f8.4 sebetafmt=f8.4 deftfmt=f8.4;
    rtitle "Change Estimates from the Augmented Site Sample (12 High Intensity Sites)";
```

C.6. National estimates based on the combined sample, Rounds Two and Three combined to estimate change

This example estimates the change in charity care hours (HRFREE) for the combined sample. ROUND3 is a dummy flag that is equal to 1 if the data comes from Round Three, and 0 if it comes from Round Two. 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 ROUND3.

```
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=round3;
    print beta sebeta t_beta p_beta deft /
      betafmt=f8.4 sebetafmt=f8.4 deftfmt=f8.4;
    rtitle "Change Estimates from the Combined Sample";
```

C.7. National estimates based on the combined 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 Two and Round Three. Before merging the Round Two and Round Three files, we renamed PCPFLAG and HRFREE in the Round Two file to PCPFLAG2 and HRFREE2 and PCPFLAG and HRFREE in the Round Three file to PCPFLAG3 and HRFREE3. After merging the files, we created the variable NOCHNG with a value of 1 if PCPFLAG2=PCPFLAG3 and created the change variable CHHRFREE=HRFREE3-HRFREE2. Note that PCPFLAG2, 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 wtpan1;
    jointprob p1x p2x p3x p4x p5x p6x p7x;
    subgroup pcpflag2;
    recode pcpflag2 = (0 1);
    levels 2;
    var chhrfree ;
    rformat pcpflag2 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 D

Construction of "WR" Sampling Parameters for the 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 2000-01 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. The definitions are the same as indicated below for the 2000-01 data. 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 D.1

DEFINITIONS OF STRATAWR AND PSUWR
FOR NATIONAL ESTIMATES
FROM THE SITE SAMPLE AND COMBINED SAMPLE

Survey Year	PSTRATA	SECSTRA	STRATAWR	PSUWR
1996-97	1 - 9	all values	(pstrata * 10) + secstra	nfsu
	10 – 18	all values	pstrata * 10	ppsu
	19	all values	pstrata * 10	nfsu
	20	all values	pstrata * 10	ppsu
	30	21	311	nfsu
		22	312	
		23	321	
		24	322	
		25	331	
		26	332	
		27	341	
		28	342	
		29	351	
		30	352	
		31	361	
		32	362	
		33	371	
		34	372	
		35	381	
		36	382	
		37	391	
		38	392	
		39	401	
		40	402	

(continued on next page)

TABLE D.1

DEFINITIONS OF STRATAWR AND PSUWR
FOR NATIONAL ESTIMATES
FROM THE SITE SAMPLE AND COMBINED SAMPLE (continued)

Survey Year	PSTRATA	SECSTRA	STRATAWR	PSUWR
1998-99 and 2000-01	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
	30	11 or 13	311	nfsu
		12 or 14	312	
		21 or 23	321	
		22 or 24	322	
		31 or 33	331	
		32 or 34	332	
		41 or 43	341	
		42 or 44	342	
		51 or 53	351	
		52 or 54	352	
		61 or 63	361	
		62 or 64	362	
		71 or 73	371	
		72 or 74	372	
		81 or 83	381	
		82 or 84	382	
		91 or 93	391	
		92 or 94	392	
		101 or 103	401	
		102 or 104	402	

TABLE D.2

DEFINITIONS OF PSTRAWR AND PPSUAWR
FOR NATIONAL ESTIMATES
FROM THE AUGMENTED SITE SAMPLE

Survey Year	SUBGRP	ASTRATA	ASECSTRA	PSTRAWR	PPSUAWR
1996-97	A	1 – 9	all values	(astrata * 10) + asecstra	afsu
		10 – 18	all values	astrata * 10	apsu
		19	all values	astrata * 10	afsu
		20	all values	astrata * 10	apsu
	B, C, D	n.a.	n.a.	n.a.	n.a.
1998-99 and 2000-01	A or C	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 or D	n.a.	n.a.	n.a.	n.a.

n.a. = not applicable (because only observations with SUBGRP = A in 1996-97 and SUBGRP = A or C in 1998-99 and 2000-01 are used for national estimates from the augmented site sample)

Appendix E

Sample Stata and SAS Statements

APPENDIX E

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 three samples:

- ***National estimates based on the augmented site sample***. The example assumes that the input file, NSITES, consists of all records with SUBGRP = A or C. The sample would include 10,659 physicians.

- ***National estimates based on the supplemental sample***. The example assumes that the input file, SUPP, consists of all records with SUBGRP = C or D. The sample would include 1,168 physicians.

- ***National estimates based on the combined sample***. The example assumes that the input file, SITESUPP, consists of all records on the data file. The sample would include 12,406 physicians.

In using Stata and SAS, the full sample should be processed even when analyses are limited to subgroups or subpopulations.[1] 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.

[1] Note that you can create a file that excludes those cases not in the sample you have chosen to analyze. For example, when you are using the augmented site sample, cases with SITEID=0 can be excluded but your file should include all cases that are part of the augmented sample (SITEID>0). Removing the out-of-sample cases is optional, as these cases will have a value of zero for the weight you will be using and Stata and SAS will ignore them as part of the design.

E.1. National estimates based on the augmented 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;
```

E.2. National estimates based on the supplemental 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\supp.dta";
    svyset  [pweight= wtphy3], strata(nstrata) psu(nfsu);
    svymean incomet hrspat wkswrkc, by(pcpflag) obs size;

SAS
    proc surveymeans data=supp nobs sumwgt mean stderr;
    domain    pcpflag;
    stratum   nstrata;
    cluster   nfsu;
    weight    wtphy3;
    var       incomet hrspat wkswrkc;
```

E.3. National estimates based on the combined 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\sitesupp.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;
```