Community Tracking Study

Physician Survey Restricted Use File: User's Guide

(Round One, Release 2)

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COMMUNITY TRACKING STUDY (CTS) PHYSICIAN SURVEY, ROUND ONE
FACT SHEET

Survey Details	
Sample	12,385 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.
Time period	August 1996 through August 1997
Content	Physician specialty Practice arrangements and ownership Physician time allocation Sources of practice revenue Level and determinants of physician compensation Physician provision of charity care Perception of ability to deliver care Career satisfaction Effects of care management strategies Various aspects of physicians' practice of medicine
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, and the ICPSR study number for the Round One Physician Survey is 2597. 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.
Software requirements	Because the CTS Physician Survey has a complex sample design, most commonly used statistical software packages will not estimate standard errors correctly. Therefore, we provide standard error look-up tables and formulas to approximate standard errors. In addition, the user's guide for the Restricted Use File explains how to use one specialized software package (SUDAAN) to directly calculate standard errors.
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 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 users must use the standard error look-up tables or formulas to derive approximate standard errors.
Contacting the CTS help desk	***ctshelp@hschange.org***

WHAT'S NEW

Version	Date	Description of Changes
Release One	October 1998	Original release
Release Two	October 2001	Replace INCOMEX with INCOMET, which has less masking (higher topcode and smaller increments). Add ALLPRTP, which is a constructed variable that summarizes information about practice type. Add AFSU, AP1 – AP7, APSU, ASECSTRA, ASTRATA, ASTRTOT, CASECTOT, CNFRAME, and WTPHY5, which are SUDAAN parameters necessary only for making estimates when combining Round One data with data from other rounds of the Physician Survey. Drop WTSITE because of minimal usefulness and complexity of documentation. Edits to the same two cases for OWNPR, TOPOWN, TOPOWNC, TOPEMP, TOPEMPC, and TOPEMPA. Edits to eight cases for PRCTYPE (eight cases changed from "other" to "hospital based") Variables from Section E that describe the vignettes have been edited as follows: Whenever a follow-up question received a response of "never," the variable for the original question was recoded as 0%. Similarly, a follow-up response of "always" resulted in recoding the original variable to 100%.

ACKNOWLEDGMENTS

This User's Guide and the accompanying Codebook and data file were produced by the Center for Studying Health System Change (HSC) in collaboration with its contractors, Mathematica Policy Research, Inc. (MPR) and Social and Scientific Systems, Inc. (SSS). James Reschovsky of HSC provided overall direction for the survey database development and the production of the Restricted Use File and documentation, David Edson of MPR provided ongoing supervision and coordination to this project, and Ase Sewall of SSS supervised the production of the data file and the Codebook.

The development of the data file, including editing, imputation, and new variable construction, was largely performed by Ellen Singer and Leif Karell of SSS, with assistance from Monica Briggs of SSS. Survey weights and procedures for variance estimation were developed by John Hall, Frank Potter, and Barbara Lepidus Carlson of MPR. Guidance in the data file construction was provided by HSC staff members Marie Reed, Robert St. Peter, and James Reschovsky. David Edson, Ellen Singer, and Marie Reed had primary roles in developing the data confidentiality procedures, with the assistance of Thomas Jabine, an independent data confidentiality consultant, and Portia DeFilippes of MPR.

Barbara Lepidus Carlson was the primary author of Chapters 1 through 4 of the User's Guide. Ellen Singer was the primary author of Chapters 5 and 6, with assistance provided by Paula Beasley of SSS. David Edson developed the logic and skip pattern flowcharts in Appendix B. Barbara Lepidus Carlson wrote Appendix C, which explains the derivation of the standard error tables, with assistance from John Hall. Ellen Singer provided sample SUDAAN setups in Appendix D, with the assistance of Gary Moore of SSS. John Hall developed the standard error look up tables in Appendix E, with the assistance of Bryan Sayer of SSS. Editorial support was provided by Daryl Hall and Anne Kelleher of MPR. James Reschovsky and David Edson participated in all components of the User's Guide development. Helpful comments on an earlier draft were received from Peter Kemper, Sally Trude, and Andrew Epstein of HSC.

The Codebook was developed primarily by Ellen Singer, with assistance from Ase Sewall, Marie Reed, Paula Beasley, Raymond Hu of SSS, and Jenny Chang of SSS.

PREFACE

This User's Guide gives researchers the information necessary to use the Community Tracking Study (CTS) Physician Survey Restricted Use File developed by the Center for Studying Health System Change (HSC). The Guide presents background information about the CTS and the Physician Survey, explains the various 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. A copy of the survey questionnaire appears in Appendix A. The publication, "Community Tracking Study Physician Survey Restricted Use File: Codebook," provides more detail on the file, including frequencies and definitions of variables. The Restricted Use File and the latest documentation are available through the Inter-university Consortium for Political and Social Research (ICPSR) at www.icpsr.umich.edu. Additional technical assistance may be obtained by contacting the CTS Public Use File Help Desk by e-mail (ctshelp@hschange.org) or fax (202-863-1763).

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 Data Use Agreement.* Information about the application process and the data use agreement are available from the ICPSR web site (www.icpsr.umich.edu).

Prior to applying to use the CTS Physician Survey Restricted Use File, researchers should consider whether the Public Use File would serve their analytic needs. 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,* HSC Technical Publications Numbers 10 and 11, available from the ICPSR web site (www.icpsr.umich.edu).

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 are not included on the Public Use File, necessitating the use of standard error look-up tables or formulas contained in the User's Guide to derive approximate standard errors. Lastly, only the Restricted Use File contains information that allows the user to identify physicians that are part of both the Round One and Round Two samples.

In addition to the Public Use and Restricted Use Files, there is also Round One 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 Summary File reflects most of the information collected in the Round One 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 will allow 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).

OBTAINING TECHNICAL ASSISTANCE

Information on the CTS Physician Survey, and the CTS in general, may be obtained through the HSC internet home page at http://www.hschange.org. The Restricted Use File and the latest 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 may be obtained by contacting the CTS Help Desk by e-mail at ctshelp@hschange.org or fax (202-863-1763).

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CHAPTER 1

OVERVIEW OF THE COMMUNITY TRACKING STUDY AND THE PHYSICIAN SURVEY

This User's Guide is intended to assist researchers in using the Community Tracking Study (CTS) Physician Survey Restricted Use File. Programmer documentation and detailed information on the file layout and content are available in the CTS Physician Survey Restricted Use File Codebook. Information about other aspects of the CTS is available from the Center for Studying Health System Change (www.hschange.org) or via e-mail (center@hschange.org).

1.1. CTS Objectives

The CTS is a national study of the rapidly changing health care market and the effects of these 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). The overall goal of the study—to develop an information base designed to track and analyze change in the nation's health care market and to inform public and private decision makers about these changes—has three component objectives:

Tracking Changes in Health Systems. The study's first objective is to document changes in the health system through intensive study of selected communities. The major changes that have been reported in the health system include consolidation of the market at all levels (medical groups, hospitals, insurers, and health plans); vertical integration of providers (for example, hospitals and physicians) and of insurers and providers; increased risk sharing by providers; growth of large, national, for-profit health care enterprises; and the adoption of new techniques for managing clinical care (clinical information systems, quality improvement techniques, utilization management, and so forth).

Tracking Changes in Access, Service Delivery, Cost, and Perceived Quality. The second objective of the study is to monitor the effects of health system change on people by tracking indicators of these effects. These effects could be favorable or unfavorable and they involve service use and delivery, changes in access to care, and quality and cost of care.

Understanding the Effect of Health System Change on People. The third objective of the study is to understand how differences in health systems are related to differences in access, service delivery, cost, and perceived quality. This objective will be achieved by analyzing—qualitatively and quantitatively—the relationship between health systems and access, service delivery, cost, and perceived quality.

Central to the design of the study is its community focus. This focus was established because health care delivery is primarily local and differs from one community to the next as a result of history, culture, and state and local policy. Therefore, to analyze and understand institutional

[1]An overview of the Community Tracking Study is contained in Kemper et al., "The Design of the Community Tracking Study: A Longitudinal Study of Health System Change and Its Effects on People." *Inquiry*, vol. 33, Summer 1996, pp. 195-206.

changes in the delivery system and their effects on people, we need information at the local level. To this end, 60 communities, listed in Table 1.1, were randomly selected to form the core of the CTS and to be representative of the nation as a whole.[2] Of these communities, 12 were randomly chosen for more intensive study. These are referred to as the high-intensity sites.

1.2. Analytic Components of the Community Tracking Study

The CTS has qualitative and quantitative components. For instance, case studies are being conducted in the 12 high-intensity sites. The first round of comprehensive case studies of the health system were begun in 1996 and continued through 1997. The findings are available from HSC.[3] This qualitative information is accompanied by survey data from these 12 communities and from an additional 48 sites. In all 60 sites, HSC simultaneously conducted independent surveys of households, physicians, and employers, enabling researchers to explore relationships among purchasers, providers, and consumers of health care.[4] The Followback Survey of Health Plan Organizations is another component of the CTS. Respondents to the CTS Household Survey covered by privately financed health insurance plans (employer, union, and privately purchased) will be "followed back" to the organization that administers the plan. The administering plan will provide information on available health plans and will identify the particular plan in which each linked respondent policyholder is enrolled. Measured health plan attributes include whether the plan is a managed care plan (and if so, the type of managed care plan it is), health plan network size, and provider payment methods.

Data are being collected on a two-year cycle, allowing researchers to track changes in the health care system over time. The round one surveys and case studies, completed during 1996 and 1997, are the baseline. Data collection for round two began in the summer of 1998.

[2]The CTS focuses on the contiguous 48 states. Alaska and Hawaii were not part of the study.

[3]Center for Studying Health System Change. *Health System Change in Twelve Communities.* Washington, D.C.: CSHSC, September 1997. Available at *www.hschange.org*.

[4]The household survey was conducted by HSC and is available as a Public Use File. The employer survey was conducted by RAND, in collaboration with HSC. While these surveys were conducted in the same communities, they were independent of one another and do not allow linking of persons or employers to specific physicians.

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/VA)	
	47-West Palm Beach (FL)	
	48-Worcester (MA)	

Note: Numbers correspond with coding of the site ID variable in the survey.

*Based on 1995 Census estimates.

1.3. The Physician Survey

The CTS Physician Survey, funded by the Robert Wood Johnson Foundation, was conducted under the direction of HSC. The Gallup Organization was the primary contractor for survey implementation, including sampling, interviewing, and weighting. Mathematica Policy Research, Inc. (MPR) was responsible for sample design and variance estimation. Project Hope and CODA, Inc. assisted in developing the instrument, 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 and SSS collaborated to prepare the documentation for the Restricted Use File.

The CTS 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. For primary care physicians (PCPs), the instrument also contained vignettes including various clinical presentations for which there is no prescribed method of treatment. Physicians were asked to state the percentage of patients for whom they would recommend the course of action specified in each particular vignette.

The survey was administered completely by telephone, using computer-assisted telephone interviewing technology. The sample frame was developed by combining lists of physicians from the American Medical Association (AMA) and the American Osteopathic Association (AOA). Bilingual interviewers were used in the few cases where needed. Interviews with 12,385 physicians[5] were completed between August 1996 and August 1997.

1.4. The Physician Survey Restricted Use and Public Use Files

Two versions of the CTS Physician Survey data are available to researchers: the Restricted Use File and the Public Use File. The ***Restricted Use File*** described in this User's Guide may be accessed 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 accessed 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.

The Restricted Use File is provided to researchers for use on only a specific research project (new applications would be required for subsequent analyses) 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 who

[5]There are 12,528 physician records on the file; 143 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.

are interested only in producing site-level means from the physician data, whether to perform analysis using a site-level file or to merge onto one of the other CTS component surveys, can use the Physician Survey Summary File, which is described in *Community Tracking Study Physician Survey Summary File: User's Guide and Codebook (Round One)*, HSC Technical Publication No. 14. Researchers are encouraged to review documentation for both the Public Use and Restricted Use files, 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 to all researchers with minimal restrictions. Researchers need not specifically apply for use of the Public Use File. It is suitable for most researchers who wish to perform analysis at the national level and do not anticipate using the site-level information in their analysis. The Public Use File 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). Moreover, information necessary for using statistical software programs that account for the survey design is not included in the Public Use File, necessitating the use of standard error look-up tables or formulas contained in Chapter 4 to derive approximate standard errors. Separate documentation on the Public Use File is available from ICPSR at www.icpsr.umich.edu.

As stated above, this Restricted Use File contains certain data that are not available on the Public Use File. Other variables in the Public Use File were modified somewhat to ensure the confidentiality of survey respondents. Table 1.2 lists the variables available on the Public and Restricted Use files. In this table, a different name for the same variable on the Public Use and Restricted Use files (the Public Use name ends in "X") indicates that the data for this variable underwent additional editing for confidentiality.[6]

[6]INCOMET has also undergone editing for confidentiality. SPECX (on both files) was provided as a way to categorize specialty; however, its component variables are found only on the Restricted Use File.

TABLE 1.2

VARIABLES ON THE PHYSICIAN RESTRICTED USE AND PUBLIC USE FILES

Restricted Use Name	Public Use Name	Variable Label (on Restricted Use File)
Survey Administration Variables		
PHYSIDX	PHYSIDX	PH1:Physician identification number
MSACAT	n/a	PH1:Large metro/small metro/non-metro
FIPS	n/a	PH1:State and county code when surveyed
SITEID	n/a	PH1:Updated master file SITE variable
SUBGRP	n/a	PH1:Subgroup in Sample - A/B/C/D
DOCTYP	n/a	PH1:S1: Doctor type (MD, DO)
IMGSTAT	n/a	PH1:Country of medical school
IMGUSPR	IMGUSPR	PH1:Foreign medical school graduate
GENDER	GENDER	PH1:AMA/AOA: Sex, 1-Male, 2-Female
BIRTH	BIRTHX	PH1:AMA/AOA: Year of birth (corrected)
GRAD_YR	GRADYRX	PH1:AMA/AOA: Year of graduation
AMAPRIM	n/a	AMA/AOA: Primary care physician flag
Section A – Introduction		
MULTPR	MULTPR	PH1:A4: Multiple practices
_MULTPR	_MULTPR	PH1:Imputation flag for MULTPR
NUMPR	NUMPRX	PH1:A4A: Number of practices
YRBGN	YRBGNX	PH1:A6: Year began practicing medicine
NWSPEC	n/a	PH1:A8: Primary specialty/subspecialty
GENSUB	n/a	PH1:A9: General practice vs. subspecialty
SIPNPED	n/a	PH1:A9a: Subspc, internal, or pediatric (adult specialty)
SIPPED	n/a	PH1:A9b: Subspc, internal, or pediatric (ped specialty)
SUBSPC	n/a	PH1:A10: Subspecialty
SPECX	SPECX	PH1:CV:Combined specialty/subspecialty
PCPFLAG	PCPFLAG	PH1:Questionnaire definition of PCP
BDCERT	BDCERT	PH1:Board certification status
BDCTPS	BDCTPS	PH1:Board certified in primary subspecialty/specialty
BDELPS	BDELPS	PH1:Board eligible in primary subspecialty/specialty
CARSAT	CARSAT	PH1:A19: Overall career satisfaction
Section B - Utilization of Time		
WKSWRK	WKSWRKX	PH1:B1: Weeks practicing medicine in 1995
WKSWRKC	n/a	PH1:Weeks worked in 1995, w/o new phys
_WKSWRKC	n/a	PH1:Imputation flag for WKSWRKC
HRSMED	HRSMEDX	PH1:Hours previous week spent medically-related activities
_HRSMED	n/a	PH1:Imputation flag for HRSMED
HRSPAT	HRSPATX	PH1:Hours previous week spent direct patient care activities
_HRSPAT	n/a	PH1:Imputation flag for HRSPAT
HRFREE	HRFREEX	PH1:B6: Hours previous month charity care
_HRFREE	n/a	PH1:Imputation flag for HRFREE
PPATMN	PPATMN	PH1:Percent patient care time spent in main practice

See notes at end of table.

TABLE 1.2

VARIABLES ON THE PHYSICIAN RESTRICTED USE AND PUBLIC USE FILES
(Continued)

Restricted Use Name	Public Use Name	Variable Label (on Restricted Use File)
Section C - Type and Size of Practice		
OWNPR	OWNPR	PH1:C1: Ownership status (full/part/no own)
_OWNPR	_OWNPR	PH1:Imputation flag for OWNPR
TOPOWN	n/a	PH1:C2: Type of practice (owners)
TOPOWNC	TOPOWNX	PH1:Practice type (owners), w/C9 recodes
TOPEMP	n/a	PH1:C3: Type of employer (non-owner)
TOPEMPC	n/a	PH1:Employer type, w/C9 recodes
TOPEMPA	TOPEMPX	PH1:Employer type (all employees)
PRCTYPE	PRCTYPE	PH1:Practice type (categorical)
ALLPRTP	n/a	PH1:All practice type
OTHSET	n/a	PH1:C3a: Government hospital or clinic
EMPTYP	n/a	PH1:C3b: Employer type verbatims, coded
OTHPAR	OTHPAR	PH1:C4: Owner: Other phys in practice
OTHGRP	n/a	PH1:C5A: Owner: Other phys group
HSPPAR	n/a	PH1:C5B: Owner: Hospital
INSPAR	n/a	PH1:C5C: Owner: Insurance Co, HMO
ORGPAR	n/a	PH1:C5D: Owner: Other
C5OWNER	C5OWNX	PH1:C5: Outside ownership
ORGC_1-ORGC_12	n/a	PH1:What kinds of organizations are these?
NPHYS	NPHYSX	PH1:C7: Number of physicians at practice
_NPHYS	n/a	PH1:Imputation flag for NPHYS
NASSIST	NASSISX	PH1:C8: Number of assistants in practice
_NASSIST	n/a	PH1:Imputation flag for NASSIST
ACQUIRD	ACQUIRD	PH1:C10: Practice acquired in last 2 yrs
_ACQUIRD	_ACQUIRD	PH1:Imputation flag for ACQUIRD
OWNPUR	OWNPURX	PH1:C11: Resp ownership when practice purchased
Section D - Medical Care Management		
EFDATA	EFDATA	PH1:D1A: Effect of computer get pt data
EFTREAT	EFTREAT	PH1:D1B: Effect of computer get tx/guidelines
EFRMNDR	EFRMNDR	PH1:D1C: Effect of preventive tx reminders
EFGUIDE	EFGUIDE	PH1:D1D: Effect of formal written guidelines
EFPROFL	EFPROFL	PH1:D1E: Effect of practice profile results
EFSURV	EFSURV	PH1:D1F: Effect of patient satisfaction surveys
CMPPROV	CMPPROV	PH1:D7: Change-complexity w/o ref, PCP
CMPEXPC	CMPEXPC	PH1:D8: Appropriateness w/o ref, PCP
SPECUSE	SPECUSE	PH1:D9: Change-number of referrals to specialists
PCTGATE	PCTGATE	PH1:D10: Percent of patients for whom gatekeeper
_PCTGATE	_PCTGATE	PH1:Imputation flag for PCTGATE
CMPCHG	CMPCHG	PH1:D11: Change-complexity at ref, NPCP
CMPLVL	CMPLVL	PH1:D12: Appropriateness at ref, NPCP
CHGREF	CHGREF	PH1:D13: Change-# referrals by PCPs

See notes at end of table.

TABLE 1.2

VARIABLES ON THE PHYSICIAN RESTRICTED USE AND PUBLIC USE FILES
(Continued)

Restricted Use Name	Public Use Name	Variable Label (on Restricted Use File)
Section E - Vignettes		
WHOCARE	WHOCARE	PH1:EA: Care to adults and/or kids
FORM	FORM	PH1:E_FORM: Rotation of vignette questions
VCHOL	VCHOL	PH1:E1: Percent oral agents elevated cholesterol
VCHOLF	VCHOLF	PH1:E1a: Freq oral agents elevated cholesterol
VHYPER	VHYPER	PH1:E3: Percent urology referrals w/ prostatic hyperplasia
VHYPERF	VHYPERF	PH1:E3a: Freq urology referrals prostatic hyperplasia
VCHEST	VCHEST	PH1:E4: Percent cardiology referrals w/ chest pains
VCHESTF	VCHESTF	PH1:E4a: Freq cardiology referrals w/ chest pains
VBACK	VBACK	PH1:E5: Percent MRI for low back pain
VBACKF	VBACKF	PH1:E5a: Freq MRI for low back pain
V60MAN	V60MAN	PH1:E9: Percent PSA test 60 year old male
V60MANF	V60MANF	PH1:E9a: Freq PSA test 60 year old male
VVITCH	VVITCH	PH1:E10: Percent office visit for vaginal itching
VVITCHF	VVITCHF	PH1:E10a: Freq office visit for vaginal itching
VENUR	VENUR	PH1:E11: Percent DDAVP 10 year child enuresis
VENURF	VENURF	PH1:E11a: Freq DDAVP 10 year child enuresis
VTHRT	VTHRT	PH1:E16: Percent office visit fever sore throat child
VTHRTF	VTHRTF	PH1:E16a: Freq office visit fever sore throat child
VCOUGH	VCOUGH	PH1:E17: Percent x-ray fever tachypnea child
VCOUGHF	VCOUGHF	PH1:E17a: Freq x-ray fever tachypnea child
VSUPOT	VSUPOT	PH1:E18: Percent ENT referral suppurative otitis med child
VSUPOTF	VSUPOTF	PH1:E18a: Freq ENT referral suppurative otitis med child
V6FEVR	V6FEVR	PH1:E20: Percent sepsis workup fever 6 week child
V6FEVRF	V6FEVRF	PH1:E20a: Freq sepsis workup fever 6 week child
VECZEM	VECZEM	PH1:E21: Percent allergist eczema asthma
VECZEMF	VECZEMF	PH1:E21a: Freq allergist eczema asthma child

See notes at end of table.

TABLE 1.2

VARIABLES ON THE PHYSICIAN RESTRICTED USE AND PUBLIC USE FILES
(Continued)

Restricted Use Name	Public Use Name	Variable Label (on Restricted Use File)
Section F - Physician - Patient Interactions		
ADQTIME	ADQTIME	PH1: Adequacy of time, all physicians
CLNFREE	CLNFREE	PH1:F1C: Freedom for clinical decisions
HIGHCAR	HIGHCAR	PH1:F1D: Possibility of high quality care
NEGINCN	NEGINCN	PH1:F1E: Decision w/o neg financial incentive
USESPCS	USESPCS	PH1:F1F: High communication level w/ specialists
COMPRM	COMPRM	PH1:F1G: Communication w/ primary care physician
COMMALL	COMMALL	PH1: Level of communication, all
PATREL	PATREL	PH1:F1H: Continuing patient relationships
OBREFS	OBREFS	PH1:F8A: Referrals to quality specialists
OBANCL	OBANCL	PH1:F8B: High quality ancillary services
OBHOSP	OBHOSP	PH1:F8C: Non-emergency hospital admission
OBINPAT	OBINPAT	PH1:F8D: Adequate number inpatient days
OBIMAG	OBIMAG	PH1:F8E: High quality diagnostic imaging
OBMENTL	OBMENTL	PH1:F8F: High quality inpatient mental health care
OBOUTPT	OBOUTPT	PH1:F8G: High quality outpatient mental health care
NWMCARE	NWMCARE	PH1:F9A: Accept new Medicare patients
_NWMCARE	_NWMCARE	PH1:Imputation flag for NWMCARE
NWMCAID	NWMCAID	PH1:F9B: Accept new Medicaid patients
_NWMCAID	_NWMCAID	PH1:Imputation flag for NWMCAID
NWPRIV	NWPRIV	PH1:F9C: Accept new privately insured
_NWPRIV	_NWPRIV	PH1:Imputation flag for NWPRIV

See notes at end of table.

TABLE 1.2

VARIABLES ON THE PHYSICIAN RESTRICTED USE AND PUBLIC USE FILES
(Continued)

Restricted Use Name	Public Use Name	Variable Label (on Restricted Use File)
Section G - Practice Revenue		
PMCARE	PMCARE	PH1:G1A: Percent payments from Medicare
_PMCARE	_PMCARE	PH1:Imputation flag for PMCARE
PMCAID	PMCAID	PH1:G1B: Percent payments from Medicaid
_PMCAID	_PMCAID	PH1:Imputation flag for PMCAID
PCAPREV	PCAPREV	PH1: % practice rev prepaid, capitated
_PCAPREV	_PCAPREV	PH1:Imputation flag for PCAPREV
NMCCON	NMCCONX	PH1: Number of managed care contracts
_NMCCON	n/a	PH1:Imputation flag for NMCCON
PMC	PMC	PH1:% practice rev from managed care
_PMC	_PMC	PH1: Imputation flag for PMC
CAPAMTC	CAPAMTC	PH1: Capitated rev from largest MC contract
_CAPAMTC	_CAPAMTC	PH1: Imputation flag for CAPAMTC
PBIGCON	PBIGCON	PH1: Percent revenue largest managed care contract
_PBIGCON	_PBIGCON	PH1:Imputation flag for PBIGCON
Section H - Physician Compensation Methods & Income Level		
SALPAID	SALPAID	PH1:H1: Salaried physician flag
SALTIME	SALTIME	PH1:H2: Compensate per work time period
SALADJ	SALADJ	PH1:H3: Salary adjustments
BONUS	BONUS	PH1:H4: Eligible for bonuses now flag
SPROD	SPROD	PH1:H5A: Own productivity affects compensation
SSAT	SSAT	PH1:H5B: Patient satisfaction affects compensation
SQUAL	SQUAL	PH1:H5C: Quality measures affects compensation
SPROF	SPROF	PH1:H5D: Profiling results affects compensation
RADJ	RADJ	PH1:H6: Profiles are risk adjusted
_RADJ	_RADJ	PH1:Imputation flag for RADJ_A
PCTINCN	PCTINCX	PH1:H9: Percent income from bonuses
PCTINCC	n/a	PH1:CV:Percent income from bonuses, corrected
_PCTINCC	n/a	PH1:Imputation flag for PCTINCC
EBONUS	EBONUS	PH1:H9a: Eligible for bonuses in 1995
INCOMET	INCOMEX	PH1:H10: Net income in 1995
_INCOMET	n/a	PH1:Imputation flag for INCOMET

See notes at end of table.

TABLE 1.2

VARIABLES ON THE PHYSICIAN RESTRICTED USE AND PUBLIC USE FILES
(Continued)

Restricted Use Name	Public Use Name	Variable Label (on Restricted Use File)
Weights and Sampling Variables		
NSTRATA	n/a	PH1: Nest variable national estimates, supplemental sample
PSTRATA	n/a	PH1: Nest variable, pseudo strata
ASTRATA	n/a	PH1: Stage 1 strata, version 2
PPSU	n/a	PH1: Nest variable, pseudo ppsu
APSU	n/a	PH1: Stage 1 PSU, version 2
PSTRTOT3	n/a	PH1: Totcnt for pstrata
ASTRTOT	n/a	PH1: FPC for ASTRATA
SITEPCP	n/a	PH1: Nest variable for site estimates
FRAME	n/a	PH1: Sample frame counts for site estimates
NFRAME	n/a	PH1: Sample frame counts for national estimates
CNFRAME	n/a	PH1: FPC for SECSTRA, version 2
FSU	n/a	PH1: Final sample unit for site estimates
NFSU	n/a	PH1: Final sample unit for national estimates
AFSU	n/a	PH1: Final sample unit for national estimates, version 2
SECSTRA	n/a	PH1: Secondary stratification
ASECSTRA	n/a	PH1: Stage 2 strata, version 2
CASECTOT	n/a	PH1: FPC for ASECSTRA
P1X - P7X	n/a	PH1: Joint inclusion probability #1 thru #7
AP1 – AP7	n/a	PH1: APSU probability #1 thru #7
WTPHY1	n/a	PH1: CV: Augmented site estimates
WTPHY2	n/a	PH1: CV: National estimates, site sample
WTPHY3	n/a	PH1: CV: National estimates, supplemental sample
WTPHY4	WTPHY4	PH1: CV: National weight, combined sample
WTPHY5	n/a	PH1: CV: National estimates, site sample

Notes: "n/a" identifies variables that are not available on the CTS Physician Survey Public Use File. Variable label contains a brief description of the variable. In some cases, the label also provides information on the source of the variable (e.g., PH1 for the CTS Physician Survey) and the question number (e.g., "A6" for Section A, Question 6).

CHAPTER 2

THE STRUCTURE AND CONTENT OF THE COMMUNITY TRACKING STUDY PHYSICIAN SURVEY

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 of 12 communities from which a large number of physicians in each community 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 of 48 communities from which a smaller sample of physicians in each community was 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 substantially increases the precision of national estimates with a relatively modest increase in the total sample size.

This chapter describes the sample design, the process of conducting the survey, and the survey content. Despite the flexibility afforded by this sample design, the analysis of survey data is more complex than if a simpler sample design were used. Chapter 3 explains how to choose the sample and weighting variables appropriate for your analysis.

2.1. CTS Sample Sites

The primary goal of the CTS was to track health system change and its effects on people at the local level. Determining which communities, or sites, to study was therefore the first step in designing the CTS sample. Three issues were central to this sample design: how sites were defined, how many were studied, and how they were selected.

2.1.1. Definition of Sites

The sites were intended to 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 located in the same area, and providers mostly served area residents. To this end, we generally defined sites to be MSAs (metropolitan statistical

areas) as defined by the Office of Management and Budget or, in the case of nonmetropolitan sites, BEAEAs (Bureau of Economic Analysis economic areas).[7]

2.1.2. Number of Sites

The next step in creating the site sample was to determine the number of high-intensity sites. 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 system change and its effect on care delivery and consumers, and a greater ability 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 therefore chose 12 sites for intensive study and added to this sample 48 sites that would be studied less intensively. 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 the representativeness of the high-intensity sites.

2.1.3. Site Selection

Once the number of sites for the site sample was determined, the next step was to select the actual sites. Shown previously in Table 1.1, the 60 sites, or "primary sampling units," were chosen for the first stage of sampling. Sites were sampled by stratifying them geographically by region and selecting them randomly, with probability in proportion to their 1995 population. There were separate strata for small MSAs (population of less than 200,000) and for nonmetropolitan areas. 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.[8]

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[7]For more details on the definition of CTS sites, refer to C. Metcalf, P. Kemper, L. Kohn, and J. Pickreign. *Site Definition and Sample Design for the Community Tracking Study*. Technical Publication No. 1. Washington, DC: Center for Studying Health System Change, October 1996. Note in particular the discussions of New England, where MSAs do not conform with county lines; note also the discussions of the large Consolidated Metropolitan Statistical Areas.

[8]Additional information about the number of sites and the random selection of the site sample is available in C. Metcalf, P. Kemper, L. Kohn, and J. Pickreign. *Site Definition and Sample Design for the Community Tracking Study*. Technical Publication No. 1. Washington, DC: Center for Studying Health System Change, October 1996.

The 12 high-intensity sites were selected randomly from MSAs with a 1995 population of 200,000 or greater. Of the 48 low-intensity sites, 36 are large metropolitan areas (also having a 1995 population of 200,000 or greater), 3 are small metropolitan areas (population of less than 200,000), and 9 are nonmetropolitan sites.

Together, the high-intensity and low-intensity sites account for about 90 percent of all survey respondents. This site sample can be used to make national estimates. The sample may also be used to make site-specific estimates for the high-intensity sites. Users should be aware that site-specific estimates for the low-intensity sites will be less precise because of the small sample size for these sites, and that low-intensity sites generally will not support separate site analyses.

2.2. Additional Samples and Better National Estimates

While the site sample alone will yield national estimates, they will not be as precise as they would have been had even more communities been sampled or had the sample 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 cost.

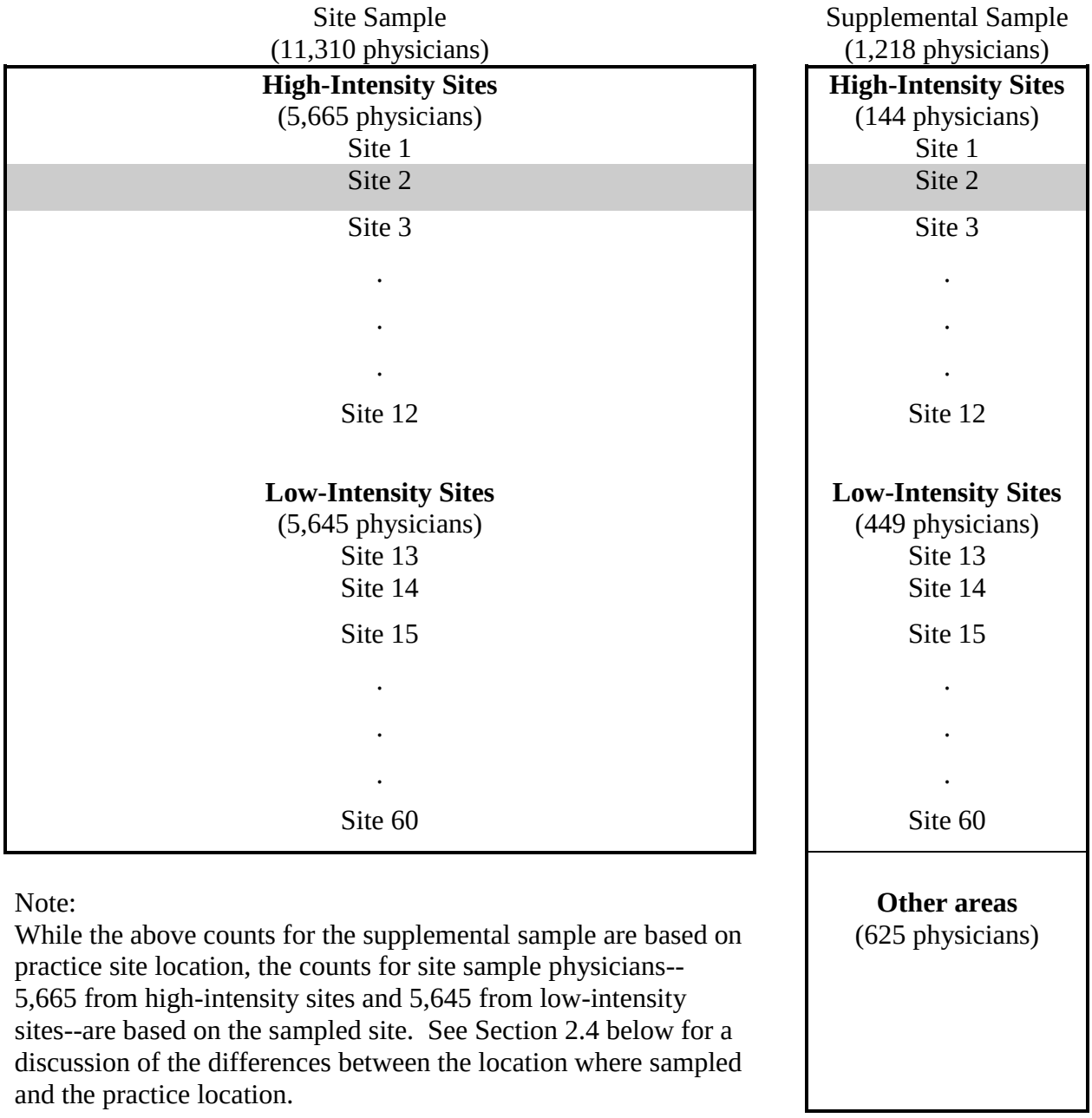
The supplemental sample is a relatively small, nationally representative sample made up of physicians randomly selected from the 48 states in the continental United States and the District of Columbia. It is stratified by 10 geographic regions (based on the groupings used in the AMA system) crossed with the two physician types (primary care versus specialist), but it essentially uses simple random sampling techniques within strata. The supplemental sample and the site sample together are called the *combined sample*.

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. Because approximately half of U.S. physicians are located in the 60 site-sample communities, approximately half of the supplemental sample also falls within those communities. Therefore, when making site-specific estimates, we can augment observations from the individual site samples with observations from the supplemental sample. These are known as the *augmented site samples*.

Figure 2.1 illustrates the sample design. The shaded area shows the cases sampled in site 2 as part of the site sample as well as the supplemental sample cases that happened to fall within the Site 2 boundaries. National estimates may be obtained from the site sample alone, from the supplemental sample alone, or from the combined sample. The combined sample will provide the most precise estimates. Generally, the site sample alone will provide more precise estimates than those provided by the supplemental sample alone because the site sample is larger. Decisions on which sample to use for a specific analysis depend on the analysis and the level of precision required. Chapter 3 discusses when to use a particular sample.

FIGURE 2.1

THE CTS PHYSICIAN SAMPLE STRUCTURE



Note:
While the above counts for the supplemental sample are based on practice site location, the counts for site sample physicians--5,665 from high-intensity sites and 5,645 from low-intensity sites--are based on the sampled site. See Section 2.4 below for a discussion of the differences between the location where sampled and the practice location.

2.3. Conducting the Survey

After selecting the sample sites, we randomly selected physicians within each site. We also randomly selected physicians for the supplemental sample. The AMA and the AOA constructed the sample frames and drew the samples based on specifications provided to them by the project team.

2.3.1. Eligible Physicians

The AMA used its Masterfile (which includes nonmembers) as the source for its sampling frame, and the AOA used its membership file. To meet the initial eligibility criteria for sampling, physicians on the frame had to have completed their medical training,[9] be practicing in the contiguous United States, and be providing direct patient care for at least 20 hours per week.[10] 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[11]
- Federal employees
- Graduates of foreign medical schools who are only temporarily licensed to practice in the United States.

The AMA was also asked to exclude osteopathic physicians (D.O.s) from its frame, because the sample of osteopaths was to be provided directly by the AOA. Furthermore, the AMA also excluded from its frame those physicians who were sampled for its 1996 Sociometric Monitoring System survey as well as those who specifically requested that their names not be released to outsiders. Those in this "do not release name" group were later classified as nonrespondents for the purpose of weighting adjustments for nonresponse.

2.3.2. Stratification of Physician Sample Frames

Once the AMA and AOA constructed their lists of eligible physicians, they classified each physician on their lists 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

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

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

[11]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.

practice, general internal medicine, internal medicine/pediatrics, or general pediatrics. All others with survey-eligible specialties were classified as non-PCPs.

The AMA and AOA each 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. Within each site, each organization selected a systematic sample of PCPs and a systematic sample of non-PCPs, based upon an optimal sample-allocation plan. This allocation plan was based on the relative number of M.D. and D.O. physicians in each site. The plan resulted in 240 separate site samples (2 organizations, 2 specialty types, 60 sites). PCPs were oversampled in the site sample.

For the supplemental sample, the sample frame was 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

Each organization selected a stratified random sample of physicians, independent of the site sample, where the 20 strata were defined by the 10 geographical strata and by specialty type (PCP vs. non-PCP). A systematic sample was drawn within each of the 20 strata.

Because the site and supplemental samples were drawn independently, it was possible for some physicians to be selected into both samples; in fact, 143 physicians were selected twice. These twice-selected physicians were only interviewed once, but they appear as two different records on the file. Each has a unique identifier and was dealt with appropriately in the weighting process. Thus, as is mentioned in Chapter 1 (footnote 5), researchers do not need to be concerned about deleting duplicate records.

2.3.3. 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.

2.4. 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 (MSA) 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. As can be seen in Table 2.1, movers were a particular problem in two of the high-intensity sites that are part of larger urban areas--Orange County (14 percent) and Newark (13 percent).

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

TABLE 2.1

NUMBER OF PHYSICIANS INTERVIEWED,
BY LOCATION WHEN SAMPLED AND LOCATION OF PRACTICE

Site/Geographic Area	Site Sample		Supplemental Sample, Practice Location
	Sampled Location	Practice Location	
TOTAL (See Note)	11,310	11,310	1,218
01-Boston (MA)	639	615	36
02-Cleveland (OH)	518	496	13
03-Greenville (SC)	402	391	5
04-Indianapolis (IN)	520	500	10
05-Lansing (MI)	307	285	1
06-Little Rock (AR)	373	346	8
07-Miami (FL)	446	430	10
08-Newark (NJ)	549	475	14
09-Orange County (CA)	506	435	17
10-Phoenix(AZ)	493	479	22
11-Seattle (WA)	524	502	6
12-Syracuse (NY)	388	374	2
13-Atlanta (GA)	149	152	7
14-Augusta (GA/SC)	123	116	4
15-Baltimore (MD)	139	140	17
16-Bridgeport(CT)	129	110	9
17-Chicago (IL)	140	141	40
18-Columbus (OH)	136	133	7
19-Denver (CO)	140	138	12
20-Detroit (MI)	131	131	24
21-Greensboro (NC)	144	139	6
22-Houston (TX)	141	139	14
23-Huntington (WV/KY/OH)	89	81	0
24-Killeen (TX)	98	94	1
25-Knoxville (TN)	120	115	4
26-Las Vegas (NV/AZ)	111	110	5
27-Los Angeles (CA)	113	163	38
28-Middlesex (NJ)	155	143	7
29-Milwaukee (WI)	144	144	13
30-Minneapolis (MN/WI)	147	148	13

TABLE 2.1

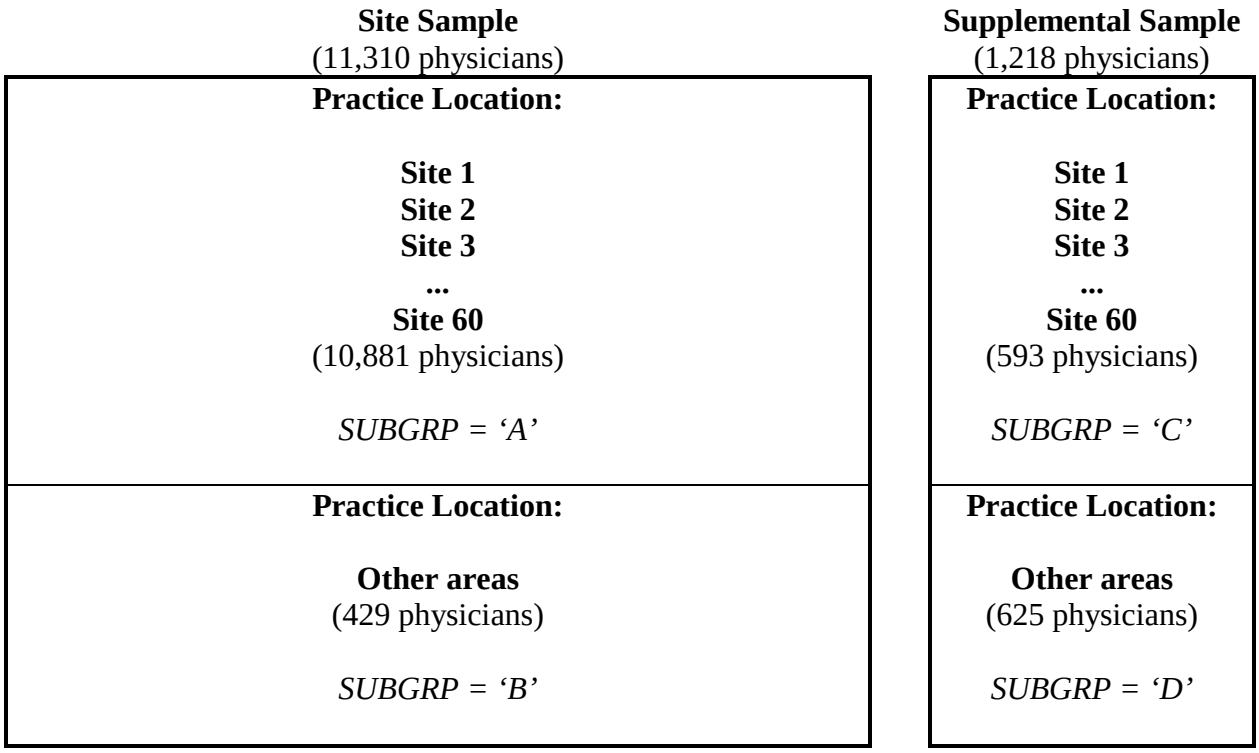
NUMBER OF PHYSICIANS INTERVIEWED,
BY LOCATION WHEN SAMPLED AND LOCATION OF PRACTICE
(Continued)

Site/Geographic Area	Site Sample		Supplemental Sample, Practice Location
	Sampled Location	Practice Location	
31-Modesto (CA)	100	97	1
32-Nassau (NY)	128	102	15
33-New York City (NY)	137	200	50
34-Philadelphia (PA)	120	120	19
35-Pittsburgh (PA/NJ)	143	140	8
36-Portland (OR/WA)	125	133	10
37-Riverside (CA)	127	131	7
38-Rochester (NY)	129	125	11
39-San Antonio (TX)	120	116	9
40-San Francisco (CA)	124	108	7
41-Santa Rosa (CA)	116	111	1
42-Shreveport (LA)	120	112	1
43-St. Louis (MO/IL)	137	131	13
44-Tampa (FL)	123	120	8
45-Tulsa (OK)	129	121	3
46-Washington (DC/MD/VA)	166	170	31
47-W Palm Beach (FL)	111	102	6
48-Worcester (MA)	130	124	6
49-Dothan (AL)	61	58	2
50-Terre Haute (IN)	56	54	1
51-Wilmington (NC)	86	77	1
52-W-Cen Alabama	27	25	0
53-Cen Arkansas	105	109	5
54-N Georgia	109	105	4
55-NE Illinois	93	88	1
56-NE Indiana	60	54	1
57-E Maine	121	111	3
58-E North Carolina	94	95	3
59-N Utah	92	80	0
60-NW Washington	107	97	1
Areas other than CTS Sites	Not applicable	429	625

Note: The 429 site sample cases in which the practice location is outside of the 60 sites are not used in estimates that are based on the site sample only. However, they are included in 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 CTS PHYSICIAN SAMPLE AND PRACTICE LOCATIONS



within the 60 sites (based on their latest preferred mailing address), 429 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.

2.5. Survey Content

Respondents to the survey were questioned about the following:

- Physician supply and specialty distribution
- Physician time allocation
- Practice arrangements and ownership
- "Gatekeeping"/medical care management strategies/scope of care
- Practice styles (PCPs only)
- Ability to provide care/ability to obtain needed services for patients/acceptance of new patients with various types of insurance
- Practice revenue
- Physician compensation

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. A set of flowcharts has also been included as Appendix B to assist researchers interested in understanding skip patterns in the survey.

2.6. 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 compiled by the AMA and the AOA. The survey was fielded between August 1996 and August 1997. For PCPs, the average interview length was 22 minutes; for non-PCPs the average length was 18 minutes.

The total number of completed interviews was 12,385,[12] with a response rate among eligibles of 65.4 percent. Physicians were sent two advance letters from the Robert Wood Johnson Foundation and were offered a $25 honorarium for participating in the survey. Table 2.3 shows the number of completed interviews for all physicians for each site and each sample.

[12]There are 12,528 records on the file because 143 physicians were selected twice for the survey and appear twice on the file, even though they were only interviewed once.

TABLE 2.2

CONTENTS OF THE PHYSICIAN SURVEY

Topic	Description
Physician Supply and Specialty Distribution (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 (Questionnaire Section B)	
Weeks worked	Number of weeks practiced medicine in 1995
Hours worked	Hours worked in medicine during last complete week of work Hours spent in direct patient care during last complete week of work
Charity care	Hours spent in charity care in the last month
Time in main practice	Percent of direct patient care time spent in main practice, if more than one practice
Practice Arrangements and Ownership (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
Gatekeeping / Medical Care Management Strategies / Scope of Care (Questionnaire Section D)	
Medical care management	Effect of various techniques on practice of medicine
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

TABLE 2.2

CONTENTS OF THE PHYSICIAN SURVEY
(Continued)

Topic	Description
Practice Styles of Primary Care Physicians (Questionnaire Section E)	
PCPs	Clinical descriptions of patient histories for which physician is asked to state the percentage for whom s/he would recommend the course of action specified in the vignette.
Ability to Provide Care / Ability to Obtain Needed Services for Patients / Acceptance of New Patients with Various Types of Insurance (Questionnaire Section F)	
Level of agreement with statements regarding:	Having adequate time with patients Freedom to make clinical decisions Ability to provide high-quality care Level of communications with specialists/primary care physicians Ability to maintain continuing relationships with patients Ability to obtain a variety of specified services for patients Acceptance of new patients insured by Medicare, Medicaid, private insurance
Practice Revenue (Questionnaire Section G)	
Percentage of practice revenue from:	Medicare Medicaid Managed care, paid on a capitated or other prepaid basis Largest managed care contract Largest contract that is capitated or prepaid
Managed care contracts	Number of managed care contracts
Physician Compensation (Questionnaire Section H)	
Physician compensation	Whether physician is salaried Physician eligible to earn bonus or incentive income Factors used by practice to determine compensation
1995 income	Percentage of 1995 income earned in the form of bonuses, returned withholds, or other incentive payments Amount of income in 1995

TABLE 2.3

NUMBER OF PHYSICIANS INTERVIEWED,
BY PRACTICE LOCATION SITE AND SAMPLE

Practice Location Site	Analytic Sample			
	Site	**Supplemental**	**Augmented Site**	**Combined**
TOTAL	11,310	1,218	11,474	12,528
01-Boston (MA)	615	36	651	651
02-Cleveland (OH)	496	13	509	509
03-Greenville (SC)	391	5	396	396
04-Indianapolis (IN)	500	10	510	510
05-Lansing (MI)	285	1	286	286
06-Little Rock (AR)	346	8	354	354
07-Miami (FL)	430	10	440	440
08-Newark (NJ)	475	14	489	489
09-Orange County (CA)	435	17	452	452
10-Phoenix (AZ)	479	22	501	501
11-Seattle (WA)	502	6	508	508
12-Syracuse (NY)	374	2	376	376
13-Atlanta (GA)	152	7	159	159
14-Augusta (GA/SC)	116	4	120	120
15-Baltimore (MD)	140	17	157	157
16-Bridgeport (CT)	110	9	119	119
17-Chicago (IL)	141	40	181	181
18-Columbus (OH)	133	7	140	140
19-Denver (CO)	138	12	150	150
20-Detroit (MI)	131	24	155	155
21-Greensboro (NC)	139	6	145	145
22-Houston (TX)	139	14	153	153
23-Huntington (WV/KY/OH)	81	0	81	81
24-Killeen (TX)	94	1	95	95
25-Knoxville (TN)	115	4	119	119
26-Las Vegas (NV/AZ)	110	5	115	115
27-Los Angeles (CA)	163	38	201	201
28-Middlesex (NJ)	143	7	150	150
29-Milwaukee (WI)	144	13	157	157
30-Minneapolis (MN/WI)	148	13	161	161

TABLE 2.3

NUMBER OF PHYSICIANS INTERVIEWED,
BY PRACTICE LOCATION SITE AND SAMPLE
(Continued)

Practice Location Site	Analytic Sample			
	Site	Supplemental	Augmented Site	Combined
31-Modesto (CA)	97	1	98	98
32-Nassau (NY)	102	15	117	117
33-New York City (NY)	200	50	250	250
34-Philadelphia (PA)	120	19	139	139
35-Pittsburgh (PA/NJ)	140	8	148	148
36-Portland (OR/WA)	133	10	143	143
37-Riverside (CA)	131	7	138	138
38-Rochester (NY)	125	11	136	136
39-San Antonio (TX)	116	9	125	125
40-San Francisco (CA)	108	7	115	115
41-Santa Rosa (CA)	111	1	112	112
42-Shreveport (LA)	112	1	113	113
43-St. Louis (MO/IL)	131	13	144	144
44-Tampa (FL)	120	8	128	128
45-Tulsa (OK)	121	3	124	124
46-Washington (DC/MD/VA)	170	31	201	201
47-W Palm Beach (FL)	102	6	108	108
48-Worcester (MA)	124	6	130	130
49-Dothan (AL)	58	2	60	60
50-Terre Haute (IN)	54	1	55	55
51-Wilmington (NC)	77	1	78	78
52-W-Cen Alabama	25	0	25	25
53-Cen Arkansas	109	5	114	114
54-N Georgia	105	4	109	109
55-NE Illinois	88	1	89	89
56-NE Indiana	54	1	55	55
57-E Maine	111	3	114	114
58-E North Carolina	95	3	98	98
59-N Utah	80	0	80	80
60-NW Washington	97	1	98	98
Areas other than CTS Sites	429	625	Not applicable	1,054

CHAPTER 3

USING THE PHYSICIAN SURVEY

The Physician Survey is made up of several sets of samples, each of which is appropriate for certain types of analyses. The decision to use one sample or another depends on two parameters that define any analysis: the population of interest and the variables included in your estimation model. For the Physician Survey, the population of interest can be a specific site population or the national population and the model variables may or may not include site-level means. In this chapter, we explain how to choose the appropriate sample and weight variables according to various possible "analytic scenarios."[13] Each scenario involves a different combination of the population of interest and the type of model. As background to this discussion, the four 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 depends upon your population of interest and the variables included in your estimation model. Regardless of the model, 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), we recommend the augmented site sample because of its design and size. 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.

We were able to create the augmented site sample in this way because we knew the practice location of each respondent in the national supplement. The result was a larger sample for each CTS site, allowing more precise estimates. In general, we recommend reporting site-level physician characteristics for high-intensity sites only. Low-intensity site samples are generally too small to yield precise estimates, although precise estimates for physicians in groups of low-intensity sites can be obtained.

If you are doing physician-level 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. This sample has the greatest number of observations and hence will produce the most precise estimates. But, 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 site sample to produce national estimates. 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. Furthermore, we do not recommend using the augmented sample to

[13]Refer to the special, confidential versions of Keil, L, et. al., *Community Tracking Study Physician Survey: Round 1 General Distribution Survey Methodology Report*, published as HSC Technical Report Number 9, October 1998) for more details on the definitions and construction of the weight variables, including probabilities of selection and adjustments for physician nonresponse. The confidential version of this report is available to authorized users of the CTS Physician Survey Restricted Use File through the CTS Help Desk at ctshelp@hschange.org.

TABLE 3.1

ANALYTICAL SAMPLES IN THE PHYSICIAN SURVEY

Analytic Sample	Description	File Definition
Site sample	Physicians randomly selected for the site sample (with a primary practice location in one of the 60 high- and low-intensity sites)	All records with SUBGRP = A (N = 10,881 physicians)
Supplemental sample	A sample, separate from the site sample, that includes physicians randomly selected from the 48 states in the continental United States and the District of Columbia	All records with SUBGRP = C or SUBGRP = D (N = 1,218 physicians)
Augmented site sample	Physicians in the site sample plus physicians in the supplemental sample whose practice location lies within the CTS sites	All records with SUBGRP = A or SUBGRP = C (N = 11,474 physicians)
Combined sample	All physicians from the site and supplemental samples, including those site-sample physicians practicing outside the CTS sites	All records (SUBGRP = A, B, C, or D) (N = 12,528 physicians)

TABLE 3.2

APPROPRIATE SAMPLES AND WEIGHTS
FOR PHYSICIAN-LEVEL ANALYSES

Type of Model	Recommended Analytic Sample	Recommended Weight Variable
Population of Interest: Site Populations		
Any model	Augmented site sample	WTPHY1
Population of Interest: National Population		
Model includes site characteristics	Site sample	WTPHY2
Model does not include site characteristics	Supplemental sample	WTPHY3
	Combined sample	WTPHY4

Note: The weight variable WTPHY5 was added for Release 2 of the Round One Physician Survey Restricted Use File. It is not listed in this table because it is useful only for certain situations in which Round One data are combined with data from other rounds (for example, as described in the User's Guide for the Round Two Physician Survey Restricted Use File, which is HSC Technical Publication No. 27). Users who are interested in analyzing only Round One data can ignore WTPHY5. Users who would like more information on WTPHY5 can refer to Section 4.5 of this document.

make national estimates using the Round One data only because the weighting variable associated with this sample has not been constructed for that purpose.[14] Because we include an identifier for the county where the physician practices, you can merge location information from other sources and use the combined sample.

Because of its smaller size (10 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 and site samples are independent national samples, you might want to use the supplemental sample to perform exploratory data analysis and then the site sample to confirm the results.
- ***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.

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. With the exception of those site-sample physicians whose practice location turned out to be outside the 60 CTS sites,[15] you will not be able to identify movers 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 (site sample, supplemental sample, or combined sample), and the level of analysis (site-specific or national). Table 3.3 provides information on how movers were dealt with in the construction of the weights for various types of estimates. Further details concerning weight construction are contained in Gallup's technical report (see footnote 1 for reference).

[14]Models that contain site dummy variables as explanatory variables can be estimated using either the site or the combined samples. If the 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.

[15]See discussion of the variable SUBGRP in Chapter 2.

3.3. Combining Round One Data with Data from Other Rounds

This user's guide provides instructions for analyses that use Physician Survey data only from Round One. However, with the availability of Round Two Physician Survey data as of 2001, it is now possible to do analyses that combine Round One data with data from other rounds. For a discussion of how to do such analyses, users should refer to Section 4.5 of this document and to the user's guides for the subsequent rounds of the Physician Survey, such as *Community Tracking Study Physician Survey Restricted Use File: User's Guide (Round Two),* HSC Technical Publication No. 27.

TABLE 3.3

TREATMENT OF PHYSICIANS WHEN PRACTICE LOCATION DIFFERS FROM SAMPLE SITE

Type of Mover	Treatment in Analysis	Basis for Weight
Site-specific estimates using the augmented sample (WTPHY1)		
Practice located in CTS site other than sampled site	Excluded from analysis of sampled site	Not applicable (weight not defined for this type of mover)
	Included in analysis of practice location site	Analysis weight based on probability of selection within the original (sampled) site as well as the probability of selection of the original site
Practice not located in a CTS site	Excluded from any site-specific analysis	Not applicable (weight not defined for this type of mover)
National supplement case with practice located in a CTS site	Included in analysis of practice location site	Analysis weight based on probability of selection within the original sampling stratum
National estimates using the site sample (WTPHY2)		
Practice located in CTS site other than sampled site	For analysis (linking) purposes, considered part of the practice location site	Analysis weight based on probability of selection within the original (sampled) site
Practice not located in a CTS site	Excluded from analysis	Not applicable (weight not defined for this type of mover)
National estimates using the supplemental (WTPHY3) or combined (WTPHY4) sample		
Practice location differs from sample location (any such situation)	Included in all national estimates	Analysis weight based on probability of selection within the original (sampled) site or original sampling stratum

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,[16] which is an indicator of the precision of an estimate. 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 CTS data. This chapter explains how to estimate standard errors that account for the sample design. We discuss why standard errors resulting from commonly used statistical software packages should not be used to make estimates from this survey. For those who do not have access to specialized statistical software designed to estimate variances for survey data estimates, we provide standard error look-up tables and formulas to approximate standard errors (see Appendix E). These tables and formulas can be used to obtain, for some types of estimates, approximate standard errors that account for the survey design. We also describe various methods for directly calculating standard errors using specialized software, and we explain how to use one such package (SUDAAN) with the CTS data.

4.1. The Limitation of Standard Statistical Software

Standard statistical packages, such as SAS and SPSS, compute variances using formulas that are based on the assumption that the data are from a simple random sample taken from an infinite population.[17] 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. For the CTS, the sampling variance estimate is a function of the sampling design and the population parameter being estimated; it is called the "design-based sampling variance."

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

[16]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.

[17]In the near future, both SAS and SPSS plan to include features that will account for survey sample designs.

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.

Over a representative set of CTS Physician Survey variables, the average design effect for physician-level national estimates using the combined sample is about 2.2. This means that the standard error is, on average, about 50 percent higher than it would have been had the same number of cases been selected using a simple random sample. The design effect of 2.2 also means that the precision of the CTS (with 12,528 observations) is equal to that of a simple random sample with a size of about 5,695. Note that the design effect is generally lower for subclasses of the population because there is less clustering of observations.

Because most of the variables in the CTS Physician Survey have a design effect of greater than one, we present two options for obtaining appropriate standard errors. Standard error look-up tables and formulas give approximate standard errors that account for the survey design. In addition, we explain how you can use specialized software to directly calculate standard errors.

4.2. Tables of Standard Errors and Design Effects

Tables E.1 through E.39 in Appendix E give approximate standard errors for various types of estimates and sample sizes. The standard error will vary depending on which variable is used and on the physician subgroup upon which the estimate is based (if any). Appendix C explains how these standard errors were derived, and what variables were used in the modeling process.[18] The first 34 tables (E.1 through E.34) are for national estimates based on the combined sample: 9 tables for percentage estimates, 12 are for mean estimates of "quasi-continuous" variables (defined below), and 13 are for mean estimates of continuous variables. The last 5 tables are for site-specific estimates. Many tables are included for specific subgroups of physicians, defined as follows:

[18]As explained in Appendix C, certain estimates with too small a sample size, too high a relative standard error, or too small or too large a design effect were excluded from the regression models upon which these tables are based. Before using one of the tables, check to make sure that your particular estimate has a sufficient sample size (greater than 100 for national estimates, greater than 80 for site-specific estimates).

- All primary care physicians (PCPFLAG=1)
- All non-primary care physicians (PCPFLAG=0)
- Internal medicine physicians (SPECX=1)
- Family/general practice physicians (SPECX=2)
- Pediatricians (SPECX=3)
- Medical specialists, including psychiatrists (SPECX=4,6)
- Surgical specialists, including OB-GYNs (SPECX=5,7)
- Physicians in solo or two-person practice (PRCTYPE=1)
- Physicians in group practice (three or more) (PRCTYPE=2)
- Physicians in other practice settings (PRCTYPE=3,4,5,6)
- Physicians in practice with high revenue from managed care (above median of 35 percent) (PMC>35)
- Physicians in practice with low revenue from managed care (at or below median) (PMC<36)

For some types of estimates, we did not provide tables specific to some of these subgroups, either because the model used to develop the table was not significant for that subgroup or because the estimates for that subgroup were not different enough to merit their own table (see Appendix C). For example, for national percentage estimates, there is no table specifically for physicians in a group practice (three or more physicians). For percentage estimates limited to such physicians (or to a subset of such physicians), use the table for all physicians (Table E.1). Similarly, for national mean estimates of quasi-continuous variables, there is no table for pediatricians. For quasi-continuous mean estimates limited to pediatricians (or to a subset of pediatricians), use the table for all PCPs (primary care physicians) (Table E.2).

If you are interested in a subset of physicians not listed above, use the table for all physicians. If you are interested in a subset of one of the subgroups defined above, use the table associated with the subgroup (see example in the next section).

These subgroups refer to the *denominator* of your estimate, not the numerator. For example, if you are estimating the percentage of physicians who are PCPs, you would use the table for all physicians (Table E.1), not the table specific to PCPs (Table E.2).

4.2.1. National Percentage Estimates

Tables E.1 through E.9 give approximate standard errors for percentage estimates at the national level based on the combined sample. These tables should be used for variables that are categorical or ordinal. To use these tables, you must have produced percentage estimates using any standard statistical package and the appropriate weight variable. You can obtain standard error estimates from each table for percentages based on the population of physicians or on any subset of the population represented in the table. If in your estimate you are subsetting to one of the 12 subgroups defined above (or to any subset within that subgroup), you would use the table specific to that subgroup whenever provided.

For example, if you are making a percentage estimate based on only female physicians, you would use the table for "all physicians" because there is no table specifically for females. If you are making a percentage estimate based on female internists or internists in general, you would use the table for "all PCP physicians" because there is no table specifically for percentage estimates of internists. For female pediatricians or pediatricians in general, you would use the table for "general pediatricians." Using the row associated with the unweighted sample size of the subset, you can obtain approximate standard errors for any weighted percentage estimates for that subset.[19]

Suppose you are interested in the national percentage of female PCP physicians who are board certified. We know that the unweighted number of female PCP physicians in the combined sample is 1,787 and that the estimated percentage (weighted) of female PCP physicians who are board certified nationally is about 83 percent. With this information in mind, you would go to the national table for PCP physicians (Table E.2) and find the row in which sample size is equal to 2,000 and the column in which the percentage is equal to 15 or 85 percent. The approximate standard error of this estimate would be 0.96 percent. Although the table is based on all PCP physicians, you can easily determine standard errors for a subset of PCP physicians (in this case, females) by using the row corresponding to the number of records for the PCP subset of interest.

4.2.2. National Mean Estimates of "Quasi-Continuous" Variables

While most of the variables on the file are categorical or ordinal, many correspond to responses expressed in terms of percentages; for example, PMCAID is the percentage of practice revenue from Medicaid. Because these responses are bounded by 0 and 100, we call the corresponding variables "quasi-continuous" and have produced standard error tables for their means separately from the means of other variables. Note that we are estimating a mean of a response that was expressed by each physician as a percentage; we are not estimating a percentage. Approximate standard errors for national estimates (based on the combined sample) of these variables are found in Tables E.10 through E.21.

Quasi-continuous variables on the file are PPATMN, PCTGATE, PMCARE, PMCAID, PCAPREV, PMC, PBIGCON, PCTINCN, PCTINCC, and the 12 Section E "vignette" variables representing percentages (variables beginning with the letter "V" and *not* ending with the letter "F").

These tables are used in the same manner as the tables for percentage estimates; that is, to use them, you must have produced mean estimates using any standard statistical package and the appropriate weight variable. From each table, you can obtain standard error estimates for means based on the population of physicians or on any subset of the population represented in the table. (Use appropriate subgroup-specific tables whenever provided.) Using the row associated with the unweighted sample size of the subset, you can obtain approximate standard errors for any weighted mean estimates for that subset.

[19]If estimates are expressed in terms of proportions, rather than percentages, simply move the decimal place for the estimate and the standard error in the table two digits to the left.

Standard errors for means greater than 80 are not in the tables because the highest mean value among the variables and subgroups used for modeling was 63.4. The precision of the model-based prediction decreases for estimates far outside the observed range.

4.2.3. National Mean Estimates of Continuous Variables

Tables E.22 through E.34 present national estimates (based on the combined sample) of most of the handful of continuous variables on the Restricted Use File that are not reports of percentages (see description of "quasi-continuous" variables above). Unlike the tables for percentage estimates and quasi-continuous mean estimates, these 13 tables present variable-specific estimates of standard errors and design effects for weighted mean estimates. Therefore, you do not need to have produced weighted mean estimates to use them.

Continuous variables represented in the tables include WKSWRKC, HRSMED, HRSPAT, HRFREE, NPHYS, NASSIST, and NMCCON. Other continuous variables on the file (other than identifiers, weights, and sampling variables) are BIRTH, GRAD_YR, NUMPR, YRBGN, and WKSWRK.

If you are working with any subset of physicians not specifically represented by one of the subgroup tables (for example, female physicians or foreign-graduate PCPs), you should first calculate the weighted mean for your subset of interest and then use one of the following formulas to estimate the logarithm of the relative standard error:[20]

$$\hat{R}_{phys-natl} = \log_{10}(RSE) = 0.024059 - 0.431868\log_{10}(n_u) - 0.088312\log_{10}(mean_w)$$
$$\hat{R}_{pcp-natl} = \log_{10}(RSE) = -0.101919 - 0.392692\log_{10}(n_u) - 0.095172\log_{10}(mean_w)$$
$$\hat{R}_{npcp-natl} = \log_{10}(RSE) = 0.357729 - 0.539722\log_{10}(n_u) - 0.111241\log_{10}(mean_w)$$

where n_u is the *unweighted* size of the subset and $mean_w$ is the *weighted* mean estimate. The first formula should be used for physician subsets not defined within PCPs or non-PCPs. The second formula should be used for subsets of PCPs, and the third formula should be used for subsets of non-PCPs. The standard error can then be approximated as:

$$\hat{SE}_{phys-natl} = mean_w \cdot 10^{\hat{R}_{phys-natl}}$$
$$\hat{SE}_{pcp-natl} = mean_w \cdot 10^{\hat{R}_{pcp-natl}}$$
$$\hat{SE}_{npcp-natl} = mean_w \cdot 10^{\hat{R}_{npcp-natl}}$$

Suppose you are estimating the mean number of managed care contracts among female PCPs in the U.S. There are 1,787 female PCPs in the sample, and the weighted mean number of managed care contracts among them is 10.35. Then $\hat{R}$ would be estimated as -1.476, and the standard error of this estimate would be approximately $10.35 \cdot 10^{-1.476} = .35$.

[20]The "relative standard error" is the standard error of an estimate divided by the estimate itself.

4.2.4. Site-Specific Percentage Estimates

Tables E.35 and E.36 give approximate standard errors for percentage estimates at the site level when the augmented site sample is used. Table E.35 is for estimates specific to high-intensity sites, and Table E.36 is for estimates specific to low-intensity sites. These tables are used in the same manner as the tables for national percentage estimates described above, except that there are no subgroup-specific tables.

For example, suppose you are interested in the standard error for the percentage of physicians in solo practice for the Boston site (one of the high-intensity sites). We know that the unweighted number of physicians in this Boston site is 651 and that the estimated percentage (weighted) of physicians in solo practice in Boston is about 25 percent. So, you would go to the high-intensity site table for physicians (Table E.35) and find the row in which sample size is equal to 650 and the columns in which the percentage equals 20 or 80 percent and 30 or 70 percent. You can interpolate the approximate standard error of this estimate, which would be about 1.7 percent.

4.2.5. Site-Specific Mean Estimates of "Quasi-Continuous" Variables

Tables E.37 through E.39 are used in the same manner as the tables for national "quasi-continuous" variable means described above. Table E.37 is for site-specific estimates (for either high- or low-intensity sites) based on all physicians or subsets not defined within PCPs or non-PCPs. Table E.38 is for site-specific estimates based on PCPs and subsets of PCPs, and Table E.39 is for site-specific estimates based on non-PCPs and subsets of non-PCPs.

4.2.6. Site-Specific Mean Estimates of Continuous Variables

For site-specific mean estimates (high- or low-intensity sites) of the handful of continuous variables on the Restricted Use File that are not reports of percentages (see description of "quasi-continuous" variables above), we present only formulas, rather than tables for mean estimates for each of the 60 sites. You should first calculate the weighted mean for the site as a whole or your subset of interest and then use one of the following formulas to estimate the logarithm of the relative standard error:

$$\hat{R}_{phys-site} = \log_{10}(RSE) = -0.400214 - 0.351726 \log_{10}(n_u) - 0.043766 \log_{10}(mean_w)$$
$$\hat{R}_{pcp-site} = \log_{10}(RSE) = -0.568010 - 0.282080 \log_{10}(n_u) - 0.074974 \log_{10}(mean_w)$$
$$\hat{R}_{npcp-site} = \log_{10}(RSE) = -0.231314 - 0.442631 \log_{10}(n_u) - 0.038840 \log_{10}(mean_w)$$

where n_u is the unweighted size of the site-specific subset, and $mean_w$ is the weighted mean estimate for the site. The first formula should be used for all physicians or physician subsets not defined within PCPs or non-PCPs. The second formula should be used for all PCPs or subsets of PCPs, and the third formula should be used for all non-PCPs or subsets of non-PCPs. The standard error can then be approximated as:

$$\hat{SE}_{phys-site} = mean_w \cdot 10^{\hat{R}_{phys-site}}$$
$$\hat{SE}_{pcp-site} = mean_w \cdot 10^{\hat{R}_{pcp-site}}$$
$$\hat{SE}_{npcp-site} = mean_w \cdot 10^{\hat{R}_{npcp-site}}$$

Suppose you are estimating the mean number of hours spent in direct patient care activities in the Boston site. There are 651 physicians in the Boston sample, and the weighted mean number of physicians in a practice among them is 42.25. Then $\hat{R}$ would be estimated as -1.46, and the standard error of this estimate would be approximately $42.25 \cdot 10^{-1.46} = 1.46$.

4.2.7. Additional Information on Using Standard Error Tables

If you are interested in analyzing a physician subgroup that is defined by crossing the characteristics specifically represented in the subgroup tables (for example, PCPs in a practice with low revenue from managed care, or solo practice pediatricians), you should choose the table specific to one of the defining characteristics and then use the row associated with the sample size defined by the other characteristic.

Because the models for subgroups defined by PCP/non-PCP (PCPFLAG), practice setting (PRCTYPE), and level of revenue from managed care (PMC) were roughly comparable in terms of their predictive ability, it will not matter much which of the two (or three) appropriate subgroup tables you choose. For example, for PCPs in a practice with low revenue from managed care, you can either look at the "all PCPs" table and use the row associated with the sample size of those in a practice with low revenue from managed care, or you can look at the "low revenue from managed care" table and use the row associated with the sample size of those who are PCPs.

However, the models based on specific specialty (defined by SPECX) were not as strong, so we suggest that you use tables specific to other characteristics if you are crossing specific specialty with other table-defined characteristics. For example, for solo practice pediatricians, you should look at the "solo or two-person practice" table and use the row associated with the sample size of those who are pediatricians, not the other way around.

4.3. Options for Calculating Variances

The tables in Appendix E are appropriate only for obtaining approximate estimates of standard errors for percentages, proportions, and means. But because design effects vary by variable and population subgroup, these tables do not provide optimal estimates of standard errors. Furthermore, they cannot be used for other kinds of estimates, such as regression coefficients, ratios, and weighted totals. The preferred alternative is to obtain standard errors for such estimates using specialized software. This kind of software is designed especially to handle estimators specific to survey data, that is, to accommodate sampling weights and sampling design features such as stratification and clustering.

Survey estimators tend to be nonlinear. These estimators include means and proportions when the denominator is estimated from the survey, as well as ratios, and correlation and regression

coefficients. In general, the variances of nonlinear statistics cannot be expressed in a closed form. Woodruff[21] suggested a procedure whereby a nonlinear estimator is linearized by a Taylor series expansion.

Most common statistical estimates and analysis tools (such as percentages, percentiles, and linear and logistic regression) can be implemented using Taylor series approximation methods. Survey data software, such as SUDAAN, uses the Taylor series linearization procedure and can handle the multistage design and joint inclusion probabilities in the CTS.

Other software packages (PC-CARP and STATA, for example) use the Taylor series approximations but do not account for the CTS design as completely as does SUDAAN. A major advantage of SUDAAN is that its estimation algorithm can incorporate a finite population correction factor that takes advantage of the high sampling rate of the site selection for CTS. SUDAAN does this by accounting for unequal selection probabilities and without replacement sampling.[22] Using survey packages that do not account for the finite population correction will produce somewhat higher variance estimates.

The alternative to the Taylor series approximations is a replication technique, such as balanced repeated replications, jackknife, or boot strapping. WESVAR uses replication techniques to estimate sampling errors[23] but does not incorporate the finite population correction, which is used for national estimates of sampling variances based on the site or combined sample. Again, failing to incorporate a finite population correction factor will overestimate the variance of estimates to some extent.

4.4. How to Specify the Sample Design for Specialized Software

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. Table 4.1 provides guidelines for which design variables to specify in SUDAAN statements for different types of estimates. (See Appendix D for sample SUDAAN code.) The information presented below can also help you understand what is contained in each of the design variables so that they can be used in other specialized software, if desired.

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

[21]Woodruff, R. S. (1971). "A Simple Method for Approximating the Variance of a Complicated Estimate." *Journal of the American Statistical Association*, vol. 66, 1971:, pp. 411-414.

[22]The capabilities of software packages are always expanding their capabilities in each new subsequent releases. Readers should check to see if their preferred package has added new features that might better accommodate their sample design.

[23]The latest version of SUDAAN also provides for replication techniques.

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 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. 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 or the site sample only, 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 in the above paragraph. 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.

As stated above, you must also specify the clustering variable(s) in the NEST statement. 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.

In the NEST statement, the first stage PSU variable is specified between the first- and second-stage stratification variables. For national estimates based on the combined sample or the site sample only, the first-stage PSU variable is PPSU. For metropolitan sites, PPSU represents the site.

For nonmetropolitan sites, PPSU is set to a constant. For these national estimates, it is also necessary to specify in the NEST statement a second-stage clustering variable (NFSU) after the second-stage stratification variable. For metropolitan sites, NFSU represents the physician; for nonmetropolitan sites, it represents the site.

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[24] 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.)

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 or on the site sample only, the TOTCNT statement is specified as PSTRTOT3 _ZERO_ NFRAME _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. The variable FRAME is as defined above. In the first occurrence of the variable _ZERO_, it means that the corresponding NEST variable (in this case, SECSTRA) is a stratification variable. In the second, _ZERO_ means it is a final level of sampling and therefore has no variance contribution.

For the national estimates based on the combined sample or on the site sample only, 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.

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 2,900) when running significance tests on national estimates based on the 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 D for examples using the DDF option.

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

TABLE 4.1 GUIDELINES FOR SPECIFICATION
OF DESIGN VARIABLES IN SUDAAN

SUDAAN Statements	Site-Specific Estimates	National Estimates (site sample only)	National Estimates (national supplement only)	National Estimates (combined sample)
DESIGN=	WOR	UNEQWOR	WR	UNEQWOR
NEST	SITEPCP FSU	PSTRATA PPSU SECSTRA NFSU	NSTRATA NFSU	PSTRATA PPSU SECSTRA NFSU
TOTCNT	FRAME _ZERO_	PSTRTOT3 _ZERO_ NFRAME _ZERO_	not applicable	PSTRTOT3 _ZERO_ NFRAME _ZERO_
JOINTPROB	not applicable	P1X P2X P3X P4X P5X P6X P7X	not applicable	P1X P2X P3X P4X P5X P6X P7X
WEIGHT	WTPHY1	WTPHY2	WTPHY3	WTPHY4
DDF=	not applicable	2,900	not applicable	2,900

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

4.5. SUDAAN Variables Used Only When Combining Round One Data with Data from Other Rounds

This user's guide provides instructions for analyses that use Physician Survey data only from Round One. However, with the availability of Round Two Physician Survey data as of 2001, it is possible to do analyses that combine Round One data with data from other rounds. Some SUDAAN variables on this file are useful *only* when combining Round One data with data from other rounds. Those variables are ASTRATA, APSU, ASECSTRA, AFSU, ASTRTOT, CASECTOT, AP1 – AP7, WTPHY5, and CNFRAME. For a description of when to use those variables, users should refer to the user's guides for the subsequent rounds of the Physician Survey, such as *Community Tracking Study Physician Survey Restricted Use File: User's Guide (Round Two),* HSC Technical Publication No. 27.

To do analyses using data from multiple rounds of the Physician Survey, users can simply follow the instructions in the user's guides from other rounds and need not read any further in this section unless they have specific questions about certain Round One SUDAAN variables.

Users may notice that certain new SUDAAN parameters added to Release 2 of this data file are the same as SUDAAN parameters with different names on the original data file release. The reason for including the same variables with different names is simply user convenience when combining Round One data with data from other rounds. For example, in the Round One data the variable WTPHY5, which is the weight recommended for making national estimates from the (augmented) site sample using Round One and Round Two data combined, is exactly the same as WTPHY2, which is the weight for making national estimates from the site sample. We intentionally made WTPHY5 the same as WTPHY2, although the reason for that requires some explanation. In Round One, we developed the weight WTPHY2 for making national estimates from the site sample (SUBGRP=A). In Round Two, we do not have WTPHY2. Instead, the weight that we developed for making national estimates using only people in the 60 sites was WTPHY5, which uses people in the augmented site sample (SUBGRP=A or C) instead of just the site sample (SUBGRP=A). Therefore, in order to make national estimates using only people in the sites when combining Round One and Round Two data, we have developed SUDAAN set-ups that use the Round One site sample and the Round Two augmented site sample. (In the Round Two User's Guide, estimates based on this approach are referred to simply as estimates from the augmented site sample.) Because the SUDAAN set-ups are easier if the weight variable from both rounds has the same name, we simply replicated WTPHY2 as WTPHY5 for the convenience of users.

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.[25] 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 annotated questionnaire and flowcharts provided in Appendix A and Appendix B of this manual 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 (YRBGN) was before his/her reported year of medical school graduation, GRAD_YR. 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).

Another type of logical edit occurred when a question that should have been asked according to the skip logic was not asked. For example, when a respondent said "-8: Don't Know" to physician vignette question E9 (V60MAN, For what percentage of such patients would you recommend a PSA test?), the follow-up question E9a (V60MANF, Would you recommend a PSA test rarely, sometimes, ...?) should have been asked. If for some reason question E9a was not asked in this situation (that is, if it had been coded as "-1: Inapplicable"), the response was recoded to "-9: Not Ascertained." Logical editing also included review and resolution of inconsistencies after data imputation was performed.

[25] 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.[26] Variables were selected for imputation according to their level of missing data and analytic importance. Table 5.1 lists the variables selected for imputation.

Most variables had few incidences of missing values (under 3 percent). The only exceptions are income (INCOMET) and several variables from Section G: Practice Revenue that had nonresponse rates as high as 15 percent. The Section G variables are: percent managed care (PMC), number of managed care contracts (NMCCON), percent of revenue from Medicare (PMCARE) and Medicaid (PMCAID), percent of revenue from largest managed care contract (PBIGCON), and percent of revenue paid on prepaid or capitated basis (PCAPREV). The continuous income variable had the highest nonresponse rate at 16 percent, but we incorporated categorical responses for income into the imputation, allowing for more precise imputation. An imputation flag is included for all 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 it at $400,000.

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. These verbatim responses are excluded from the Restricted Use File. Many of these 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. Other ownership and employment arrangement variables were recoded on the basis of verbatim responses, including C3a:OTHSET, C3b:EMPTYP, C5B:HSPPAR, C5D:ORGPAR, and C6:ORGC_1 through ORGC_12.

[26] 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 age, gender, and education. (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.

TABLE 5.1

VARIABLES SELECTED FOR IMPUTATION

Description	Variable Name
Section A:	
Multiple practice	MULTPR
Section B:	
Weeks worked	WKSWRKC
Hours worked in medical activities, patient care, and charity	HRSMED, HRSPAT, HRFREE
Section C:	
Acquired practice	ACQUIRD
Ownership status	OWNPR
Number of physicians and assistants	NPHYS, NASSIST
Section D:	
Percent of patients for whom physician is a gatekeeper	PCTGATE
Section F:	
Accepting Medicare patients	NWMCARE
Accepting Medicaid patients	NWMCAID
Accepting privately insured patients	NWPRIV
Section G:	
Percent Medicare patients	PMCARE
Percent Medicaid patients	PMCAID
Percent capitated revenue	PCAPREV
Number of managed care contracts	NMCCON
Largest contract paid on capitated basis	CAPAMTC
Percent of practice revenue from managed care	PMC
Percent of practice revenue from largest managed care contract	PBIGCON
Section H:	
Risk adjustment of profiles	RADJ
Percent income from bonuses	PCTINCC
Income	INCOMET

5.2. Constructed Variables

Constructed variables include the following:

- Weights and other sampling variables
- Other variables constructed for analytical value. These range from relatively straightforward variables that combine one or more original question items for the convenience of analysts (e.g., BDCERT, the certification or eligibility status of a physician that was constructed from four survey questions: A11, A13, A15, and A17) to more complex variables such as PMC, percent managed care revenue (and the other practice revenue variables from Section G of the survey), that is constructed from survey questions G6-G11 and is then edited for consistency with the other practice revenue variables in the survey.

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, and in Table 5.2 for additional background on some of the more complex constructions.

See Chapter 6 for a discussion of missing value codes for weights and sampling variables.

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, geographic indicators (including the site identifiers), 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.

SITEID identifies the physician's practice location. A value of 0 indicates that the physician's practice location is outside of the 60 sites. (This group of 1,054 physicians includes 429 physicians originally selected in the 60-site sample but whose practice turned out to be located somewhere other than within the boundaries of the sites, and 625 physicians selected in the supplemental sample whose practice was located outside the 60 sites.) Values 1 to 60 indicate those with a practice location within one of the 60 sample sites. This group of 11,474 physicians includes 10,881 from the original 60-site sample plus 593 from the supplemental sample whose practice location fell within the geographic boundaries of the 60 sites. (See Chapter 2 for a discussion of the CTS site sample and Figure 2.1 for a graphical view of the site and supplemental samples.)

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 is based on population counts for the Metropolitan Statistical Area (MSA) in which the physician practices.

The American Medical Association (AMA) and the American Osteopathic Association (AOA) provided some demographic information when they formed the sample frame. This information

includes: DOCTYP (MD or Osteopath); IMGSTAT and IMGUSPR (foreign medical school graduate); GRAD_YR (year graduated from medical school); GENDER; BIRTH; and AMAPRIM (the frame definition of primary care physician).

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.

TABLE 5.2

ADDITIONAL INFORMATION ON SURVEY QUESTIONS
(by Questionnaire Section)

Variable	Additional Information
Section A Variables: Introduction	
YRBGN	Question A6 asks for the year that the physician began medical practice. Examination of certain responses to this question indicated 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 number of years in practice (initial response to YRBGN). For physicians who did not respond to this question or for whom medical school graduation year occurred after the reported value for YRBGN, YRBGN was reset to GRAD_YR + 3 for primary care physicians and GRAD_YR + 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. YRBGN was converted to a 4-digit year by adding 1900 to the value for YRBGN.

TABLE 5.2, continued

ADDITIONAL INFORMATION ON SURVEY QUESTIONS
(by Questionnaire Section)

Variable	Additional Information
Section A Variables: Introduction (continued)	
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 (NWSPEC) A10 (SUBSPC) A9 (GENSUB) A9a (SIPNPED) A9b (SIPPED) PCPFLAG=1 if the physician's specialty (NWSPEC or SUBSPC) 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 (NWSPEC or SUBSPC) is one of the following: Internal Medicine(042) Pediatrics (088) Internal Med-Pediatrics (137) AND the physician spends most of his/her time in this specialty (i.e., GENSUB, A9=1) OR if the physician is an adult specialist and spends more time practicing general internal medicine than practicing his/her subspecialty (A9a, SIPNPED=2 or 3) OR if the physician is a pediatric specialist and spends more time practicing general pediatrics than practicing his/her subspecialty (A9b, SIPPED=2 or 3) PCPFLAG is the survey definition for primary care physicians. 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, continued

ADDITIONAL INFORMATION ON SURVEY QUESTIONS
(by Questionnaire Section)

<table>
<tr><th>Variable</th><th>Additional Information</th></tr>
<tr><td colspan="2">Section A Variables: Introduction (continued)</td></tr>
<tr><td>SPECX</td><td>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.

1: Internal Medicine
042: Internal medicine
043: Geriatric medicine
085: Adolescent 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

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/General Practice
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
128: Critical Care-Medicine
136: Hematology & Oncology
144: Pediatric Emergency Medicine
145: Pediatric Infectious Diseases
147: Pulmonary-Critical Care
150: Spinal Cord Injury
155: Osteo Manipulative Treat +1
156: Spec Prof in Osteo Manip Med
157: Sports Medicine-OMM
158: Osteo Manipulative Medicine
159: Proctology</td></tr>
</table>

TABLE 5.2, continued

ADDITIONAL INFORMATION ON SURVEY QUESTIONS
(by Questionnaire Section)

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

TABLE 5.2, continued

ADDITIONAL INFORMATION ON SURVEY QUESTIONS
(by Questionnaire Section)

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.
Section C Variables: Type and Size of Practice	
TOPOWNC, TOPEMPC	TOPOWNC and TOPEMPC are constructed variables that are corrected versions of survey questions C2 (TOPOWN), type of ownership and C3 (TOPEMP), type of employment. Both variables are "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 and TOPEMPC were set equal to "9: Group model HMO."
TOPEMPA	TOPEMPA is a constructed variable that combines the responses of TOPEMPC and 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

TABLE 5.2, continued

ADDITIONAL INFORMATION ON SURVEY QUESTIONS
(by Questionnaire Section)

Variable	Additional Information
Section C Variables: Type and Size of Practice (continued)	
PRCTYPE	PRCTYPE is a constructed variable that summarizes the type of practice in which the physician works. It combines information about ownership and employment. It 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 govt AND OTHSET(C3a) =hospital 6:Other — All other responses Note that physicians who work for a state or local government hospital are classified as "Hospital-based" in PRCTYPE but as "Other" in TOPEMPA.
ORGC_1 through ORGC_12	These are a series of constructed variables that represent each of the 12 categories in question C6, types of organizations that have an ownership interest 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 each of these 9 variables to create ORGC_1 through ORGC_12. For example, if C6a=7: physician practice management or other for profit, then ORGC_7=1.

TABLE 5.2, continued

ADDITIONAL INFORMATION ON SURVEY QUESTIONS
(by Questionnaire Section)

Variable	Additional Information
Section E Variables: Vignettes	
VCHOL, VCHOLF through VECZEM, VECZEMF	The vignette questions were asked of primary care physicians. A small error in the CATI skip logic resulted in some physicians (those who specified that they were primary care physicians through question SUBSPC [A10]) not being asked these questions. The first six questions (VCHOL, VHYPER, VCHEST, VBACK, V60MAN, VVITCH) are questions geared toward treating adults. The last six questions (VENUR, VTHRT, VCOUGH, VSUPOT, V6FEVR, VECZEM) are questions geared toward treating children. If a physician treats adults only, he/she was asked the first six questions. If a physician is a pediatrician or a general primary care physician who treats only children, then he/she was asked the last six questions. If the physician treats both adults and children, then he/she was asked six questions--three adult vignette questions and three child vignette questions--that were chosen randomly from each group of six questions. The expected response to each vignette question is a percentage (For what percentage of your patients would you recommend...?). If the physician responded "-8: Don't Know" to the vignette question, he/she was then asked a follow-up question that categorized the response into general categories (6: Always, 5: Almost always, 4: Frequently, 3: Sometimes, 2: Rarely, or 1: Never). Physicians who responded "1: Never" to a follow-up question were assigned a "0" value in the vignette variable. Similarly, physicians responding "6: Always" were coded "100" in the vignette question. All of the follow-up question variable names end in "F."

TABLE 5.2, continued

ADDITIONAL INFORMATION ON SURVEY QUESTIONS
(by Questionnaire Section)

Variable	Additional Information
Section G Variables: Practice Revenue	
PCAPREV	PCAPREV is a constructed variable indicating the percentage of the practice's total patient care revenue paid on a capitated or other prepaid basis. PCAPREV is constructed from responses to: G3, G8c, and G8g (questions that asked about the percentage of practice revenue paid on a capitated or other prepaid basis). Post-imputation edits were performed on this variable as follows: a. 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. b. 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** PMC = PBIGCON (i.e., percent managed care revenue=percent revenue from largest managed care contract); **AND** CAPAMTC (amount of capitated revenue)="4, All"; **AND** PCAPREV was 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 that was obtained from managed care. PMC is constructed from responses to: G7, G8, G8b, G8f, G9a, and G9d (questions that asked about the 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.

TABLE 5.2, continued

ADDITIONAL INFORMATION ON SURVEY QUESTIONS
(by Questionnaire Section)

Variable	Additional Information
Section G Variables: Practice Revenue (continued)	
PBIGCON	PBIGCON is a constructed variable that is the percentage of the practice's revenue obtained from the practice's largest managed care contract. PBIGCON is constructed from responses to: G9, G9b, and G9e (questions that asked about the percentage of practice revenue coming from the largest managed care contract). PBIGCON was edited for consistency as follows: a. If NMCCON (number of managed care contracts)=0, then PBIGCON was set equal to -1: Inapplicable. If there are no managed care contracts, then the question asking about any practice revenue coming from the largest contract is not applicable. b. If PMC (percentage of managed care revenue)=0, then PBIGCON was set equal to - 1: Inapplicable. If there is no managed care revenue, then the question about practice revenue from the largest contract is not applicable. c. If PMC>0 and NMCCON=1, then PBIGCON was set equal to PMC. If there is managed care revenue coming from one contract only, then the practice revenue coming from the largest contract is equal to all of the managed care revenue for the practice. d. If PMC>0 and PBIGCON=0, then PBIGCON was imputed. If the physician indicated that there was managed care revenue, but there was no revenue coming from the largest contract, then we imputed the value for PBIGCON. e. If PMC>0 and NMCCON>0 and PBIGCON=1: Inapplicable, then PBIGCON was imputed. If there is managed care revenue and at least one managed care contract, and if the physician's responses to the PBIGCON questions were logically skipped, then we imputed the value for PBIGCON. f. If PMC=0 and NMCCON>0 and PBIGCON=1: Inapplicable, then PBIGCON was set to equal 0. If there is at least one managed care contract, but no managed care revenue, and if the physician's responses to the PBIGCON questions were logically skipped, then the percentage of revenue coming from the largest managed care contract is 0. (Even though there are contracts, there is no revenue associated with them.) In addition, a post-imputation edit was performed: g. If PMC<PBIGCON and PBIGCON was imputed, then PBIGCON was set to be equal to PMC. If the percentage of practice revenue coming from the largest contract is greater than the total amount of managed care revenue from the contract (as a result of imputing PBIGCON), then the revenue from the largest contract is set equal to all of the managed care revenue.

TABLE 5.2, continued

ADDITIONAL INFORMATION ON SURVEY QUESTIONS
(by Questionnaire Section)

Variable	Additional Information
Section G Variables: Practice Revenue (continued)	
CAPAMTC	CAPAMTC is a constructed variable that is an edited version of question G11 (how much of practice revenue from the largest managed care contract is paid on a capitated or prepaid basis?). It was edited from the original value as follows: a. If there is no managed care revenue or if there are no managed care contracts, then CAPAMTC was set to be equal to -1: Inapplicable. b. If there is managed care revenue and if the physician indicates that all of it is capitated (from question G8d or PMC=PCAPREV), then CAPAMTC was set to be equal to 4: All. c. If there is managed care revenue (PMC>0) but no capitated revenue (PCAPREV=0), then CAPAMTC was set to be equal to 1: None. d. If there is one managed care contract (NMCCON=1) and all of the managed care revenue comes from that one contract and this revenue is all capitated revenue (PCAPREV=PBIGCON=PMC), then CAPAMTC was set to be equal to 4: All.
Section H Variables: Physician Compensation Methods and Income Level	
PCTINCC	PCTINCC is a constructed variable that is an edited version of question H9 (PCTINCN, percentage of 1995 income coming from bonuses). It is edited as follows: a. Physicians starting practice after 1995 are assigned a value of -1: Inapplicable. b. Physicians who responded "0: No" to H9a (EBONUS, eligible for bonuses in 1995) 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 Restricted Use File contains 12,528 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, geographic indicators, 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
- Weights and sampling variables

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

File name:	CTSR1PR2.TXT
Number of observations:	12,528
Number of variables:	197
Logical record length:	608 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 (608). If RECFM=F is used, the LRECL value must be specified as the logical record length plus two (610). 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 (608). When you are converting to an SPSS file, used 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. Names were limited to seven characters so that additional indicators could be used in subsequent Restricted Use File releases. 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" instead of "_" 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.

- ***Correction Variables***. Certain survey variables were "corrected" or edited for accuracy. These variable names end in a "C." For example, PCTINCC is the corrected version of survey variable PCTINCN (Percent income from bonuses). To "correct" it, we set all values for physicians who started practice in 1996 or later to "-1: Inapplicable." For physicians who were not eligible for a bonus in 1995 (EBONUS=0), the value of PCTINCC was also set to "-1: Inapplicable."

- ***Weights.*** The prefix "WT" is used for all weight variable names.

- ***Masked Variables***. Names of variables that were masked for confidentiality reasons end with the value "X."[27] 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. Sampling variables P1X-P7X are exceptions to this rule. These variables end in "X" for reasons other than masking.

A copy of the data collection instrument annotated with the names of those variables that directly correspond to a single question is provided in Appendix A.

[27] The one masked variable that doesn't end in "X" is INCOMET. The reason is to distinguish it from INCOMEX in the public use file, which has more masking than INCOMET.

6.3. Variable Coding Conventions

The following coding conventions are used on the file:

-1 Inapplicable[28]	Question was not asked because of skip pattern.[29]
-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.

[28]Weight variables WTPHY1-WTPHY3 and WTSITE have a value of "0" for "inapplicable." Sampling variable FRAME has a value of "-2" for "inapplicable." (For sampling variables FRAME and NFRAME, "-1" is a reserved value in SUDAAN, indicating with-replacement sampling.)

[29]For all the weights and sampling variables, "inapplicable" has to do with the sample characteristics, rather than skip patterns.

REFERENCES

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Appendix A

The CTS Physician Survey Instrument

Round One

HARD COPY REQUIRED

CRT

FINANCE,PHY30865
F865

FIELD FINAL - AUGUST 12, 1996

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

**AREA CODE AND TELEPHONE NUMBER: ( )_____ _____ _____ (32 - 41)

**INTERVIEW TIME: ---------- _____ _____ (42) (43)

SPECIALTY: **(Code from fone file)

_____ _____ _____ _____ (570) (571) (572)

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		

_____ _____ (16) (17)

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)**

DOCTYP

1 DO
2 MD _____(780)

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

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

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

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

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

High intensity
01-
12
Low intensity
13-
60
National Sample
00 _____ _____
(626) (627)

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

ZIP

_____ _____ _____ _____ _____ _____
(21) (22) (23) (24) (25)

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 20-25 minutes and we are providing an honorarium of $25 as a small token of our appreciation to each physician who completes an interview. 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.

1 Available - **(Skip to #A1)**

2 Not available - **(Set time to call back)**

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

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

5 Non-respondent hard refusal - **(Skip to S13)**

6 Physician soft refusal - **(Skip to S13)**

7 Physician hard refusal - **(Skip to S13)**

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

9 Other - **(Skip to S13)** _____(512)

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 -
(READ:) I am sorry to have bothered you. - **(Reset to "INTRO")**

3 (DK) **(Thank and Terminate; Skip to S11)**
4 (Refused) **(Thank and Terminate; Skip to S11)** _____(918)

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) _____(919)

S9. **(If code "2-4" 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)** _____(920)

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

WORK PHONE NUMBER: _____ _____ (921 - 930)

HOME PHONE NUMBER: _____ _____ (941 - 950)

STREET ADDRESS: _____ _____ (1512-1551)

CITY: _____ _____ (1131-1160)

STATE: _____ _____ (931) (932)

ZIP CODE: _____ _____ (933 - 937)

**(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)**

S11. **(If code "1", "3" or "4" in S7 OR If code "8" in "INTRO" OR If code "1", "3" or "4" in S9 OR If "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)**

(New city; New street address)

(Name from fone file)

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

2 No number/match - **(Thank and Terminate; Save Case ID)**_____(1161)

S12 NEW PHONE NUMBER: **(FORCE 10 DIGITS)**

_____ _____
_____ (1162-1171)

(All in S12, call new number and reset to "INTRO")

S13. VERBATIM SCREEN: Describe what happened on this call in as much detail as possible.

_____ _____
_____ (1172)(1173

CLOCK: (2812-2815)

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?

1 Yes - **(Continue)**

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

8 (DK) **(Thank and Terminate)**
9 (Refused) **(Thank and Terminate)** _____(513)

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

A2. Are you currently a resident or fellow?

1 Yes - **(Continue)**

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

8 (DK) **(Thank and Terminate)**
9 (Refused) **(Thank and Terminate)** _____(514)

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

A3. During a TYPICAL week, do you provide direct patient care for at least 20 hours a week? **(If necessary, read:)** Direct patient care includes seeing patients and performing surgery. **(If necessary, read:)** 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 #A4)**

2 No - **(Continue)**

8 (DK) **(Thank and Terminate)**
9 (Refused) **(Thank and Terminate)** _____(515)

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

A4. Do you currently provide patient care in one practice, or more than one practice? **(If necessary, read:)** 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.)**

MULTPR

1 One - **(Skip to "Note" before #A5)**

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

8 (DK) **(Skip to "Note" before #A5)**
9 (Refused) **(Skip to "Note" before #A5)** _____(516)

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

NUMPR

DK (DK)
RF (Refused)

_____ _____
_____ (517) (518)

(If code "00" in "SITE", Skip to #A5a1; Otherwise, Continue)

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

1 Yes - **(Skip to #A6)**

2 No **(Continue)**
8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____(1174)

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

DK (DK)
RF (Refused)

COUNTY:
_____ _____
_____ (1434-1458)

STATE:
_____ _____
_____ (1459)(1460)

A5a1 **(If code "00" in "SITE", ask:)** We'd like you to think about the practice location at which you spend the greatest amount of time in direct patient care. In what county and state is the practice located? (Open ended) **(VERIFY SPELLING)**

DK (DK)
RF (Refused)

COUNTY:

_____ _____
_____ (1434-1458)

STATE:

_____ _____
_____ (1459)(1460)

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 last two digits of year)**

YRBGN

98 (DK)
99 (Refused)

_____ _____
_____ (523) (524)

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

1 Yes - **(Autocode "SPECIALTY" in #A8)**

2 No - **(Continue)**

8 (DK) **(Thank and Terminate)**
9 (Refused) **(Thank and Terminate)** _____(525)

A8. **(If code "2" in #A7, ask:)** What is your primary specialty? **(If necessary, read:)** 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 codable response)**

NWSPEC

(If code "2" in S1 [MD-AMA LIST])

001	Allergy	(A)
133	Adolescent Medicine	(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	(AMI)
006	Anesthesiology	(AN)
007	Pain Management	(APM)
026	Abdominal Surgery	(AS)
103	Anatomic Pathology	(ATP)
104	Bloodbanking/Transfusion Medicine	(BBK)
049	Clinical Biochemical Genetics	(CBG)
008	Critical Care Medicine (Anesthesiology)	(CCA)
050	Clinical Cytogenetics	(CCG)
128	Critical Care Medicine	(CCM)
086	Critical Care Pediatrics	(CCP)
027	Critical Care Surgery	(CCS)
009	Cardiovascular Diseases (Cardiology)	(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 (Thoracic Surgery)	(CTS)
012	Dermatology	(D)
013	Clinical & Laboratory Dermatological Immunology	(DDL)
035	Diabetes	(DIA)
106	Dermatopathology	(DMP)
014	Diagnostic Radiology	(DR)
015	Emergency Medicine	(EM)
036	Endocrinology & Metabolism	(END)
016	Sports Medicine	(ESM)
140	Medical Toxicology (Emergency Medicine)	(ETX)
018	Forensic Pathology	(FOP)
019	Family Practice	(FP)
020	Geriatric Medicine	(FPG)
078	Facial Plastic Surgery	(FPS)
021	Sports Medicine	(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)

A8. (Continued:)

038	Hepatology	(HEP)
107	Hematology Pathology	(HMP)
030	Head & Neck Surgery	(HNS)
136	Hematology/Oncology	(HO)
070	Hand Surgery	(HSO)
101	Hand Surgery	(HSP)
031	Hand Surgery	(HSS)
039	Cardiac Electrophysiology	(ICE)
040	Infectious Diseases	(ID)
004	Immunology	(IG)
041	Clinical & Laboratory Immunology	(ILI)
042	Internal Medicine	(IM)
043	Geriatric Medicine	(IMG)
044	Sports Medicine	(ISM)
129	Legal Medicine	(LM)
138	Medical Management	(MDM)
063	Maternal & Fetal Medicine	(MFM)
053	Medical Genetics	(MG)
108	Medical Microbiology	(MM)
137	Internal Medicine/Pediatrics	(MPD)
099	Public Health & General Preventive Medicine	(MPH)
056	Neurology	(N)
058	Critical Care Medicine (Neurosurgery)	(NCC)
045	Nephrology	(NEP)
057	Nuclear Medicine	(NM)
109	Neuropathology	(NP)
087	Neonatal/Perinatal Medicine (Neonatology/Perinatology)	(NPM)
117	Nuclear Radiology	(NR)
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)
080	Otolaryngology	(OTO)
077	Orthopedic Trauma	(OTR)
082	Psychiatry	(P)
130	Clinical Pharmacology	(PA)
147	Pulmonary Critical Care Medicine	(PCC)
110	Chemical Pathology	(PCH)
111	Cytopathology	(PCP)
088	Pediatrics	(PD)
089	Pediatric Allergy	(PDA)

A8. (Continued:)

098	Pediatric Cardiology	(PDC)
090	Pediatric Endocrinology	(PDE)
145	Pediatric Infectious Diseases	(PDI)
081	Pediatric Otolaryngology	(PDO)
091	Pediatric Pulmonology	(PDP)
118	Pediatric Radiology	(PDR)
032	Pediatric Surgery	(PDS)
139	Medical Toxicology (Pediatrics)	(PDT)
144	Pediatric Emergency Medicine	(PE)
017	Pediatric Emergency Medicine	(PEM)
135	Forensic Psychiatry	(PFP)
092	Pediatric Gastroenterology	(PG)
093	Pediatric Hematology/Oncology	(PHO)
112	Immunopathology	(PIP)
094	Clinical & Laboratory Immunology	(PLI)
143	Palliative Medicine	(PLM)
100	Physical Medicine & Rehabilitation	(PM)
142	Pain Medicine	(PMD)
095	Pediatric Nephrology	(PN)
146	Pediatric Opthalmology	(PO)
113	Pediatric Pathology	(PP)
096	Pediatric Rheumatology	(PPR)
102	Plastic Surgery	(PS)
097	Sports Medicine (Pediatrics)	(PSM)
114	Anatomic/Clinical Pathology	(PTH)
141	Medical Toxicology (Preventive Medicine)	(PTX)
116	Pulmonary Diseases	(PUD)
083	Psychoanalysis	(PYA)
084	Geriatric Psychiatry	(PYG)
119	Radiology	(R)
067	Reproductive Endocrinology	(REN)
048	Rheumatology	(RHU)
115	Radioisotopic Pathology	(RIP)
120	Neuroradiology	(RNR)
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)
034	Vascular Surgery	(VS)

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

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

_____ (526) _____ (527) _____ (528)

(If code "1" in S1 [DO-AOA LIST])

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
010	Pediatric Psychiatry	CHP
010	Pediatric Psychiatry	PDP
011	Colon & Rectal Surgery	CRS
012	Dermatology	D
014	Diagnostic Radiology	DR
015	Emergency Medicine	EM
015	Emergency Medicine	EMS
015	Emergency Medicine	FEM
015	Emergency Medicine	IEM
016	Sports Medicine (Emergency Medicine)	ESM
017	Pediatric Emergency Medicine	PEM
018	Forensic Pathology	FOP
019	Family Practice	FP
019	Family Practice	UFP
020	Geriatrics-General or Family Practice	GFP
020	Geriatrics-General or Family Practice	GGP
021	Sports Medicine-Family or General Practice	SFP
021	Sports Medicine-Family or General Practice	SGP
022	Gastroenterology	GE
023	General Practice	GP
024	Preventive Medicine	PVM
025	Undersea Medicine	UM
026	Abdominal Surgery	AS
027	Critical Care-Surgery or Trauma	CCS
027	Critical Care-Surgery or Trauma	CCT
028	Other Specialty	OS
029	Surgery-General	S
030	Head & Neck Surgery	HNS
031	Hand Surgery	HS
031	Hand Surgery	HSS
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

A8. (Continued:)

042	Internal Medicine	IP
043	Geriatrics-Internal Medicine	GER
043	Geriatrics-Internal Medicine	GIM
044	Sports Medicine	ISM
044	Sports Medicine	PMS
044	Sports Medicine	RMS
044	Sports Medicine	SM
045	Nephrology	NEP
046	Nutrition	NTR
047	Oncology	ON
048	Rheumatology	RHU
050	Clinical Cytogenetics	CCG
051	Clinical Genetics	CG
053	Medical Genetics	IMG
054	Pediatric or Child Neurology	CHN
054	Pediatric or Child Neurology	PDN
055	Clinical Neurophysiology	CN
056	Neurology	N
056	Neurology	NMD
056	Neurology	NP
056	Neurology	NPN
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
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
081	Pediatric Otolaryngology	PDO
082	Psychiatry	P

A8. (Continued:)

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
091	Pediatric Pulmology Medicine	PDX
092	Pediatric Gastroenterology	PG
093	Pediatric Hematology-Oncology	PHO
094	Pediatric Diag Lab Immunology	PLI
095	Pediatric Nephrology	PNP
096	Pediatric Rheumatology	PPR
097	Sports Medicine - Pediatrics	PSM
098	Pediatric Cardiology	PDC
099	Preventive Medicine/Epidemiology/Public Health	EPI
099	Preventive Medicine/Epidemiology/Public Health	OE
099	Preventive Medicine/Epidemiology/Public Health	PH
099	Preventive Medicine/Epidemiology/Public Health	PHP
100	Physical Medicine & Rehabilitation	IAR
100	Physical Medicine & Rehabilitation	PDR
100	Physical Medicine & Rehabilitation	PM
100	Physical Medicine & Rehabilitation	RM
101	Hand Surgery-Plastic Surg	HSP
102	Plastic Surgery	OOP
102	Plastic Surgery	PLR
103	Anatomic Pathology	AP
104	Blood Banking-Transfusion Medicine	BBT
104	Blood Banking-Transfusion Medicine	LBM
105	Clinical Pathology	CLP
106	Dermatopathology	DPT
107	Hematology-Pathology	HEP
108	Medicine Microbiology	MMB
109	Neuropathology	NPT
110	Chemical Pathology	CP
111	Cytopathology	CY
112	Immunopathology	IPT
113	Pediatric Pathology	PP
114	Anatomic/Clinical Pathology	APL
114	Anatomic/Clinical Pathology	PTH
115	Radioisotopic Pathology	RIP
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/Thoracic Cardiovascular Surgery	CVS

A8. (Continued:)

124	Cardiovascular/Thoracic Cardiovascular Surgery	TS
125	Urology	U
125	Urology	URS
126	Pediatric Urology	UP
127	Addictive Diseases	ADD
128	Critical Care-Medicine	CCM
129	Legal Medicine	LM
130	Clinical Pharmacology	PA
131	Unknown Blank	
133	Adolescent Medicine	ADL
134	Orthopedic Foot & Ankle Surg	OFA
135	Forensic Psychiatry	FPS
136	Hematology & Oncology	HEO
137	Internal Med-Pediatrics	IPD
139	Toxicology	TX
142	Psychosomatic Medicine	PYM
145	Pediatric Infectious Diseases	PID
146	Pediatric Ophthalmology	PO
147	Pulmonary-Critical Care	PUC
153	MOHS Micrographic Surgery	DMS
154	Hair Transplant	HT
155	Osteo Manipulative Treat +1	OM1
156	Spec Prof in Osteo Manip Med	OMM
157	Sports Medicine - OMM	OMS
158	Osteo Manipulative Medicine	OMT
159	Proctology	PR
160	Internship	IN
161	Retired	RET
162	Transitional Year	TY
209	Nuclear Cardiology	NC
997	Other (list) - **(USE VERY SPARINGLY; Thank and Terminate)**	
998	(DK) **(Thank and Terminate)**	
999	(Refused) **(Thank and Terminate)**	

	(526)	(527)	(528)

(If code "003", "005-007", "013-014", "018", "025", "028", "057", "099", "103-115", "117-123", "129-131", "135", "138-143", "148-149", "160-162" or "209" in #A8, 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 "042", "088" or "137" 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" or "147" in #A8, Skip to #A9a;
If code "017", "049-054", "063", "086-087", "089-094", "095-098", "133" or "144-145" in #A8, Skip to #A9b;
Otherwise, Skip to #A15)

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

GENSUB

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

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

8 (DK) **(Skip to #A15)**
9 (Refused) **(Skip to #A15)** _____(529)

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

SIPNPED

1 Subspecialty
2 General internal medicine (or general family practice)
3 General pediatrics
8 (DK)
9 (Refused) _____(1280)

(All in #A9a, Skip to #A15)

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

SIPPED

1 Subspecialty
2 General internal medicine (General Family Practice)
3 General pediatrics
8 (DK)
9 (Refused) _____(877)

(All in #A9b, Skip to #A15)

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

SUBSPC

(If code "2" in S1 [MD-AMA LIST])

001	Allergy	(A)
133	Adolescent Medicine	(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	(AMI)
006	Anesthesiology	(AN)
007	Pain Management	(APM)
026	Abdominal Surgery	(AS)
103	Anatomic Pathology	(ATP)
104	Bloodbanking/Transfusion Medicine	(BBK)
049	Clinical Biochemical Genetics	(CBG)
008	Critical Care Medicine (Anesthesiology)	(CCA)
050	Clinical Cytogenetics	(CCG)
128	Critical Care Medicine	(CCM)
086	Critical Care Pediatrics	(CCP)
027	Critical Care Surgery	(CCS)
009	Cardiovascular Diseases (Cardiology)	(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 (Thoracic Surgery)	(CTS)
012	Dermatology	(D)
013	Clinical & Laboratory Dermatological Immunology	(DDL)
035	Diabetes	(DIA)
106	Dermatopathology	(DMP)
014	Diagnostic Radiology	(DR)
015	Emergency Medicine	(EM)
036	Endocrinology & Metabolism	(END)
016	Sports Medicine	(ESM)
140	Medical Toxicology (Emergency Medicine)	(ETX)
018	Forensic Pathology	(FOP)
019	Family Practice	(FP)
020	Geriatric Medicine	(FPG)
078	Facial Plastic Surgery	(FPS)
021	Sports Medicine	(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)

A10. (Continued:)

038	Hepatology	(HEP)
107	Hematology Pathology	(HMP)
030	Head & Neck Surgery	(HNS)
136	Hematology/Oncology	(HO)
070	Hand Surgery	(HSO)
101	Hand Surgery	(HSP)
031	Hand Surgery	(HSS)
039	Cardiac Electrophysiology	(ICE)
040	Infectious Diseases	(ID)
004	Immunology	(IG)
041	Clinical & Laboratory Immunology	(ILI)
042	Internal Medicine	(IM)
043	Geriatric Medicine	(IMG)
044	Sports Medicine	(ISM)
129	Legal Medicine	(LM)
138	Medical Management	(MDM)
063	Maternal & Fetal Medicine	(MFM)
053	Medical Genetics	(MG)
108	Medical Microbiology	(MM)
137	Internal Medicine/Pediatrics	(MPD)
099	Public Health & General Preventive Medicine	(MPH)
056	Neurology	(N)
058	Critical Care Medicine (Neurosurgery)	(NCC)
045	Nephrology	(NEP)
057	Nuclear Medicine	(NM)
109	Neuropathology	(NP)
087	Neonatal/Perinatal Medicine (Neonatology/Perinatology)	(NPM)
117	Nuclear Radiology	(NR)
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	Opthalmology	(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)
080	Otolaryngology	(OTO)
077	Orthopedic Trauma	(OTR)
082	Psychiatry	(P)
130	Clinical Pharmacology	(PA)
147	Pulmonary Critical Care Medicine	(PCC)
110	Chemical Pathology	(PCH)
111	Cytopathology	(PCP)
088	Pediatrics	(PD)
089	Pediatric Allergy	(PDA)

A10. (Continued:)

098	Pediatric Cardiology	(PDC)
090	Pediatric Endocrinology	(PDE)
145	Pediatric Infectious Diseases	(PDI)
081	Pediatric Otolaryngology	(PDO)
091	Pediatric Pulmonology	(PDP)
118	Pediatric Radiology	(PDR)
032	Pediatric Surgery	(PDS)
139	Medical Toxicology (Pediatrics)	(PDT)
144	Pediatric Emergency Medicine	(PE)
017	Pediatric Emergency Medicine	(PEM)
135	Forensic Psychiatry	(PFP)
092	Pediatric Gastroenterology	(PG)
093	Pediatric Hematology/Oncology	(PHO)
112	Immunopathology	(PIP)
094	Clinical & Laboratory Immunology	(PLI)
143	Palliative Medicine	(PLM)
100	Physical Medicine & Rehabilitation	(PM)
142	Pain Medicine	(PMD)
095	Pediatric Nephrology	(PN)
146	Pediatric Opthalmology	(PO)
113	Pediatric Pathology	(PP)
096	Pediatric Rheumatology	(PPR)
102	Plastic Surgery	(PS)
097	Sports Medicine (Pediatrics)	(PSM)
114	Anatomic/Clinical Pathology	(PTH)
141	Medical Toxicology (Preventive Medicine)	(PTX)
116	Pulmonary Diseases	(PUD)
083	Psychoanalysis	(PYA)
084	Geriatric Psychiatry	(PYG)
119	Radiology	(R)
067	Reproductive Endocrinology	(REN)
048	Rheumatology	(RHU)
115	Radioisotopic Pathology	(RIP)
120	Neuroradiology	(RNR)
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)
034	Vascular Surgery	(VS)

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

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

_____ (530) (531) (532)

(If code "1" in S1 [DO-AOA LIST])

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
010	Pediatric Psychiatry	CHP
010	Pediatric Psychiatry	PDP
011	Colon & Rectal Surgery	CRS
012	Dermatology	D
014	Diagnostic Radiology	DR
015	Emergency Medicine	EM
015	Emergency Medicine	EMS
015	Emergency Medicine	FEM
015	Emergency Medicine	IEM
016	Sports Medicine (Emergency Medicine)	ESM
017	Pediatric Emergency Medicine	PEM
018	Forensic Pathology	FOP
019	Family Practice	FP
019	Family Practice	UFP
020	Geriatrics-General or Family Practice	GFP
020	Geriatrics-General or Family Practice	GGP
021	Sports Medicine-Family or General Practice	SFP
021	Sports Medicine-Family or General Practice	SGP
022	Gastroenterology	GE
023	General Practice	GP
024	Preventive Medicine	PVM
025	Undersea Medicine	UM
026	Abdominal Surgery	AS
027	Critical Care-Surgery or Trauma	CCS
027	Critical Care-Surgery or Trauma	CCT
028	Other Specialty	OS
029	Surgery-General	S
030	Head & Neck Surgery	HNS
031	Hand Surgery	HS
031	Hand Surgery	HSS
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

A10. (Continued:)

042	Internal Medicine	IP
043	Geriatrics-Internal Medicine	GER
043	Geriatrics-Internal Medicine	GIM
044	Sports Medicine	ISM
044	Sports Medicine	PMS
044	Sports Medicine	RMS
044	Sports Medicine	SM
045	Nephrology	NEP
046	Nutrition	NTR
047	Oncology	ON
048	Rheumatology	RHU
050	Clinical Cytogenetics	CCG
051	Clinical Genetics	CG
053	Medical Genetics	IMG
054	Pediatric or Child Neurology	CHN
054	Pediatric or Child Neurology	PDN
055	Clinical Neurophysiology	CN
056	Neurology	N
056	Neurology	NMD
056	Neurology	NP
056	Neurology	NPN
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
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
081	Pediatric Otolaryngology	PDO
082	Psychiatry	P

A10. (Continued:)

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
091	Pediatric Pulmology Medicine	PDX
092	Pediatric Gastroenterology	PG
093	Pediatric Hematology-Oncology	PHO
094	Pediatric Diag Lab Immunology	PLI
095	Pediatric Nephrology	PNP
096	Pediatric Rheumatology	PPR
097	Sports Medicine - Pediatrics	PSM
098	Pediatric Cardiology	PDC
099	Preventive Medicine/Epidemiology/Public Health	EPI
099	Preventive Medicine/Epidemiology/Public Health	OE
099	Preventive Medicine/Epidemiology/Public Health	PH
099	Preventive Medicine/Epidemiology/Public Health	PHP
100	Physical Medicine & Rehabilitation	IAR
100	Physical Medicine & Rehabilitation	PDR
100	Physical Medicine & Rehabilitation	PM
100	Physical Medicine & Rehabilitation	RM
101	Hand Surgery-Plastic Surg	HSP
102	Plastic Surgery	OOP
102	Plastic Surgery	PLR
103	Anatomic Pathology	AP
104	Blood Banking-Transfusion Medicine	BBT
104	Blood Banking-Transfusion Medicine	LBM
105	Clinical Pathology	CLP
106	Dermatopathology	DPT
107	Hematology-Pathology	HEP
108	Medicine Microbiology	MMB
109	Neuropathology	NPT
110	Chemical Pathology	CP
111	Cytopathology	CY
112	Immunopathology	IPT
113	Pediatric Pathology	PP
114	Anatomic/Clinical Pathology	APL
114	Anatomic/Clinical Pathology	PTH
115	Radioisotopic Pathology	RIP
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/Thoracic Cardiovascular Surgery	CVS

A10. (Continued:)

124	Cardiovascular/Thoracic Cardiovascular Surgery	TS
125	Urology	U
125	Urology	URS
126	Pediatric Urology	UP
127	Addictive Diseases	ADD
128	Critical Care-Medicine	CCM
129	Legal Medicine	LM
130	Clinical Pharmacology	PA
131	Unknown Blank	
133	Adolescent Medicine	ADL
134	Orthopedic Foot & Ankle Surg	OFA
135	Forensic Psychiatry	FPS
136	Hematology & Oncology	HEO
137	Internal Med-Pediatrics	IPD
139	Toxicology	TX
142	Psychosomatic Medicine	PYM
145	Pediatric Infectious Diseases	PID
146	Pediatric Ophthalmology	PO
147	Pulmonary-Critical Care	PUC
153	MOHS Micrographic Surgery	DMS
154	Hair Transplant	HT
155	Osteo Manipulative Treat +1	OM1
156	Spec Prof in Osteo Manip Med	OMM
157	Sports Medicine - OMM	OMS
158	Osteo Manipulative Medicine	OMT
159	Proctology	PR
160	Internship	IN
161	Retired	RET
162	Transitional Year	TY
209	Nuclear Cardiology	NC
997	Other (list) - **(USE VERY SPARINGLY; Thank and Terminate)**	
998	(DK) **(Thank and Terminate)**	
999	(Refused) **(Thank and Terminate)**	

	(530)	(531)	(532)

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

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

2 No **(Continue)**
8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____(878)

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

1 Yes
2 No
8 (DK)
9 (Refused) _____(533)

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

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

2 No **(Continue)**
8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____(534)

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

A14. **(If code "2" or "8-9" in #A13, ask:)** Are you board-eligible in **(response in #A8)**?

1 Yes
2 No
8 (DK)
9 (Refused) _____(535)

(All in #A14, Skip to #A19)

A15. **(If code "137" in #A8, ask:)** Are you board-certified in **(response in #A8)**? **(INTERVIEWER NOTE: If physician is says "Board certified in Internal Medicine" or "Board certified in Pediatrics", code as "1")**

(Otherwise, ask:) Are you board-certified in **(response in #A8)**?

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

2 No **(Continue)**
8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____(536)

A16. **(If code "2" or "8-9" in #A15 AND code "137" in #A8, ask:)** Are you board-eligible in **(response in #A8)**? **(INTERVIEWER NOTE: If physician says "Board eligible in Internal Medicine" or "Board eligible in Pediatrics", code as "1")**

(Otherwise, ask:) Are you board-eligible in **(response in #A8)**?

1 Yes
2 No
8 (DK)
9 (Refused) _____(537)

(If code "019", "023", "042", "088" or "137" 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)** _____(538)

(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) _____(539)

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

CARSAT

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

8 (DK)
9 (Refused) _____(540)

CLOCK: (2816-2819)

SECTION B
UTILIZATION OF TIME

B1. **(If code "2" in #A4 AND code "03-97", "DK" or "RF" in #A4a OR If code "8-9" in #A4, ask:)** Considering all of your practices, approximately how many weeks did you practice medicine during 1995? Exclude time missed due to vacation, illness and other absences. **(If necessary, read:)** 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 1995? Exclude time missed due to vacation, illness and other absences. **(If necessary, read:)** 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 1995? Exclude time missed due to vacation, illness and other absences. **(If necessary, read:)** 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)**

WKSWRK

53-97	BLOCK
DK	(DK)
RF	(Refused)

(541) (542)

B2. **(If code "2" in #A4 AND code "03-97", "DK" or "RF" in #A4a OR If code "8-9" 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)

_____ (543) (544) (545)

B3. **(If code "001-168" in #B2, ask:)** Of these **(response in #B2)** hours, how many did you spend in direct patient care activities? **(If necessary, read:)** 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, read:)** 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, read:)** 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, read:)** INCLUDE ALL PRACTICES, not just the main practice. (Open ended **and code actual number)**

169-
997 BLOCK
DK (DK)
RF (Refused)

_____ _____ _____
(546) (547) (548)

(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, is that right?

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

2 No - **(Continue)**

8 (DK) **(Skip to #B6)**
9 (Refused) **(Skip to #B6)** _____(575)

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)** _____(576)

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)

_____ (577) (578) (579)

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, read:)** 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, read:)** INCLUDE ALL PRACTICES, not just the main practice. (Open ended **and code actual number)**

169-
997 BLOCK
DK (DK)
RF (Refused)

_____ (674) (675) (676)

(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)

_____ (549) (550) (551)

B5. And of those total [**(response in #B4)**] hours, about how many did you spend in direct patient care activities? **(If necessary, read:)** 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, read:)** INCLUDE ALL PRACTICES, not just the main practice. (Open ended **and code actual number)**

169-997 BLOCK
DK (DK)
RF (Refused)

_____ (552) (553) (554)

B6.

HRFREE

(If code "8-9" in #A4 OR If 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)**

(If necessary, read:) EXCLUDE bad debt and time spent providing services under a discounted fee for service contract or seeing Medicare and

(If code "06" in "STATE", read:) MediCAL patients.

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

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

(If necessary, read:) By the LAST MONTH, we mean the last 4 weeks.

B6. (Continued:)

DK (DK)
RF (Refused)

_____ _____ _____
_____ (1064)(1065)(1066)

(If code "1" in #A4, Skip to SECTION C; Otherwise, Continue)

(If code "2" or "8-9" in #A4, read:) In many of the questions throughout this survey, we will be asking you to tell us about your main practice. By that we mean the one where you spend the most patient care hours in a typical week.

B7. **(If code "2" or "8-9" in #A4, ask:)** Of the time you spend in direct patient care, about what percentage do you typically spend in your main practice? **(Probe:)** Your best estimate would be fine. (Open ended **and code actual percent)**

PERCENT:

000	None			
001	1 percent or less			
101	Resp not given in percent/Resp given in hours			
DK	(DK)			
RF	(Refused)	(557)	(558)	(559)

HOURS:

000	None			
100	100+			
101	Response not given in hours			
DK	(DK)			
RF	(Refused)	(560)	(561)	(562)

CLOCK: (2824-2827)

SECTION C
TYPE AND SIZE OF PRACTICE

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

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

2 **(If code "2" or "8-9" in #A4, ask:)** Main Practice _____(563)

(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")**

OWNPR

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

_____(564)

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 ambulatory care, surgical and emergency care centers)**

TOPOWN

01	OR, Something else (list)	
02-05	HOLD	
06	A practice owned by one physician (solo practice)	
07	A two physician practice	
08	A group practice of three or more physicians (see AMA definition on card)	
09	A group model HMO	**(Skip to #C7)**
10	A staff model HMO	**(Skip to #C7)**
11-15	HOLD	
16	A free-standing clinic	**(Skip to #C4)**
98	(DK)	**(Skip to #C4)**
99	(Refused)	**(Skip to #C4)**

_____ _____

(565) (566)

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

C3. **(If code "3" or "8-9" 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, read:)** An EMPLOYER is the entity that pays you and should not be confused with where you work. For instance, your employer could be a group practice even if you work in a hospital.

TOPEMP

01	OR, Something else (do NOT list here) -	**(Skip to #C3b)**
02-05	HOLD	
06	A practice owned by one physician (solo practice) -	**(Skip to #C5)**
07	A two physician practice	**(Skip to #C4)**
08	A group practice of three or more physicians (see AMA definition on card)	**(Skip to #C4)**
09	A group model HMO	**(Skip to #C7)**
10	A staff model HMO	**(Skip to #C7)**
12	A medical school or university	**(Skip to #C10)**
13	A non-government hospital or group of hospitals	**(Skip to #C10)**
14	City, county or state government -	**(Continue)**
16	A free-standing clinic -	**(Skip to #C4)**
98	(DK)	**(Skip to #C3b)**
99	(Refused)	**(Skip to #C3b)**

_____ _____
(567) (568)

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

OTHSET

1	Hospital	
2	Clinic	
3	Other (do NOT list)	
8	(DK)	
9	(Refused)	_____(678)

(All in #C3a, Skip to #C10)

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

EMPTYP

01	Something else (list) -	**(Skip to #C10)**
02-10	HOLD	
11	Other HMO, insurance company or health plan	**(Skip to #C10)**
15	An integrated health or delivery system	**(Skip to #C10)**
17	A physician practice management company or other for-profit investment company	**(Skip to #C10)**
18	Community health center - **(Continue)**	
19	Management Services Organization (MSO)	**(Skip to #C10)**
20	Physician-Hospital Organization (PHO)	**(Skip to #C10)**
21	Locum tenens -	**(Skip to #C10)**
98	(DK)	**(Skip to #C4)**
99	(Refused)	**(Skip to #C4)**

_____ _____
(679) (680)

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

OTHPAR

1 Yes
2 No
8 (DK)
9 (Refused) _____(569)

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, read:)** Do not include leased equipment.

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

OTHGRP

A. Another physician group _____(612)

HSPPAR

B. A hospital or group of hospitals _____(613)

INSPAR

C. An insurance company, health plan or HMO _____(614)

ORGPAR

D. Any other organization **(listed on next screen)** _____(615)

(If code "1" in #C5-D, Continue;
If code "2" to ALL in #C5 A-D, Skip to #C6a;
Otherwise, Skip to #C7)

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

ORGC_1, ORGC_2,...,ORGC_12 *

01	Other (list)	1	_____(616)
02	(DK)	2	
03	(Refused)	3	
04	No others	4	
05	HOLD		
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	_____(617)
12	Other Non-profit or community-based organization	2	
		HOLD	(618-627)

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)

OWNVERB

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

_____ _____
(772) (773)

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

NPHYS

997	997+
DK	(DK)
RF	(Refused)

_____ _____ _____
(628) (629) (630)

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)**

NASSIST

997 997+
DK (DK)
RF (Refused)

_____ _____ _____
(631) (632) (633)

(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) _____(634)

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

ACQUIRD

1 Yes - **(Continue)**

2 No **(Skip to "SECTION D")**
8 (DK) **(Skip to "SECTION D")**
9 (Refused) **(Skip to "SECTION D")** _____(635)

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)**

OWNPUR

1 Full owner
2 Part owner
3 Not an owner
8 (DK)
9 (Refused) _____(636)

CLOCK: (2832-2835)

SECTION D
MEDICAL CARE MANAGEMENT

MANAGEMENT STRATEGIES

(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" or "8-9" in #A4, read:)** As you answer, please think only about your main practice.

D1. At present, **(read and rotate A-F)**? Would you say that (it has/they have) a **(read 5-0)**? **(If physician says "Do not use/receive", read:)** Does this mean (it has/they have) no effect?

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

8 (DK)
9 (Refused)

EFDATA

A. How large an effect does your use of computers to obtain or record clinical data, such as medical records and lab results, have on your practice of medicine **(INTERVIEWER NOTE: This could include the physician's own computer system or that provided by a health insurance plan or HMO, hospital or other institution.)**

_____ _____(637)

EFTREAT

B. How large an effect does your use of computers to obtain information about treatment alternatives or recommended guidelines have on your practice of medicine **(INTERVIEWER NOTE: This could include the physician's own computer system or that provided by a health insurance plan or HMO, hospital or other institution.)**

_____ _____(639)

D1. (Continued:)

EFRMNDR

C. **(If code "019-020", "023", "043", "062", "064-065", "085" or "133" in #A10/#A8, OR If code "1" in #A9, OR If code "2" or "3" in #A9a, OR If code "2" or "3" in #A9b, ask:)** How large an effect do reminders that you receive from either a medical group, insurance company or HMO alerting you about specific preventive services that may be due for your individual patients have on your practice of medicine **(INTERVIEWER NOTE: includes reminders from either the medical practice, insurance companies, clinics or HMOs. Does NOT include general educational material about preventive services or other reminders that are not about specific services for specific patients.)**

_____ _____(641)

EFGUIDE

D. 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, read:)** 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.

_____ _____(643)

EFPROFL

E. 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 **(INTERVIEWER NOTE: We are not interested in informal feedback, but only specific, quantified information about the physician's practice patterns.)** **(If necessary, read:)** 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.

_____ _____(645)

EFSURV

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

_____ _____(647)

(There is no D2 - D6)

(If code "019-020", "023", "043", "085" or "133" in #A10/#A8, OR If code "1" in #A9, OR If code "2" or "3" in #A9a, OR If code "2" or "3" in #A9b, Continue; Otherwise, Skip to "READ" before #D11)

(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 2 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 2 years, ask about time since he/she started.)**

CMPPROV

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

8 (DK)
9 (Refused) _____(649)

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

CMPEXPC

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

8 (DK)
9 (Refused) _____(650)

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

SPECUSE

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

8 (DK)
9 (Refused) _____(651)

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, read:) The term "gatekeeper" is often used to refer to this role.

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

PCTGATE

000	None	**(Skip to SECTION E)**
001	1 percent or less	**(Skip to SECTION E)**
002-100		**(Skip to SECTION E)**
DK	(DK)	**(Continue)**
RF	(Refused)	**(Continue)**

_____ (652) (653) (654)

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 E)**
9 (Refused) **(Skip to SECTION E)** _____(655)

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) _____(656)

(All in #D10b, Skip to SECTION E)

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) _____(657)

(All in #D10c, Skip to SECTION E)

(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)**?

CMPCHG

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

8 (DK)
9 (Refused) _____(658)

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)**?

CMPLVL

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

8 (DK)
9 (Refused) _____(659)

D13. During the last two years, has the number of patients referred to you by primary care physicians **(read 5-1)**?

CHGREF

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

8 (DK)
9 (Refused) _____(660)

CLOCK: (2840-2843)

SECTION E
VIGNETTES

**(If code "019", "023" or "137" in #A8, OR
If code "2" or "3" in #A9a OR
If code "2" or "3" in #A9b, Continue;
Otherwise, Skip to "Note" after #EA)**

EA. Does your **(response in #CA)** include providing care to **(read 1-3)**?

WHOCARE

1 Adults only
2 Children only, OR
3 Both adults and children

8 (DK) **(Skip to SECTION F)**
9 (Refused) **(Skip to SECTION F)** _____(661)

**(If code "042" in #A8 AND code "1" in #A9, OR
If code "1" in #EA, code as "1" in "FORM";
If code "088" in #A8 AND code "1" in #A9, OR
If code "2" in #EA, code as "2" in "FORM";
If code "3" in #EA, code as "3" in "FORM";
Otherwise, Skip to SECTION F)**

FORM:

FORM

1 FORM 1 (Rotate E1, E3, E4, E5, E9 and E10)
2 FORM 2 (Rotate E11, E16, E17, E18, E20 and E21)
3 FORM 3 (Randomly select and rotate)
(Either E5 or E9 AND Either E1 or E10 AND
Either E3 or E4 AND Either E17 or E20 AND
Either E11 or E16 AND Either E18 or E21) _____(662)

(READ:) I am going to read a description of a patient and I'll ask about a possible test, treatment, or recommendation. We want you to think about patients with similar problems you've seen in your own practice during the past twelve months. The key question I'll ask is for what percentage of the patients with that problem would you recommend the test, treatment, or evaluation? Reasons for not recommending the treatment may include feeling that no treatment, or that an alternative treatment, is a better option. Any percentage, from zero to 100 percent, is a valid response.

(If code "2" or "8-9" in #A4, read:) As you answer, please think only about your main practice.

(If code "2" in "FORM", Skip to #E11; Otherwise, Continue)

E1. **(If code "1" or "3" in "FORM", ask:)** What about treating an elevated cholesterol with oral agents for a 50 year old man who has no other cardiac risk factors except elevated cholesterol? After six months on a low cholesterol diet, his total cholesterol is 240 and his LDL is 150. His HDL cholesterol is 50, giving a ratio of total cholesterol to HDL cholesterol of 4.8. For what percentage of such patients would you recommend oral agents at this point? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

VCHOL

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) - **(**	**Continue)**
RF	(Refused) -	**(Skip to "Next item")**

_____ (663) _____ (664) _____ (665)

E1a. **(If code "DK" in #E1, ask:)** Would you recommend oral agents **(read 6-1)**?

VCHOLF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(666)

(There is no #E2)

E3. **(If code "1" or "3" in "FORM", ask:)** What about a urology referral for further evaluation of symptoms of benign prostatic hyperplasia in a 60 year old man. He is moderately symptomatic, has no evidence of renal compromise or cancer. The patient is somewhat bothered by these symptoms. For what percentage of such patients would you recommend a urology referral? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

VHYPER

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) -	**(Continue)**
RF	(Refused) -	**(Skip to "Next item")**

_____ (712) (713) (714)

E3a. **(If code "DK" in #E3, ask:)** Would you recommend a urology referral **(read 6-1)**?

VHYPERF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(715)

E4. **(If code "1" or "3" in "FORM", ask:)** What about a cardiology referral after a stress test for a 50 year old man with a one month history of exertional chest pain. On no medications, after 6 minutes of exercise, he developed 2 millimeters of ST depression in leads II, III, and F. For what percentage of such patients would you recommend a cardiology referral at this point? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

VCHEST

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) -	**(Continue)**
RF	(Refused) -	**(Skip to "Next item")**

_____ (716) (717) (718)

E4a. **(If code "DK" in #E4, ask:)** Would you recommend a cardiology referral **(read 6-1)**?

VCHESTF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(719)

E5. **(If code "1" or "3" in "FORM", ask:)** What about an MRI for a 35-year-old man who developed low back pain after shoveling snow three weeks ago. He presents to the office for an evaluation. On examination there is a new left foot drop. For what percentage of such patients would you recommend an MRI? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

VBACK

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) -	**(Continue)**
RF	(Refused) -	**(Skip to "Next item")**

_____ (720) (721) (722)

E5a. **(If code "DK" in #E5, ask:)** Would you recommend an MRI **(read 6-1)**?

VBACKF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(723)

(There is no #E6 - #E8)

E9. **(If code "1" or "3" in "FORM", ask:)** What about PSA screening in an asymptomatic 60 year old white man who has no family history of prostate cancer and a normal digital rectal exam. For what percentage of such patients would you recommend a PSA (Prostate Specific Antigen) test? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

V60MAN

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) - **(**	**Continue)**
RF	(Refused) -	**(Skip to "Next item")**

_____ (736) _____ (737) _____ (738)

E9a. **(If code "DK" in #E9, ask:)** Would you recommend a PSA test **(read 6-1)**?

V60MANF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(739)

E10. **(If code "1" or "3" in "FORM", ask:)** What about recommending an office visit for a 40 year old monogamous, married woman who calls to report a two day history of vaginal itching and thick white discharge. She has no abdominal pain or fever. For what percentage of such patients would you recommend an office visit to evaluate the vaginal discharge? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

VVITCH

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) -	**(Continue)**
RF	(Refused) -	**Skip to "Next item")**

_____ (740) (741) (742)

E10a **(If code "DK" in #E10, ask:)** Would you recommend an office visit **(read 6-1)**?

VVITCHF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(743)

(If code "1" in "FORM", Skip to SECTION F; Otherwise, Continue)

E11. **(If code "2" or "3" in "FORM", ask:)** What about use of DDAVP for an otherwise healthy 10 year old boy who presents with long-term primary enuresis (en-your-ee-sis), repeatedly negative urinalysis and cultures, and who has failed fluid restriction and environmental interventions. For what percentage of such patients would you recommend DDAVP? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

VENUR

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) -	**(Continue)**
RF	(Refused) -	**(Skip to "Next item")**

_____ (744) (745) (746)

E11a **(If code "DK" in #E11, ask:)** Would you recommend DDAVP **(read 6-1)**?

VENURF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(747)

(There is no #E12 - #E15)

E16. **(If code "2" or "3" in "FORM", ask:)** What about an office visit for an otherwise healthy 10 year old boy whose parent calls to report a two day history of fever to 101 degrees, sore throat, nasal stuffiness, and no other signs or symptoms. For what percentage of such patients would you recommend an office visit in the next day or so? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

VTHRT

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) -	**(Continue)**
RF	(Refused) -	**(Skip to "Next item")**

_____ (764) (765) (766)

E16a **(If code "DK" in #E16, ask:)** Would you recommend an office visit in the next day or so **(read 6-1)**?

VTHRTF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(767)

E17. **(If code "2" or "3" in "FORM", ask:)** What about a chest x-ray for a previously healthy 10 year old girl with a three day history of fever to 101.5, productive cough, tachypnea (tah-kip-knee-uh) and rales at the right base. She is taking fluids, is uncomfortable, but not in acute distress. For what percentage of such patients would you recommend a chest x-ray? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

VCOUGH

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) -	**(Continue)**
RF	(Refused) -	**(Skip to "Next item")**

_____ (768) (769) (770)

E17a **(If code "DK" in #E17, ask:)** Would you recommend a chest x-ray **(read 6-1)**?

VCOUGHF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(771)

E18. **(If code "2" or "3" in "FORM", ask:)** What about referral to an ENT specialist for PE tubes for an otherwise healthy 24 month old girl who presents with a history of six episodes of suppurative (SUPper-uh-tive) otitis media over the last year, treated with antibiotics with complete clearing. After her fifth episode she was placed on prophylactic antibiotics, but had a recurrence that again responded completely to antimicrobials. She is otherwise in good health and has normal hearing. For what percentage of such patients would you recommend referral to an ENT specialist for placement of PE tubes? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

VSUPOT

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) -	**(Continue)**
RF	(Refused) -	**(Skip to "Next item")**

_____ (812) _____ (813) _____ (814)

E18a **(If code "DK" in #E18, ask:)** Would you recommend referral to an ENT specialist for placement of PE tubes **(read 6-1)**?

VSUPOTF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(815)

(There is no #E19)

E20. **(If code "2" or "3" in "FORM", ask:)** What about a sepsis workup including at least a CBC, sterile urine, and blood cultures, for a well-appearing and otherwise normal, full-term six week old child with a fever of 101. In what percentage of such patients would you recommend a sepsis workup including at least a CBC, sterile urine, and blood cultures? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

V6FEVR

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) -	**(Continue)**
RF	(Refused) -	**(Skip to "Next item")**

_____ (820) (821) (822)

E20a **(If code "DK" in #E20, ask:)** Would you recommend a sepsis workup **(read 6-1)**?

V6FEVRF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(823)

E21. **(If code "2" or "3" in "FORM", ask:)** What about referral to an allergist for a four year old with eczema and seasonal asthma whose asthma has been managed with intermittent oral steroids and bronchodilators. The frequency of asthma attacks is increasing despite prophylactic use of inhaled steroids. For what percentage of such patients would you recommend referral to an allergist for evaluation? (Open ended **and code actual percent)** **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Consider all your patients with similar clinical descriptions.

VECZEM

000	None	**(Skip to "Next item")**
001	1 percent or less	**(Skip to "Next item")**
002-100		**(Skip to "Next item")**
DK	(DK) - **(**	**Continue)**
RF	(Refused) -	**(Skip to "Next item")**

_____ (824) (825) (826)

E21a **(If code "DK" in #E21, ask:)** Would you recommend referral to an allergist for evaluation **(read 6-1)**?

VECZEMF

6	Always
5	Almost always
4	Frequently
3	Sometimes
2	Rarely, OR
1	Never
8	(DK)
9	(Refused)

_____(827)

CLOCK: (2848-2851)

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, read:)** 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, read:)** 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
1 OR, 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, read:)** We would like you to answer in general or on AVERAGE over all types of visits.
_____ _____(828)

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)**
_____ _____(871)

CLNFREE

C. I have the freedom to make clinical decisions that meet my patients' needs
_____ _____(829)

HIGHCAR

D. It is possible to provide high quality care to all of my patients
_____ _____(830)

NEGINCN

E. I can make clinical decisions in the best interests of my patients without the possibility of reducing my income
_____ _____(831)

USESPCS

F. **(If code "019-020", "023", "043", "085" or "133" in #A10/#A8, OR If code "1" in #A9, 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
_____ _____(832)

F1. (Continued:)

COMPRM

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

_____ _____(833)

PATREL

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

_____ _____(834)

(There is 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, read:)** 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
1 OR, Never

7 (Does not apply)
8 (DK)
9 (Refused)

OBREFS

A. **(If code "019", "020", "023", "043", "085" or "133" in #A10/#A8 OR code "1" in #A9 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 _____(835)

OBANCL

B. High quality ancillary services, such as physical therapy, home health care, nutritional counseling, and so forth _____(836)

OBHOSP

C. Non-emergency hospital admissions _____(837)

OBINPAT

D. Adequate number of inpatient days for your hospitalized patients _____(838)

OBIMAG

E. High quality Diagnostic Imaging Services _____(839)

F8. (Continued:)

OBMENTL

F. **(If code "010", "019", "020", "023", "043", "062", "064-065", "082-085", "127", "132" or "133" in #A10/#A8 OR code "1" in #A9 OR code "2" or "3" in #A9a OR code "2" or "3" in #A9b, ask:)**
High quality INPATIENT MENTAL health care _____(840)

OBOUTPT

G. **(If code "010", "019", "020", "023", "043", "062", "064-065", "082-085", "127", "132" or "133" in #A10/#A8 OR code "1" in #A9 or code "2" or "3" in #A9a OR code "2" or "3" in #A9b, ask:)**
High quality OUTPATIENT MENTAL health services _____(841)

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 new patients who are insured through **(read A-C)**? **(INTERVIEWER NOTE: Medicaid and Medicare beneficiaries who are enrolled in managed care plans should be included in A or B, respectively.)**

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

8 (DK)
9 (Refused)

NWMCARE

A. Medicare, including Medicare managed care patients _____(843)

NWMCAID

B. **(If code "06" in "STATE", ask:)**
MediCAL, including MediCAL managed care patients

(If code "04" in "STATE", ask:)
AHCCCS ("Access")

(If code "01-03", "05" or "07-56" in "STATE", ask:)
Medicaid, including Medicaid managed care patients _____(842)

NWPRIV

C. Private or commercial insurance plans including managed care plans and HMOs with whom the practice has contracts
(If necessary, read:) This includes both fee for service patients and patients enrolled in managed care plans with whom the practice has a contract. It excludes Medicaid or Medicare managed care _____(844)

CLOCK: (2856-2859)

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, read:)** 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 adn Tricare)**

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

A. Payments from all Medicare, including Medicare managed care

_____ (845) (846) (847)

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

_____ (848) (849) (850)

(There is no C or D)

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

G1a. I have recorded that the combined practice revenue from Medicare and 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, read:)** 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 percent or less
DK (DK)
RF (Refused)

A. Payments from all Medicare, including Medicare managed care

_____ (845) (846) (847)

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

_____ (848) (849) (850)

(There is no #G2)

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, read:)** 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 percent or less
002-100
DK (DK)
RF (Refused)

_____ (938) (939) (940)

(There is 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, read:)** 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)**
DK	(DK)	**(Continue)**
RF	(Refused)	**(Continue)**

_____ _____
(958) (959)

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)**

_____(960)

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)**

_____(860)

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)**

_____ (861) (862)

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, read:)** Managed care programs include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, read:)** 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 percent or less
DK	(DK)
RF	(Refused)

_____ (863) (864) (865)

(All in #G7, Skip to SECTION H)

G8. **(If code "02-97" in #G6c or code "1-3" in #66a 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, read:)** 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, read:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, read:)** 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", read:)** 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, read:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, read:)** 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? **(If code "001-100", "DK", or "RF", read:)** 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, read:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, read:)** 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 percent or less	**(Continue)**
002-100		**(Continue)**
DK	(DK)	**(Skip to #G9)**
RF	(Refused)	**(Skip to #G9)**

_____ (962) _____ (963) _____ (964)

(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, OR - **(Continue)**

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)** _____(965)

(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 percent or less
DK (DK)
RF (Refused)

_____ _____ _____ _____
(966) (967) (968)

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, read:)** 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 percent or less
002-
100
DK (DK)
RF (Refused)

_____ (872) (873) (874)

G8d. **(If response in #G8=response in #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)** _____(866)

G8e. **(If code "2" in #G8d, ask:)** I have recorded that **(response in #G8)** percent of the practice revenue is from managed care and that **(response in #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)** _____(867)

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, read:)** 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, read:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, read:)** 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? 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, read:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, read:)** 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, read:)** Managed care contracts include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. **(If necessary, read:)** 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 -	**(Skip to SECTION H)**
001	1 percent or less	**(Continue)**
002-100		**(Continue)**
DK	(DK)	**(Continue)**
RF	(Refused)	**(Continue)**

_____ (868) _____ (869) _____ (870)

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, read:)** 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 percent or less
002-100
DK (DK)
RF (Refused)

_____ (671) (672) (673)

(If code "01" in #G6c or #G6, Skip to "Note" before #G11; Otherwise, Continue)

G9. **(If code "000-100" in #G8, ask:)** Now thinking of the ONE managed care contract that provides the largest amount of revenue for the practice in which you work, what percentage of the practice revenue would you say comes from this contract? **(Probe:)** Your best estimate will be fine. (Open ended **and code actual percent)**

(If code "DK" or "RF" in #G8, ask:) Would you be able to estimate, what percentage of the practice's revenue comes from the ONE contract that provides the largest amount of revenue in the practice in which you work? **(Probe:)** Your best estimate will be fine. (Open ended **and code actual percent)**

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

_____ (969) (970) (971)

(If code "8" or "9" in #G6a or "DK" or "RF" in #G6c, Skip to "Note" before #G11; Otherwise, Continue)

(If response in #G9 > response in #G8b, Continue;
If response in #G9 = response in #G8b AND
NOT code "01" in #G6, Skip to #G9c;
If "BLANK" in #G8b, Continue;
If response in #G9 > response in #G8, Continue;
If response in #G9 = response in #G8 AND
NOT code "1" in #G6, Skip to #G9c
Otherwise, Skip to "Note" before #G11)

G9a. I have recorded that the percentage of revenue that comes from the largest managed care contract is greater than the total revenue from all managed care contracts. Can you help me resolve this? What percentage of the practice's revenue from patient care would you say comes from the **(response in #G6c/#G6a/#G6)** managed care contracts combined? **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Managed care plans include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. 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 percent or less
DK (DK)
RF (Refused)

_____ _____ (1012) _____ (1013) _____ (1014)

G9b. Now thinking of the ONE managed care contract that provides the largest amount of revenue for the practice in which you work, what percentage of the practice revenue would you say comes from this contract? **(Probe:)** Your best estimate will be fine. (Open ended **and code actual percent)**

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

_____ _____ (1015) _____ (1016) _____ (1017)

(All in #G9b, Skip to "Note" before #G11)

G9c. I may have recorded something incorrectly. Earlier I recorded that the practice in which you work has more than one managed care contract. But, I have also recorded that the percentage of revenue that comes from the largest managed care contract is the same as the total revenue from all managed care contracts. Can you help me resolve this? How many managed care contracts does the practice in which you work have with health insurers or payers? **(If necessary, read:)** Managed care plans include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. 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: Can 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 - **(Skip to SECTION H)**

01 One - **(Skip to "Note" before #G11)**

02-
97 **(Continue)**
DK (DK) **(Continue)**
RF (Refused) **(Continue)**

_____ (1018) (1019)

G9d. What percentage of the practice's revenue from patient care would you say comes from these **(response in #G9c)** managed care contracts combined? **(Probe:)** Your best estimate will be fine. **(If necessary, read:)** Managed care plans include, but are not limited to those with HMOs, PPOs, IPAs, and point-of-service plans. 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 percent or less
DK (DK)
RF (Refused)

_____ (1020) (1021) (1022)

G9e. Now thinking of the ONE managed care contract that provides the largest amount of revenue for the practice in which you work, what percentage of the practice revenue would you say comes from this contract? **(Probe:)** Your best estimate will be fine. (Open ended **and code actual percent)**

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

_____ (1023) _____ (1024) _____ (1025)

(There is no #G10)

(If response in #G3 = response in #G8 AND code "1" in #G8d, Skip to SECTION H; If code "000" in #G3, Skip to "SECTION H"; Otherwise, Continue)

G11. Would you say that all, most, some, or none of the patient care revenue received from this managed care contract is paid on a capitated or prepaid basis?

CAPAMTC

4 All
3 Most
2 Some
1 None

8 (DK)
9 (Refused) _____(1028)

(There is no #G12)

CLOCK: (2864-2867)

SECTION H
PHYSICIAN COMPENSATION METHODS & INCOME LEVEL

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

(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, read:) Again, please answer only about the main practice in which you work.

H1. Are you a salaried physician?

SALPAID

1 Yes - **(Skip to #H3)**

2 No **(Continue)**
8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____(1030)

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

SALTIME

1 Yes - **(Skip to #H4)**

2 No **(Skip to #H7)**
8 (DK) **(Skip to #H7)**
9 (Refused) **(Skip to #H7)** _____(1031)

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

SALADJ

1 Fixed amount - **(Continue)**

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

8 (DK) **(Continue)**
9 (Refused) **(Continue)** _____(1032)

H4. **(If code "1" in #H2 OR code "1" or "8-9" 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.)**

BONUS

1 Yes
2 No
8 (DK)
9 (Refused) _____(1033)

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" or "8-9" 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, read:)** 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 _____(1034)

B. Results of satisfaction surveys COMPLETED BY YOUR OWN PATIENTS _____(1035)

C. Specific measures of quality of care, such as rates of preventive care services for your patients _____(1036)

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.)** _____(1037)

(If code "2" or "8-9" 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) _____(1038)

(All in #H6, Skip to #H9)

H7. **(If code "2" or "8-9" 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, read:)** 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 _____(1039)

B. Results of satisfaction surveys COMPLETED BY YOUR OWN PATIENTS _____(1040)

C. Specific measures of quality of care, such as rates of preventive care services for your patients _____(1041)

H7. (Continued:)

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.)** _____(1042)

(If code "2" or "8-9" 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) _____(1067)

H9. Of your total income from your **(response in #CA)** during calendar year 1995, approximately what percent would you estimate was earned in the form of bonuses, returned withholds, or other incentive payments based on your performance? (Open ended **and code actual percent)**

PCTINCN

000 None - **(Continue)**

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

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

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

_____ _____ _____ _____ (1043) (1044) (1045)

H9a. **(If code "000" in #H9, ask:)** Were you eligible to earn any bonuses or other performance-based payments in 1995? **(INTERVIEWER NOTE: This question is asking about eligibility to earn bonuses in 1995. Earlier question (#H4) asked about whether the physician is eligible to earn a bonus at the time of the interview.)**

EBONUS

1 Yes
2 No
8 (DK)
9 (Refused) _____(1046)

H10. During 1995, 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, read:)** Also, please include earnings from ALL practices, not just your main practice. **(If necessary, read:)** 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", read:)** 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)**

INCOMEX

0000001-
9999999 **(Skip to #H11)**

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

_____ _____ _____ _____ _____ _____ _____ _____ (1047) (1048) (1049) (1050) (1051) (1052) (1053)

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) _____ _____ (1054) (1055)

(There is no #H11 - #H12)

CLOCK: (2873-2876)

SECTION I
ENDING

I1. Your check for $25 will be mailed to you within the next few days. Should we send the check to **(address from fone file)**?

1 Yes - **(Skip to #I3)**

2 No - **(Continue)**

8 (DK) **(Skip to #I3)**
9 (Refused) **(Skip to #I3)** _____(1063)

I2. **(If code "2" in #I1, ask:)** To what address should we send the check? (Open ended)

STREET ADDRESS:

_____ _____
_____ (1212-1241)

CITY:

_____ _____
_____ (1242-1266)

STATE:

_____ _____
_____ (1267-1268)

ZIP:

_____ _____
_____ (1269-1273)

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 **(Address in #I2)** - **(Skip to "Note" before #I5)**

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

8 (DK) **(Skip to "Note" before #I5)**
9 (Refused) **(Skip to "Note" before #I5)** _____(876)

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

STREET ADDRESS:

_____ (1312-1341)

CITY:

_____ (1342-1366)

STATE:

_____ (1367-1368)

ZIP:

_____ (1369-1373)

(If code "08-10" in #C2 or #C3, Continue; Otherwise, Skip to SECTION J)

I5. What is the name of the practice we have been talking about during this interview? **(If necessary, read:)** Over the next few years, we will also be doing surveys of group practices and other physician organizations. This information will help us identify all group practices in your community. (Open ended)

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

99998 (DK)
99999 (Refused)

_____ (1412) (1413) (1414) (1415) (1416)

(There is no #I6 - #I9)

CLOCK: (2869-2872)

SECTION J
SWEEP-UP

(There is 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-
0004 No/Nothing
9998 (DK)
9999 (Refused)

_____ (1075) _____ (1076) _____ (1077) _____ (1078)

J5. INTERVIEWER CODE ONLY: **(INTERVIEWER NOTE: Do NOT offer to send study report to respondent unless physician requests it. Report will not be available until mid 1997 at the earliest)** Did respondent ask for study report?

1 Yes
2 No _____(1420)

(VALIDATE PHONE NUMBER AND THANK RESPONDENT)

INTERVIEWER I.D.#: _____ (241) _____ (242) _____ (243) _____ (244)

CLOCK: (2844-2847)

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)**

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)**

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)**

Appendix B

The CTS Physician Survey Questionnaire Logic and Skip Pattern

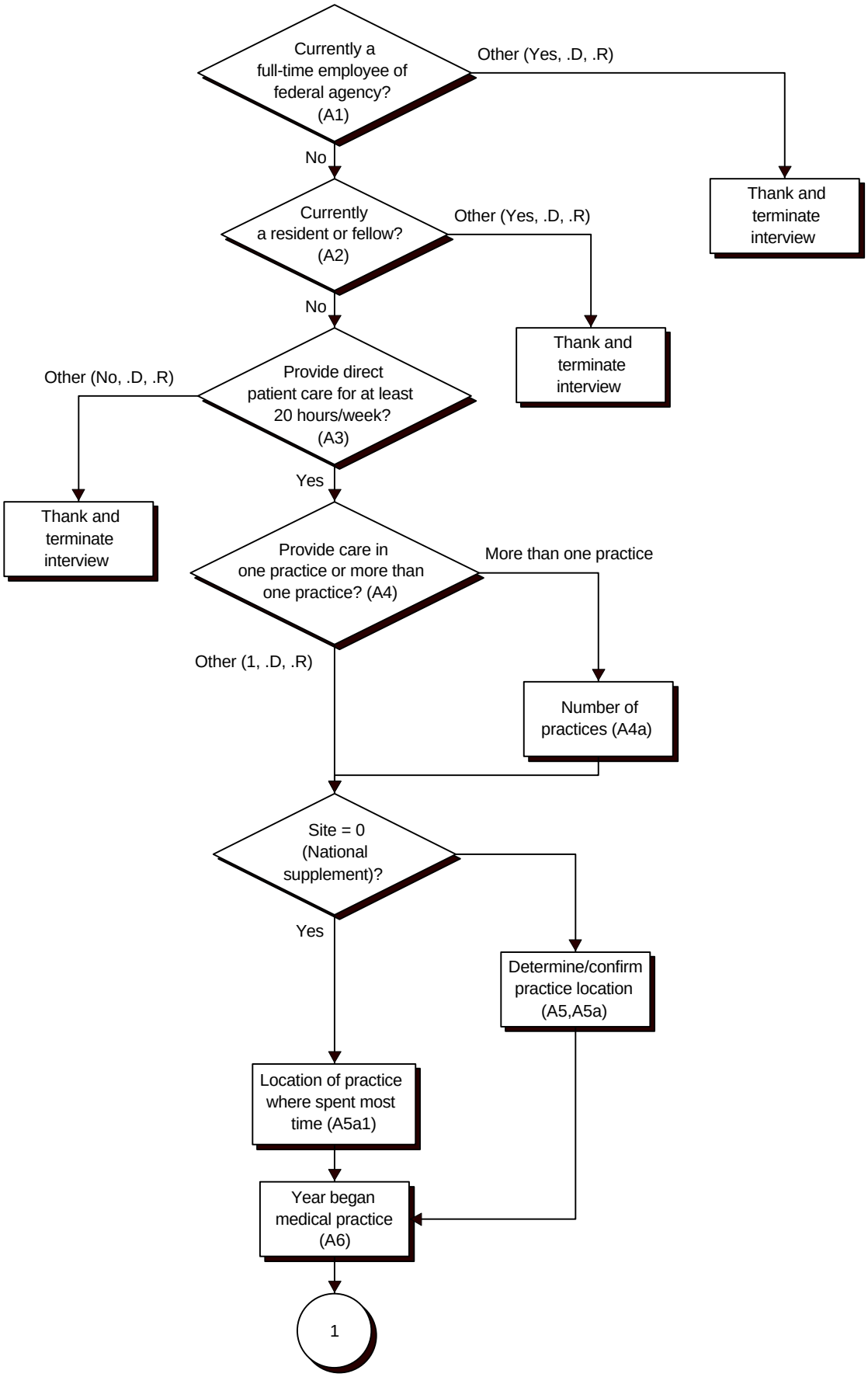
Round One

The CTS Physician Survey
Questionnaire Logic and Skip Pattern

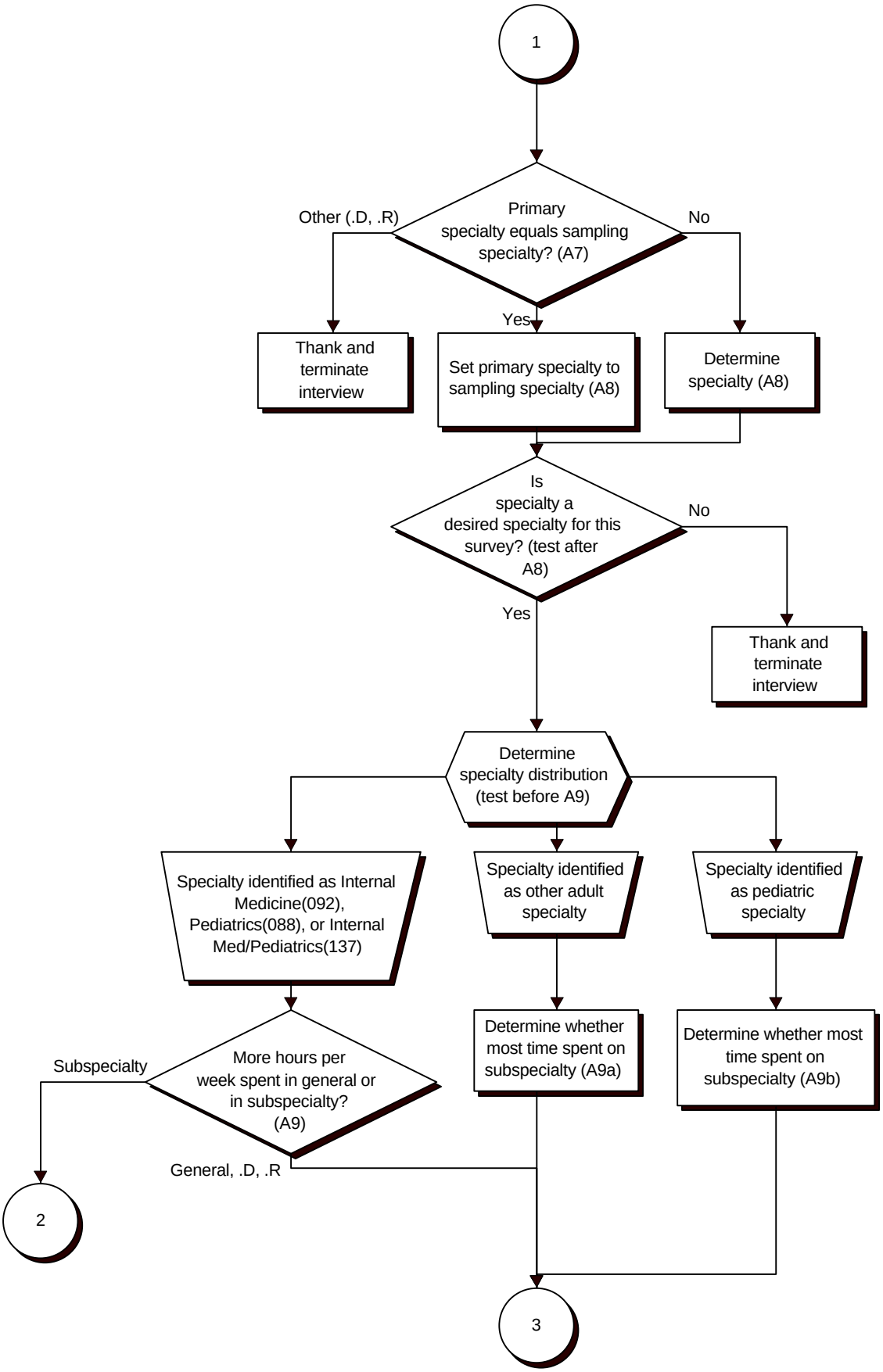
Key to Diagram Abbreviations

.D -- Don't know
.R -- Refused

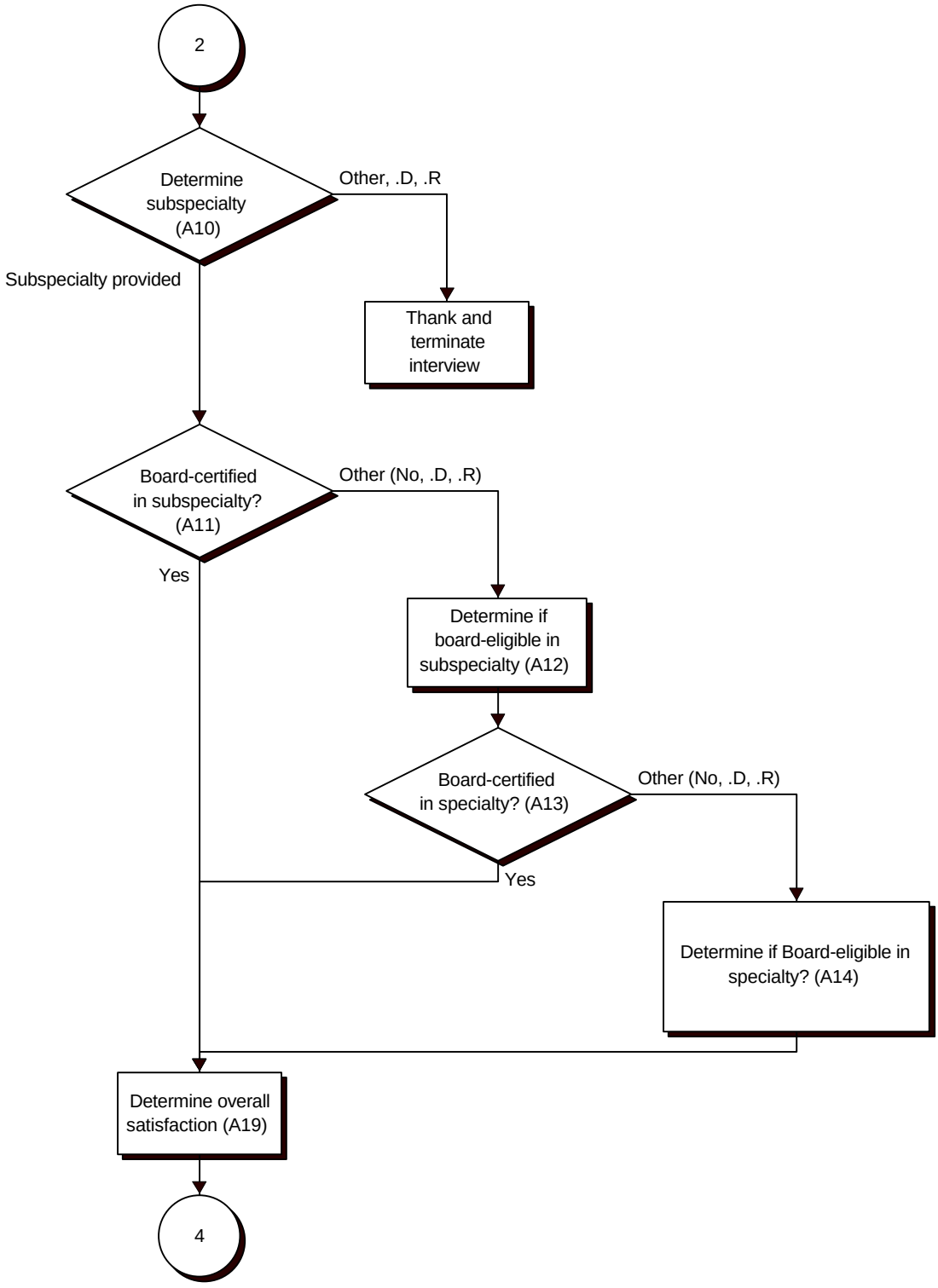
Section A: Physician Supply and Specialty Distribution



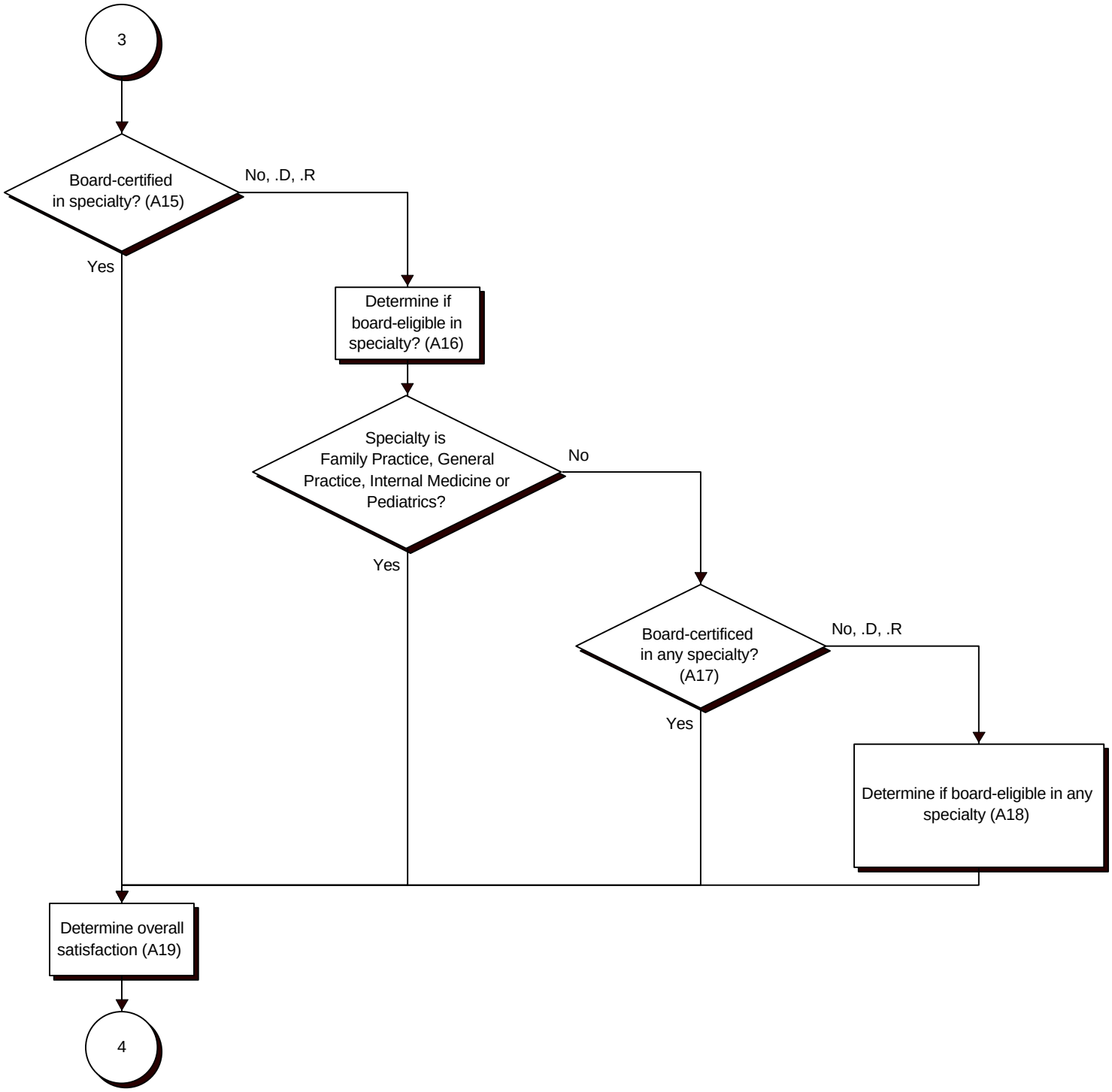
Section A: Physician Supply and Specialty Distribution - continued



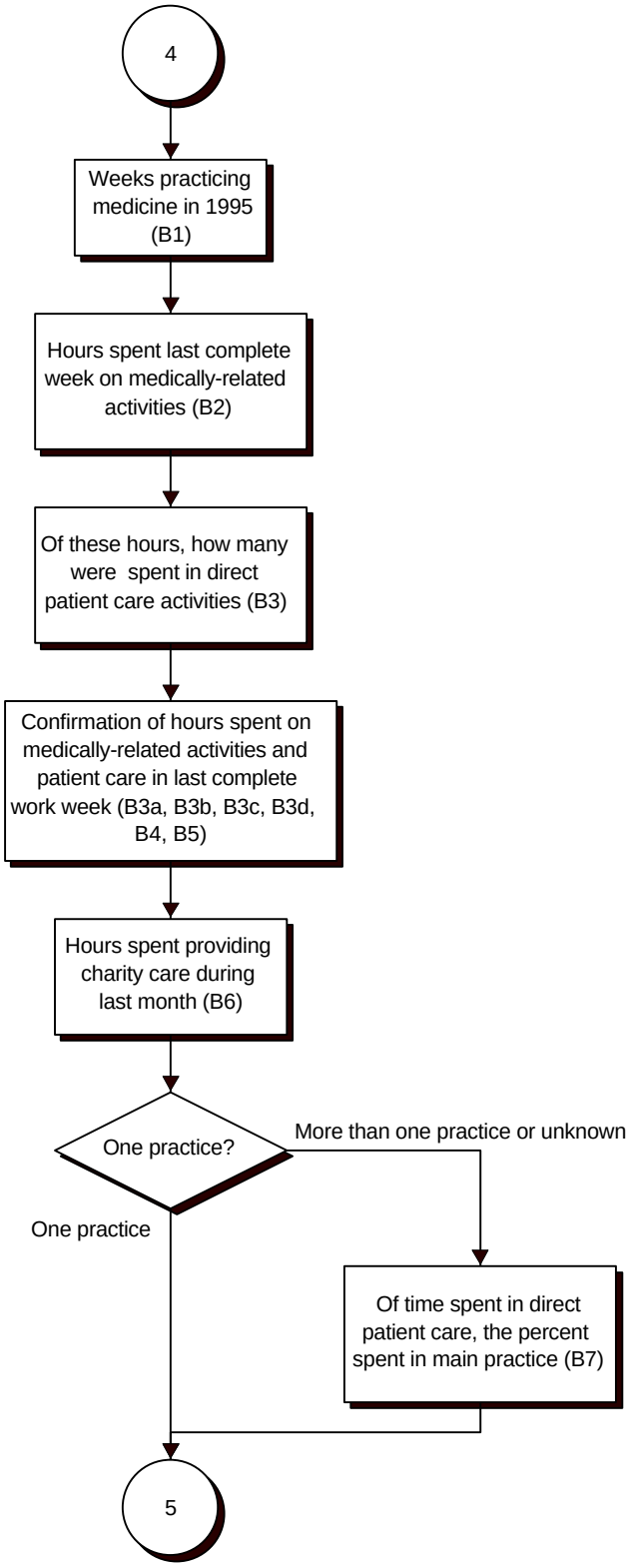
Section A: Physician Supply and Specialty Distribution - continued



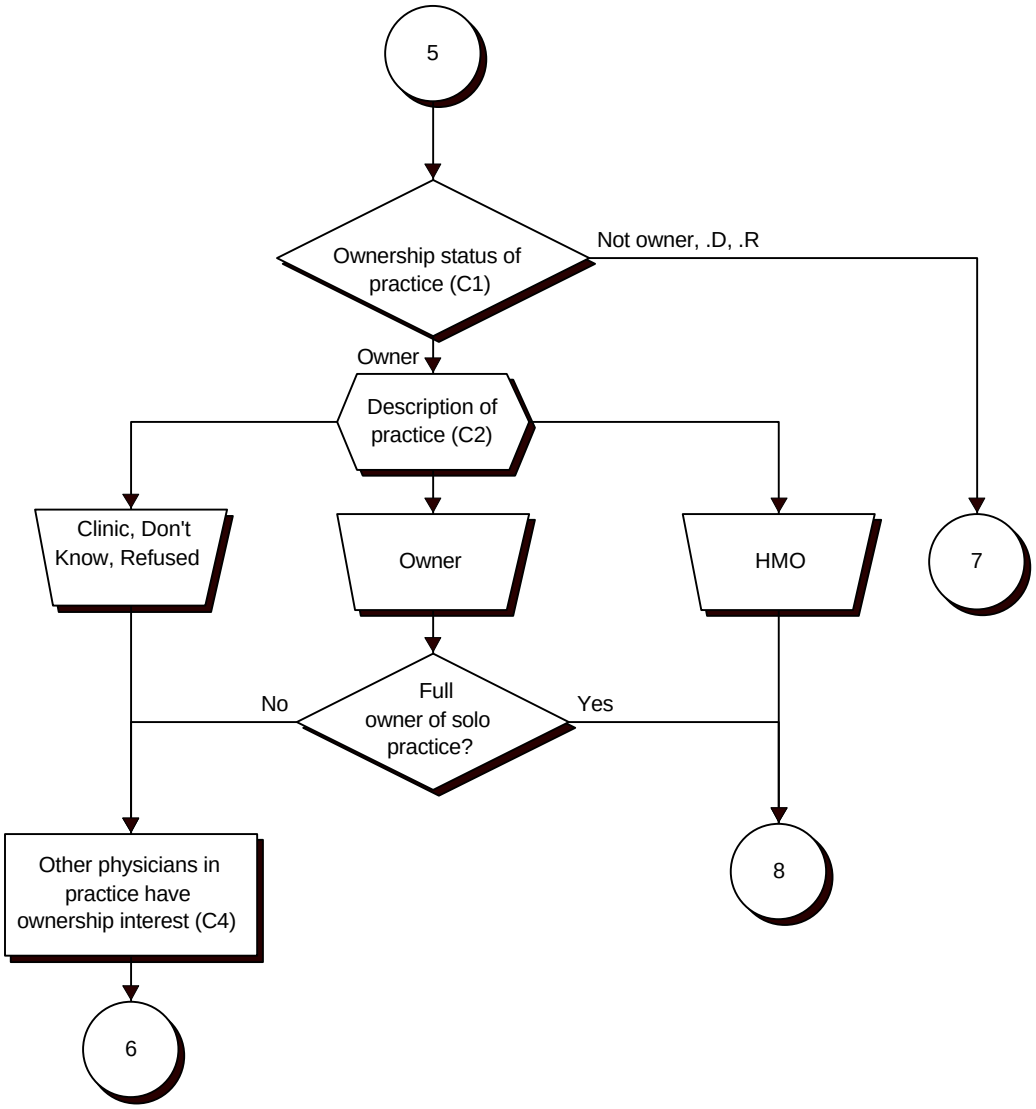
Section A: Physician Supply and Specialty Distribution - continued



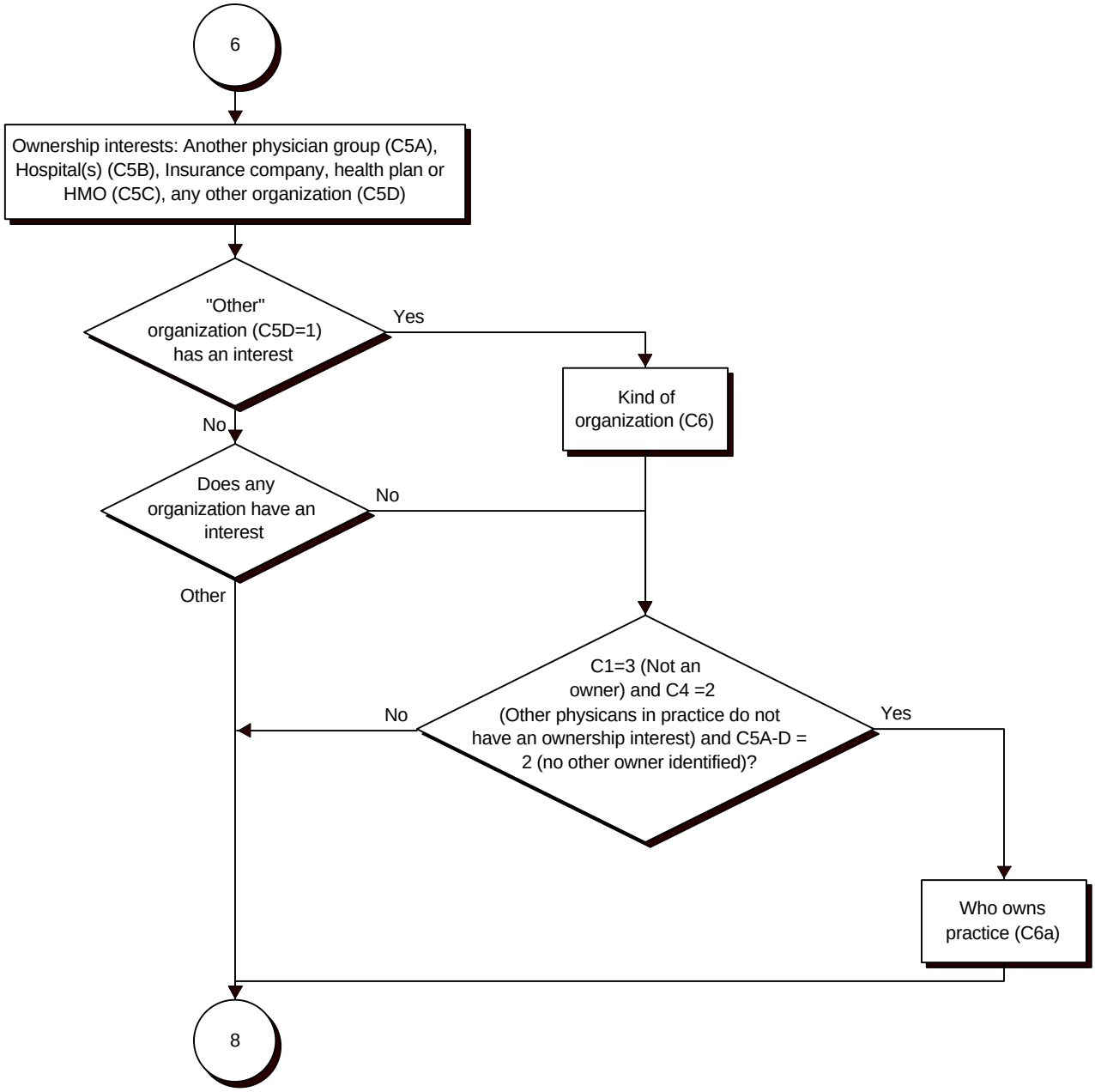
Section B: Utilization of Time



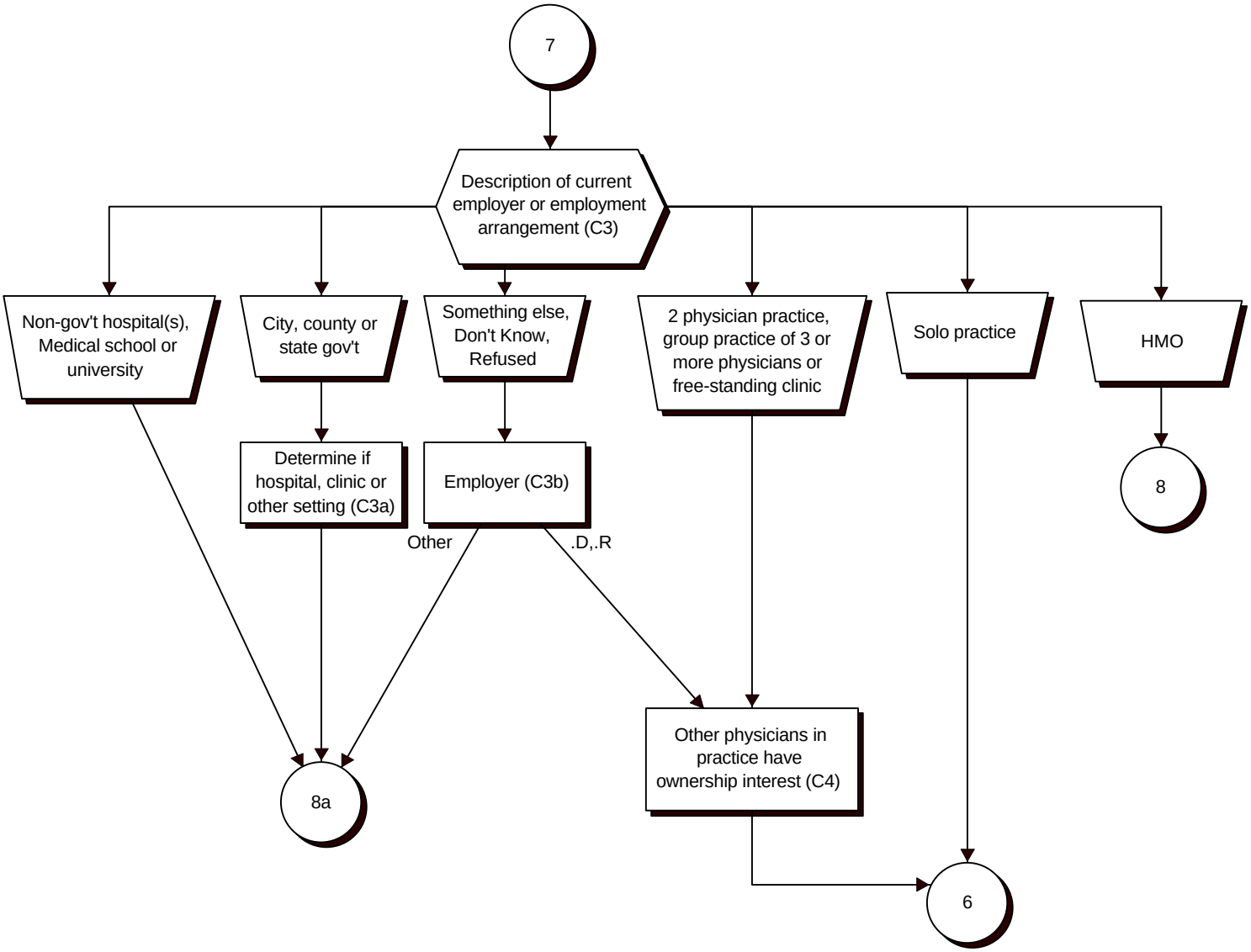
Section C: Type and Size of Practice



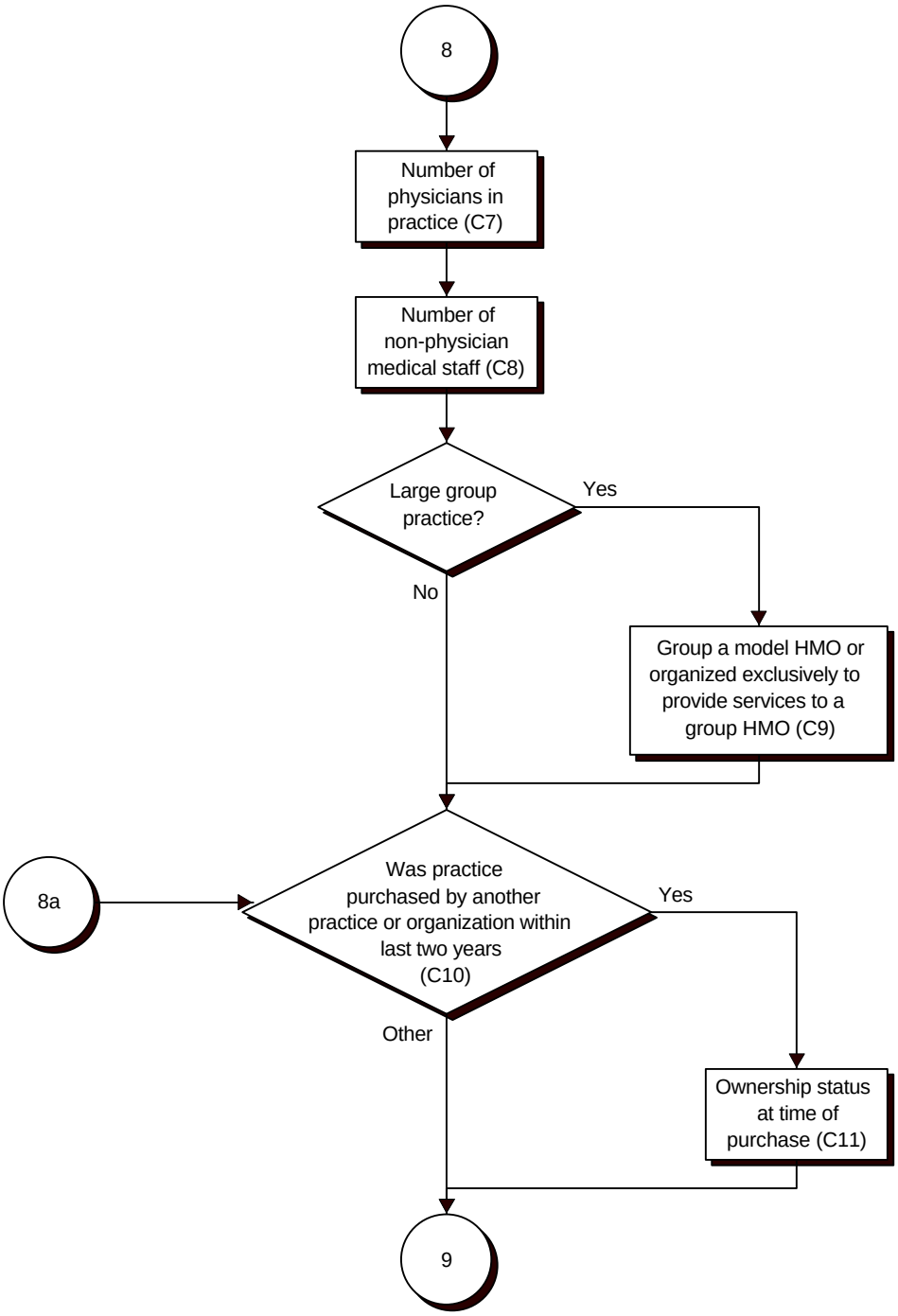
Section C: Type and Size of Practice - continued



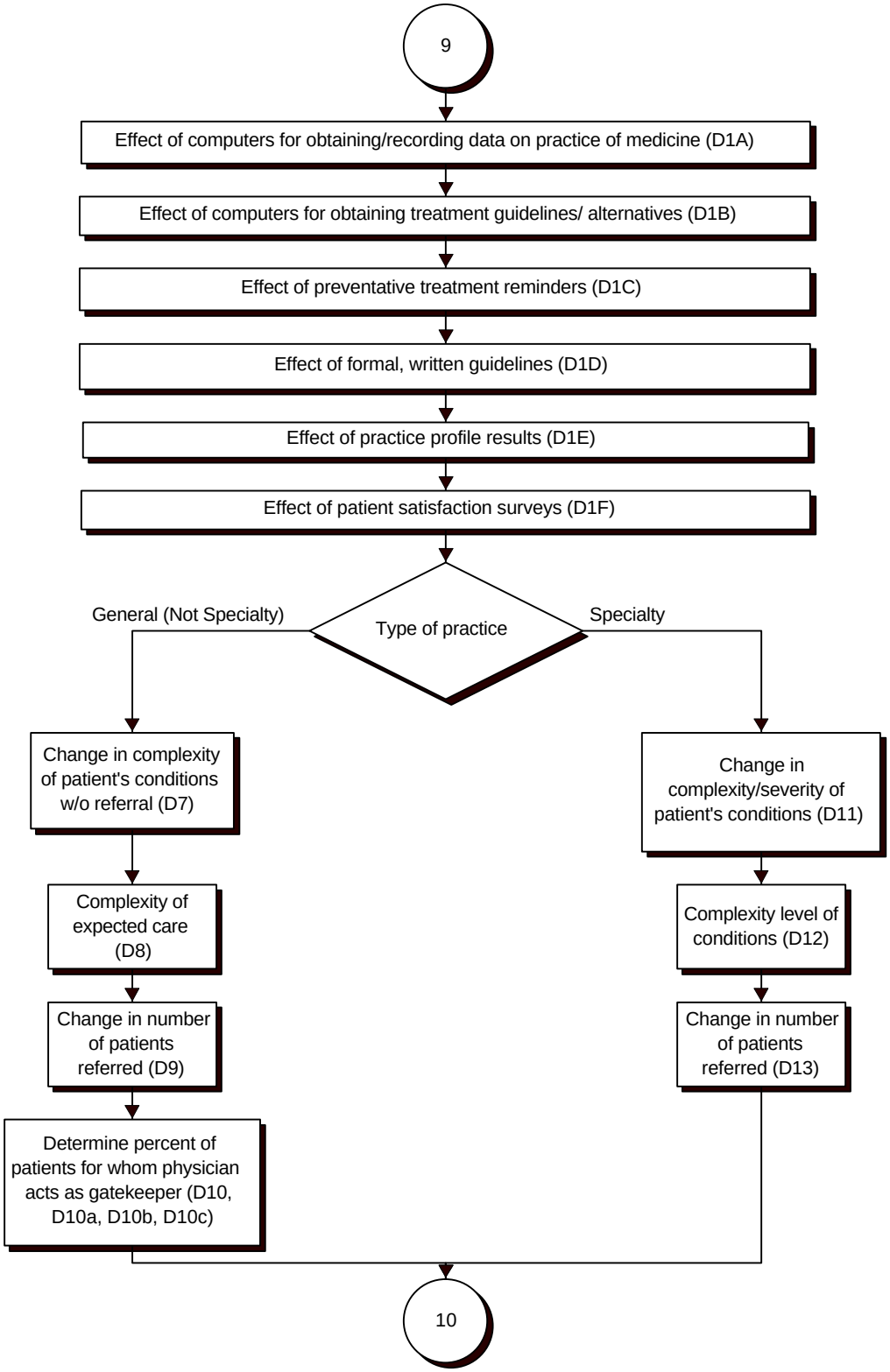
Section C: Type and Size of Practice - continued



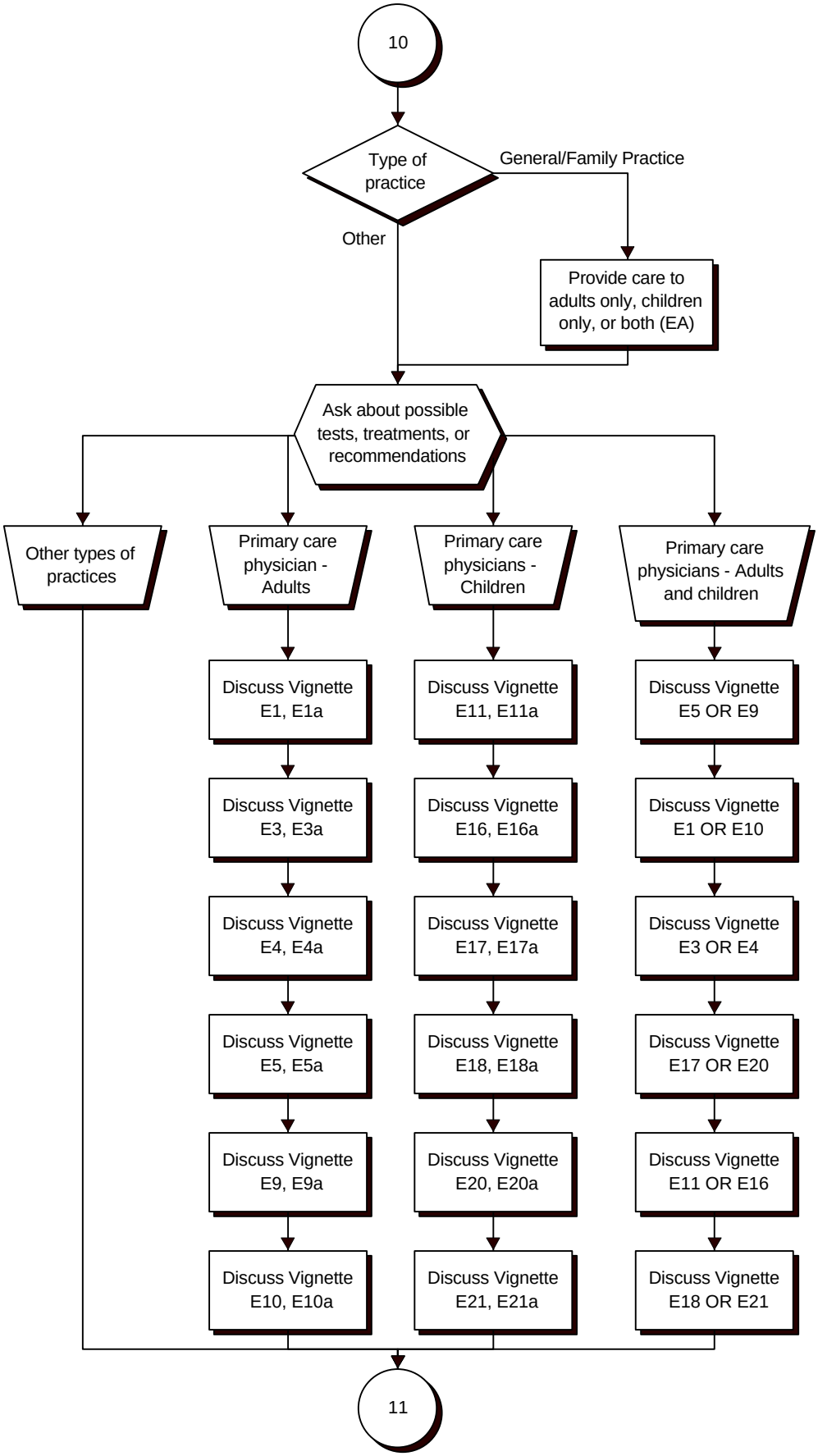
Section C: Type and Size of Practice - continued



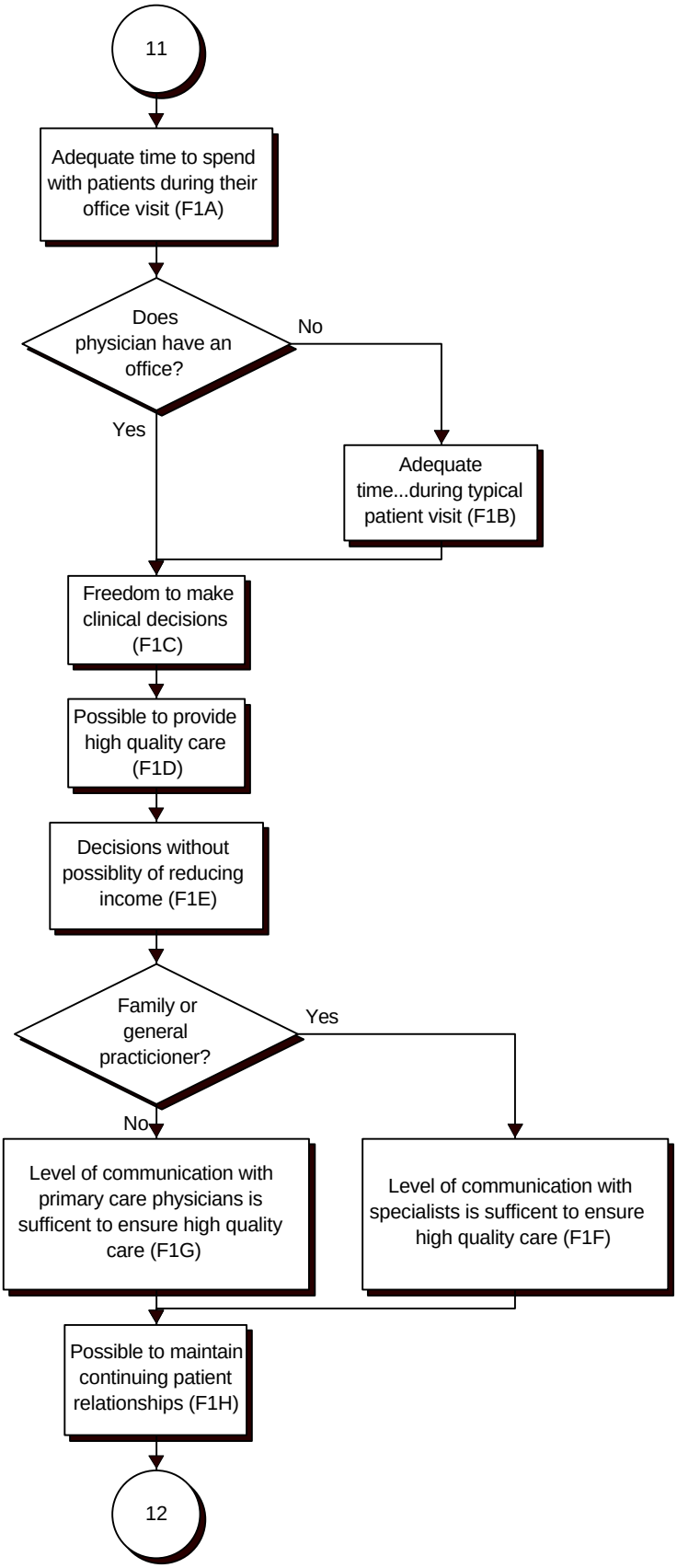
Section D: Medical Care Management



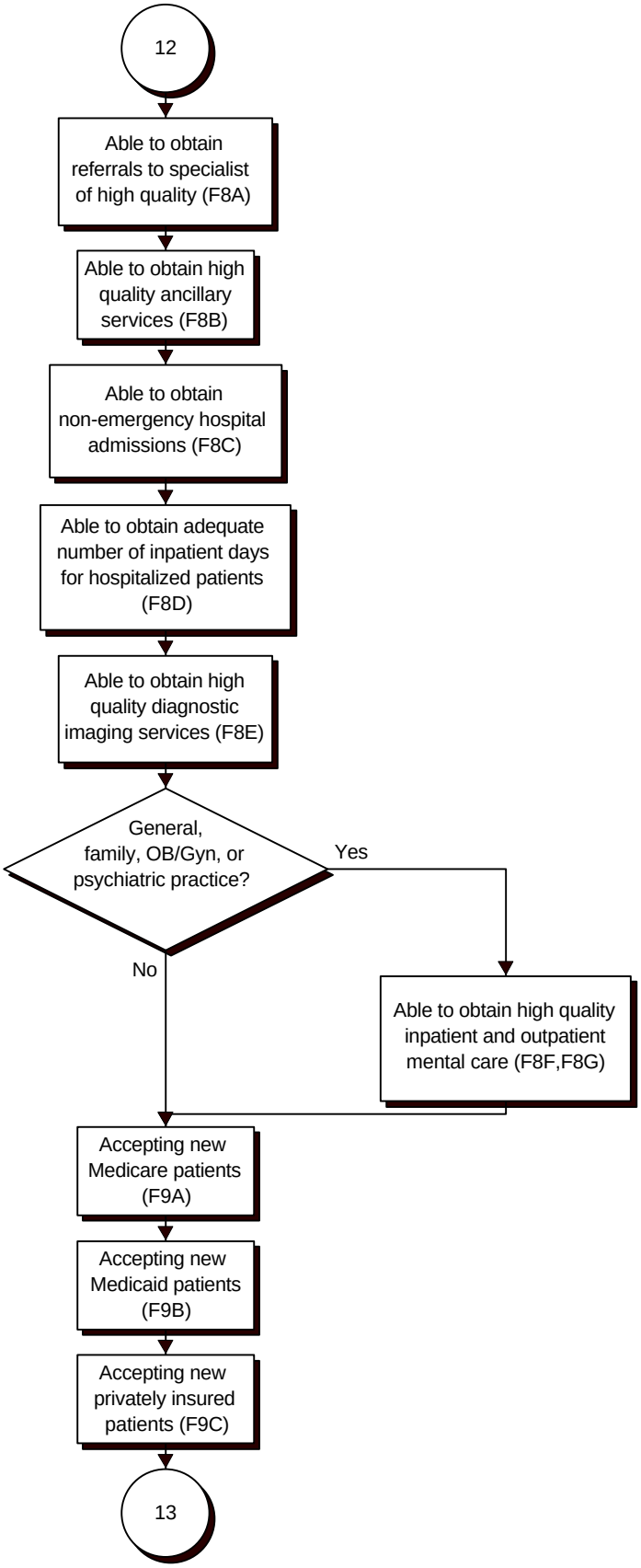
Section E: Vignettes



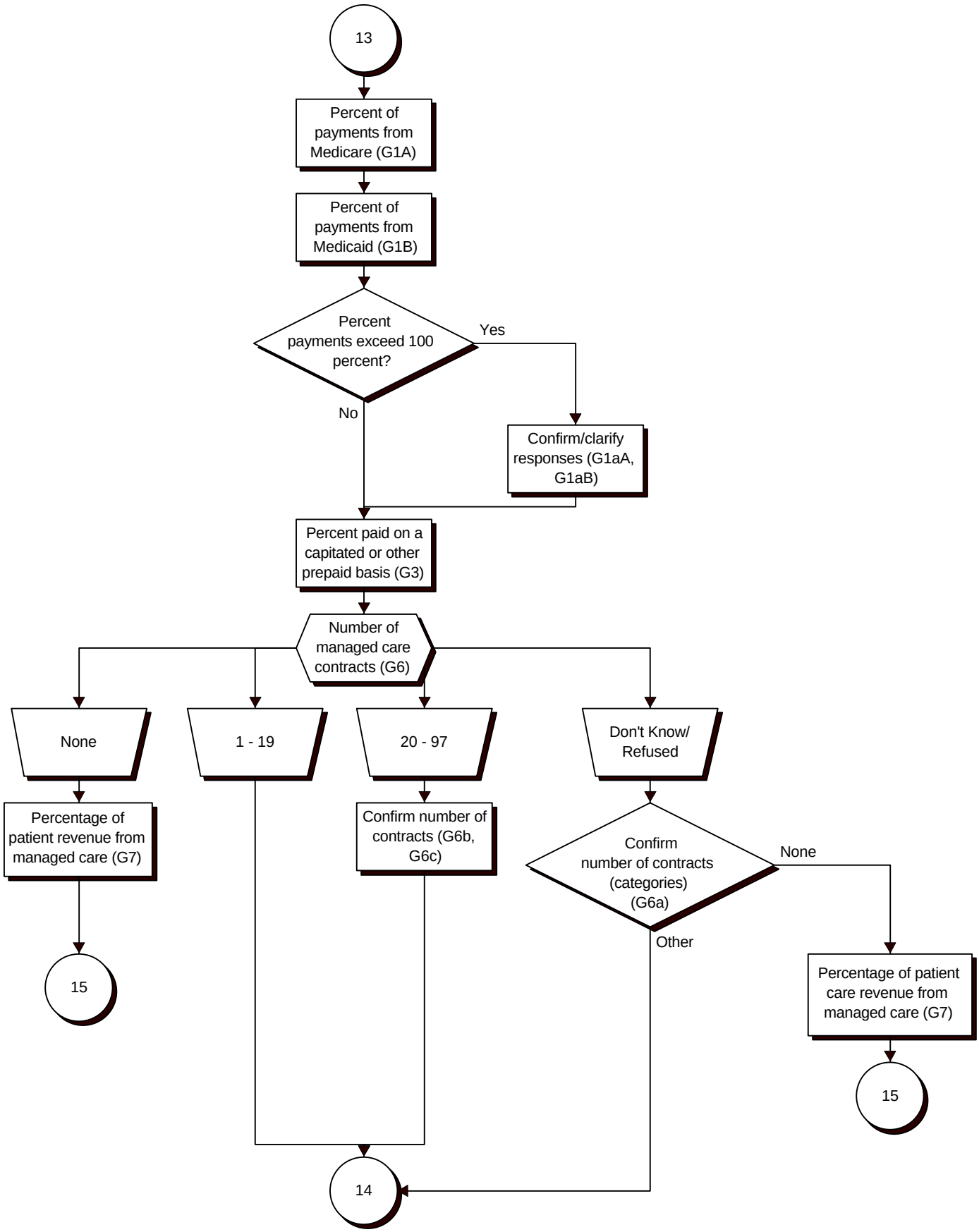
Section F: Physician-Patient Interactions



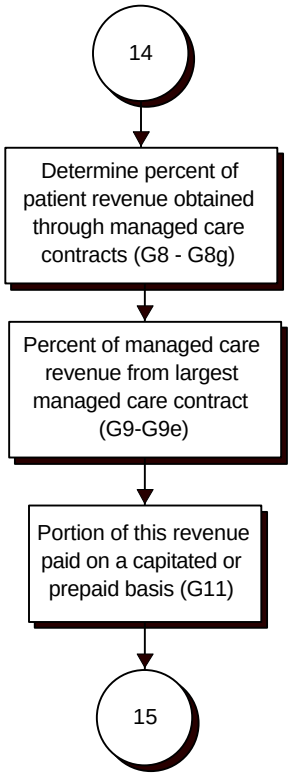
Section F: Physician-Patient Interactions - continued



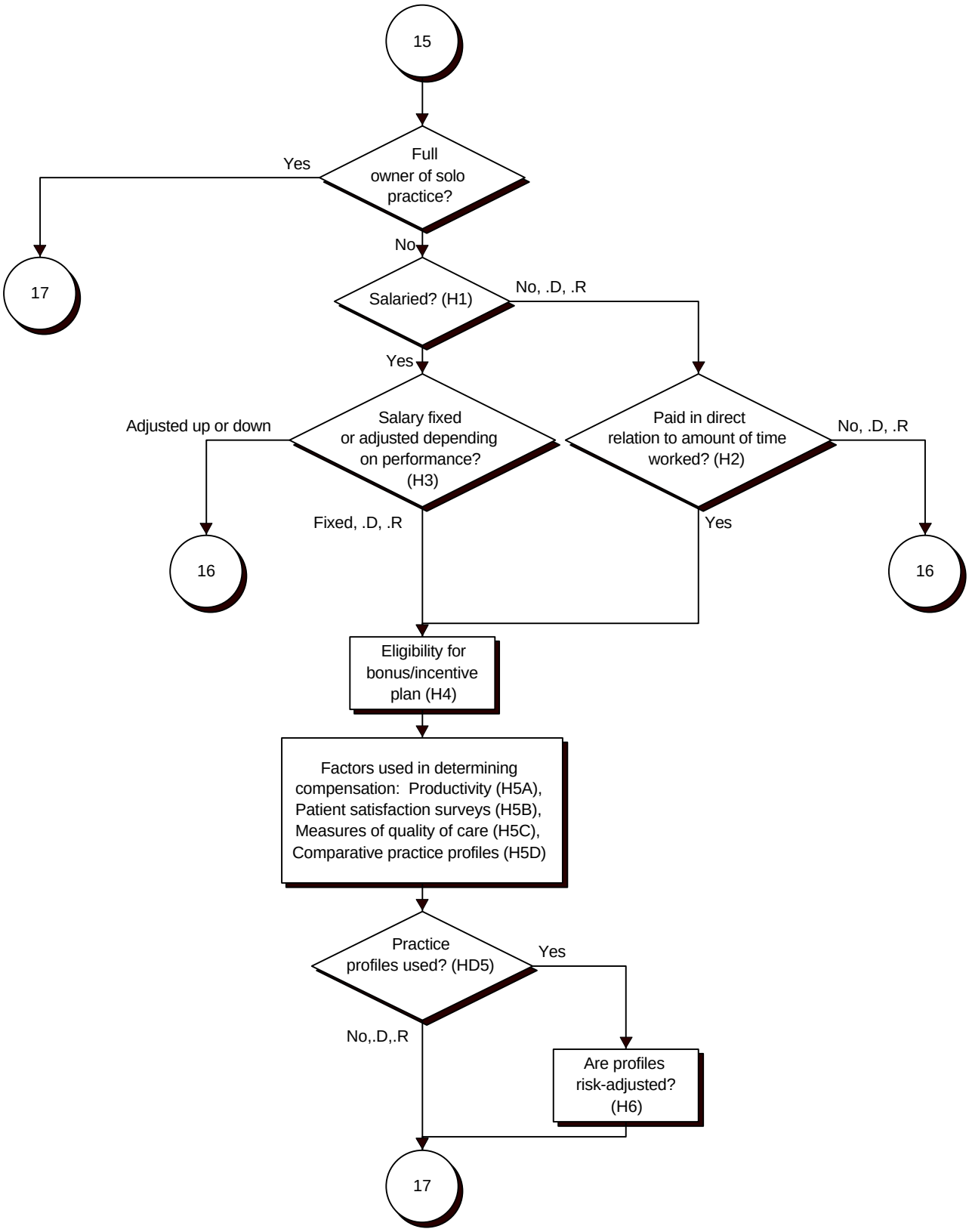
Section G: Practice Revenue



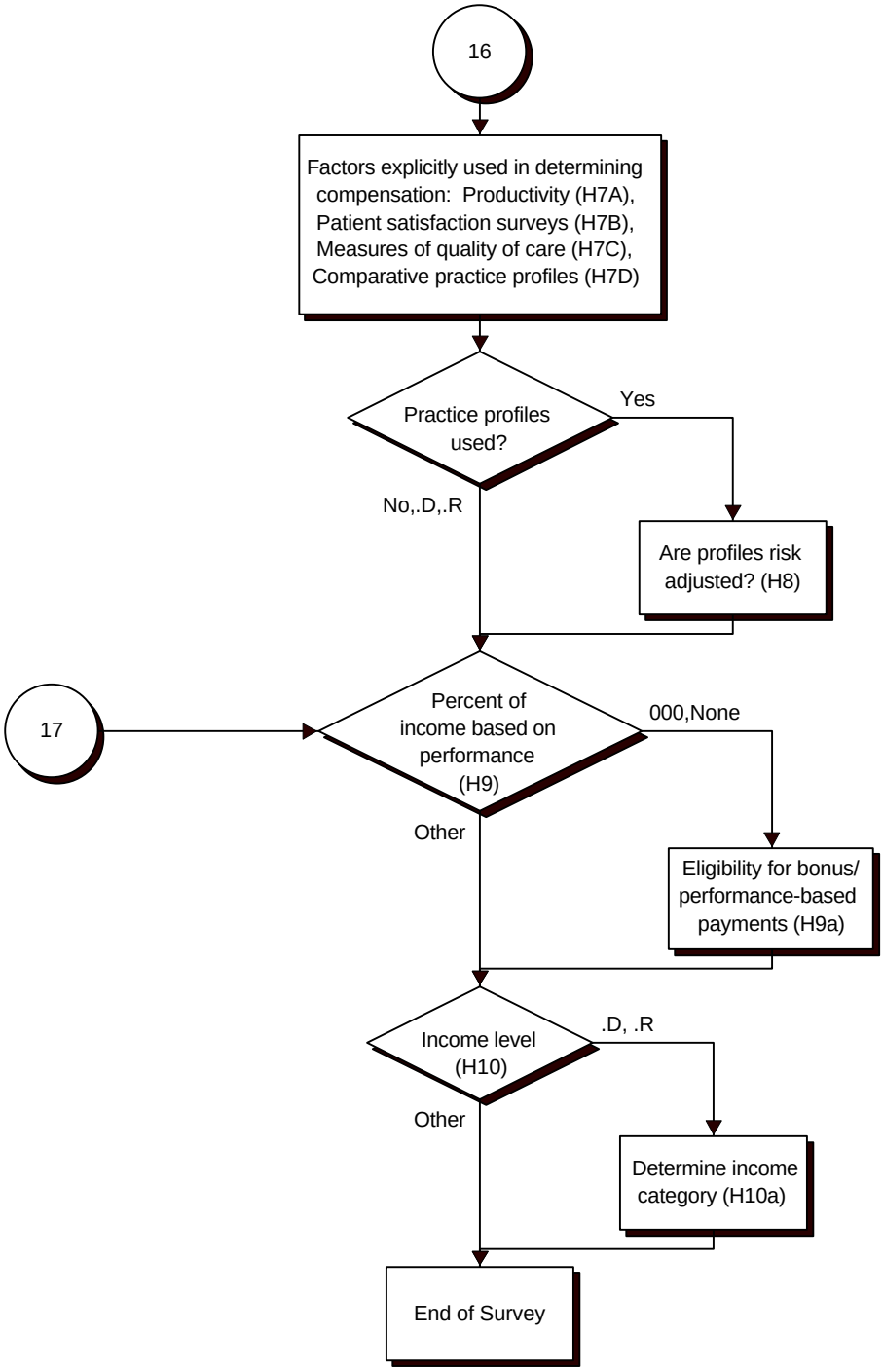
Section G: Practice Revenue - continued



Section H: Physician Compensation



Section H: Physician Compensation - continued



Appendix C

Derivation of Standard Error Look-up Tables

Appendix C

Derivation of Standard Error Look-up Tables

The standard errors in the tables in Appendix E were derived as follows.[1]

C.1. Percentages

To calculate standard errors for percentages (Tables E.1 through E.9), a representative set of categorical variables from the CTS Physician Survey was selected. These representative variables can be grouped into the following categories:

- Practice type and ownership: PRCTYPE, MULTPR, C5OWNER, OWNPR, NWMCAID
- Board certification: BDCERT
- Compensation: ELIGBON, SALWAGE[2]
- Opinion questions: CARSAT, CLNFREE, CMPEXPC, EFGUIDE, EFPROFL, EFSURV, HIGHCAR, NEGINCN, OBHOSP, OBOUTPT, SQUAL

These variable names (other than the compensation variables) can be cross-referenced in the CTS Physician Survey Restricted Use File Codebook.

For each categorical variable with more than two possible values, we created a series of dichotomous variables--one for each possible response. Each dichotomous variable indicates whether the respondent chose that category (value set to one) or one of the other categories (value set to zero).

Weighted percentages and associated standard errors and design effects were produced for these variables using SUDAAN software (release 7.5, SAS-callable for Windows 95 and NT, Taylor Series default option for variance estimation) for 4 estimate types and 13 population subgroups:

---

[1]The methods used were based on those described in "Sample Design, Sampling Weights, Imputation, and Variance Estimation in the 1995 National Survey of Family Growth," *Vital and Health Statistics*, Series 2, No. 124, February 1998, National Center for Health Statistics.

[2]These two variables were not included on the file in their original forms due to confidentiality considerations. The variables BONUS, SALPAID, SALTIME, and SALADJ, included on both the Restricted and Public Use Files, provide compensation information.

- Estimate Types

  - National estimates, site sample only
  - National estimates, supplemental sample only
  - High-intensity site-specific estimates, augmented sample
  - Low-intensity site-specific estimates, augmented sample

- Physician Subgroups

  - All physicians
  - All primary care physicians (PCPFLAG=1)
  - All non-primary care physicians (PCPFLAG=0)
  - Internal medicine physicians (SPECX=1)
  - Family/general practice physicians (SPECX=2)
  - General pediatricians (SPECX=3)
  - Medical specialists, including psychiatrists (SPECX=4,6)
  - Surgical specialists, including OB-GYNs (SPECX=5,7)
  - Physicians in solo or two-person practice (PRCTYPE=1)
  - Physicians in group practice of three or more (PRCTYPE=2)
  - Physicians in other practice settings (PRCTYPE=3,4,5,6)
  - Physicians in practice with managed care revenue above median of 35 percent (PMC>35)
  - Physicians in practice with managed care revenue at or below median (PMC<36)

The output from the SUDAAN runs was saved in several data files, which were used to derive regression models in SAS. The goal here was to derive a generalized function to predict design effects, given the size of the estimate and the unweighted sample size.

Before these models were run, estimates with an unweighted sample size of less than 100 (national) or 80 (site), a relative standard error of greater than 0.3,[3] or a particularly small or large design effect[4] were flagged as outliers and excluded from the regression runs. For the remaining estimates, a $\log_{10}$ transformation was used for the point estimate (p), for its complement ($q=1-p$), for the design effect (*DEFF*), and for the unweighted sample size (n_u).

A series of linear regression models (SAS's PROC REG) was fit, using the categorical variables specified above. If the model was not significant (at α=.10) with all three independent variables,

[3]The relative standard error is calculated as the standard error of an estimate divided by the estimate. It is used as a measure of the instability of an estimate.

[4]If greater than 20 or less than 0.8 (national) or 0.5 (site).

or if the model was significant but any of the three coefficients was not significant (at α=.10), independent variables were dropped until the best model was fit.[5] The models were specified as:

$$\hat{D} = \log_{10}(DEFF) = b_o + b_1 \log_{10}(n_u) + b_2 \log_{10}(p) + b_3 \log_{10}(q).$$

These models were run for categorical variables (excluding outliers) for the 52 combinations of estimate types and population subgroups described above.

For national estimates, the models for internal medicine physicians, family/general practice physicians, medical specialists, and physicians in group practice were not significant. For the remaining subgroups, design effects were derived by combining the predicted design effects for national estimates from the site sample and from the supplemental sample (based on the model above) in a linear fashion as follows:

$$\hat{DEFF}(comb) = \frac{\lambda^2 \hat{DEFF}_{site}}{p_{site}} + \frac{(1-\lambda)^2 \hat{DEFF}_{supp}}{p_{supp}}$$

where $\hat{DEFF}_i = 10^{\hat{D}_i}$ is the anti-log of the predicted $\log_{10}$ design effect $\hat{D}_i$ based on the associated regression model for sample i (site or supplement), p_i is the proportion of the combined unweighted (nominal) sample size contributed by sample i,[6] and λ is the proportion of the total effective sample size[7] for the combined sample attributable to the site sample. This design effect $\hat{DEFF}(comb)$ was then used in the following standard error formula to produce the tables:

$$S.E.(p) = \sqrt{\frac{p \cdot q \cdot \hat{DEFF}(comb)}{n_u - 1}}.$$

---

[5]These models predict design effects with less error than that which occurs when one simply uses a mean or median design effect; however, their predictive power is relatively low. The R^2 for these models ranged from .088 to .318 for national estimates. To estimate design effects with greater confidence, you will need to use specialized software to calculate them directly.

[6]A value of 0.89 for p_{site} (and 0.11 for p_{supp}) was used in deriving the tables.

[7]The effective sample size is calculated as the nominal sample size divided by the design effect. The average value of 0.8606 for λ, incorporated in the combined weights, was used in deriving the tables.

None of the models for high- or low-intensity site-specific estimates were significant. Instead, for site-specific estimates, the median design effects were used to produce standard error tables. We calculated the standard error for each combination of *p* and sample size as follows:

$$S.E.(p) = \sqrt{\frac{p \cdot q \cdot MED(DEFF)}{n_u - 1}}$$

where $MED(DEFF)$ is the median design effect across the representative variables and across sites for either the high- or the low-intensity site-specific estimates (0.987 and 1.163, respectively). Note that these tables were not generated for any physician subgroups.

C.2. Means of Quasi-Continuous Variables

As described in Chapter 4, we are defining as "quasi-continuous" those variables associated with responses that are expressed in terms of percentages and whose values are therefore bounded by 0 and 100. To calculate standard errors for these means (Tables E.10 through E.21 and E.37 through E.39), the following representative set of quasi-continuous variables from the CTS physician survey was selected:

- Percent values from vignettes: VCOUGH, VHYPER
- Percent of patients for whom physician is a gatekeeper: PCTGATE
- Percent income, payments, revenue from various sources: PMC, PBIGCON, PCAPREV, PMCARE, PMCAID, PCTINCN

These variable names can be cross-referenced in the CTS Physician Survey Codebook.

Weighted means and associated standard errors and design effects were produced for these variables using SUDAAN software for the same combinations of estimate types and population subgroups described above for percentage estimates, with one exception. The high-intensity and low-intensity site-specific estimates were combined for these models, so there are 39 (3×13) rather than 52 (4×13) possible combinations.

The goal for the quasi-continuous variable means was to derive a generalized function to predict standard errors, given the unweighted sample size and the weighted mean.

Before these models were run, estimates with an unweighted sample size of less than 100 (national) or 80 (site), a relative standard error of greater than 0.3, or a particularly small or large design effect[8] were flagged as outliers and excluded from the regression runs. For the remaining

[8]If greater than 20 or less than 0.8 (national) or 0.5 (site).

estimates, a $\log_{10}$ transformation was used for the standard error (*SE*), for the unweighted sample size (n_u) and for the weighted mean ($mean_w$).

A series of linear regression models was fit, using the quasi-continuous variables specified above. If the model was not significant with both independent variables, the best model was fit.[9] The models were specified as:

$$\hat{S} = \log_{10}(SE) = b_o + b_1 \log_{10}(n_u) + b_2 \log_{10}(mean_w).$$

These models were run for quasi-continuous variables (excluding outliers) for the 39 combinations of estimate types and population subgroups described above.

For national estimates, the models for general pediatricians were not significant. For the remaining subgroups, standard errors were derived by combining the predicted standard errors for national estimates from the site sample and from the supplemental sample (based on the model above) as follows:

$$\hat{SE}(comb) = \sqrt{(n_{site}+n_{supp})\left[\frac{\lambda^2(\hat{SE}_{site})^2}{n_{site}} + \frac{(1-\lambda)^2(\hat{SE}_{supp})^2}{n_{supp}}\right]}$$

where n_i is the unweighted sample size for sample *i* (site or supplement), $\hat{SE}_i$ is the anti-log of the predicted $\log_{10}$ standard error based on the associated regression model for sample *i*, and λ is the value defined previously (.8606).

For site-specific estimates (for any site), the standard errors used in the tables were derived as the anti-log of the predicted $\log_{10}$ standard error, $\hat{S}$, based on the associated regression model:

$$\hat{SE} = 10^{\hat{S}}.$$

For site-specific estimates, the only subgroup models that were significant were for PCPs and non-PCPs.

[9]The R^2 for these models ranged from .333 to .899 for national estimates and from .602 to .746 for site-specific estimates.

C.3. Means of Other Continuous Variables

To calculate standard errors for means of continuous variables *other* than those described as "quasi-continuous" above and subgroups other than those presented in Tables E.22 through E.34, see the formulas in Chapter 4, section 4.2.3. To derive these formulas, the following representative set of continuous variables from the CTS physician survey was selected:

- Time allocation: HRFREE, HRSPAT, HRSMED
- Practice characteristics: NPHYS, NASSIST, NMCCON
- Income: INCOMEC[10]
- Weeks worked: WKSWRKC

These variable names can be cross-referenced in the CTS Physician Survey Codebook.

Weighted means and associated standard errors and design effects were produced for these variables using SUDAAN software for the same combinations of estimate types and population subgroups described above for percentage estimates, with two exceptions: (1) the high- and low-intensity site-specific estimates were combined for these models, and (2) the combined sample, rather than the separate site and supplement samples, was used for national estimates. So there are 26 (2×13) rather than 52 (4×13) possible combinations.

The goal for the continuous variable means was to derive a generalized function to predict relative standard errors, given the unweighted sample size and weighted mean.

Before these models were run, estimates with an unweighted sample size of less than 100 (national) or 80 (site), a relative standard error of greater than 0.3, or a particularly small or large design effect[11] were flagged as outliers and excluded from the regression runs. For the remaining estimates, a $\log_{10}$ transformation was used for the relative standard error (*RSE*), for the unweighted sample size (n_u), and for the weighted mean ($mean_w$).

A series of linear regression models was fit, using the continuous variables specified above. If the model was not significant with both independent variables, the best model was fit.[12] The models were specified as:

$$\hat{R} = \log_{10}(RSE) = b_o + b_1 \log_{10}(n_u) + b_2 \log_{10}(mean_w).$$

[10]This was later masked (by combining into categories) and included as INCOMEX.

[11]If greater than 20 or less than 0.8 (national) or 0.5 (site).

[12]The R^2 for these models ranged from .775 to .931 for combined national estimates and from .048 to .100 for site-specific estimates.

These models were run for continuous variables (excluding outliers) for the 26 combinations of estimate types and population subgroups described above. For national estimates based on the combined sample, and for site-specific estimates, the only subgroup models that were significant were for PCPs and non-PCPs.

As described in Chapter 4, predicted relative standard errors for mean estimates can then be used to estimate standard errors using the following formula:

$$\hat{SE} = mean_w \cdot 10^{\hat{R}}.$$

C.4. Small Cell Size Warning

If the number of observations used in your estimate is less than 100 (for national estimates) or less than 80 (for site-specific estimates), your estimate is likely to be unstable, and you should not use the relevant table in Appendix E to obtain an estimate of the standard error.

Appendix D

Sample SUDAAN Procedure Statements

Appendix D

Sample SUDAAN Procedure Statements

There are a number of releases of the SUDAAN software running on several different platforms. Although the same procedure statements are used for all versions, enhancements or subtle differences can exist from one release to the next, particularly in terms of reading and writing external data files. The statements displayed in the examples in this appendix are tailored for SUDAAN Release 7.5, SAS-Callable for Windows 95 and NT. 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. In addition, the examples are limited to simple descriptive procedures for producing means or percentages. The same sample design parameters for descriptive procedures are used for more complex estimation procedures such as regression or logit.

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/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. Table 4.1 explains how to choose the design variables appropriate for each sample.

Separate examples are provided for the following four samples:

- ***Site-specific estimates based on the augmented sample***. 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 11,456 physician records.

- ***National estimates based on the site sample***. The example assumes that the input file, NSITES, consists of all records with WTPHY2>0 and is sorted by the variables appearing in the NEST statement (PSTRATA, PPSU, SECSTRA, NFSU). The sample would include 10,881 physician records.

- ***National estimates based on the supplemental sample***. 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 1,218 physician records.

- ***National estimates based on the combined sample***. The example assumes that the input file, SITESUPP, consists of all records on the Restricted Use File and is sorted by the variables appearing in the NEST statement (PSTRATA, PPSU, SECSTRA, NFSU). The sample would include 12,528 physician records.

Preprocessing or recoding may be required for some variables because of missing or nonpositive data. Missing data in the Restricted Use File were assigned an applicable negative value (e.g., "-9 Not Ascertained"; see Section 6.3--Variable Coding Conventions).[1] 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 must 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. As discussed in Chapter 4, to ensure stable estimates you should limit your estimates to those subgroups with at least 100 responses (for national estimates), or at least 80 responses (for site-specific estimates). Similarly, as described in Appendix C, any estimates with a relative standard error greater than .3 or a design effect greater than 20 or less than .8 (for national estimates) or .5 (for site-specific estimates) are considered to be unstable.

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 site sample of the combined sample. In SUDAAN, the default DDF is the difference between the number of PSUs and the number of first-stage strata, which is appropriate for most surveys. Because the CTS design includes some sites with certainty, the SUDAAN default count is substantially smaller than is the actual count for these national estimates. This undercount would result in significance tests that would be too conservative (that is, that do not reject null hypothesis often enough). We included the DDF value in two 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.

---

[1]Chapter 6 also explains how missing values of weight and sampling variables were coded.

D.1. Site-Specific Estimates Based on the Augmented Sample

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 / missunit;
     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";
```

D.2. National Estimates from the Site Sample

This example estimates the mean number of hours per month during which physicians provide charity care (HRFREE) by the primary care/nonprimary 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 pstrata ppsu secstra nfsu / missunit;
     totcnt pstrtot3 _zero_ nframe _zero_;
     weight wtphy2;
     jointprob p1x p2x p3x p4x p5x p6x p7x;
     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 Site Sample";
```

D.3. National Estimates from the Supplemental Sample

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 / missunit;
     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";
```

D.4. National Estimates from the Combined Sample

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 whom 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_ nframe _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";
```

Appendix E

Standard Error Tables

APPENDIX E

STANDARD ERROR TABLES FOR THE CTS PHYSICIAN SURVEY RESTRICTED USE FILE:

NATIONAL ESTIMATES FROM THE COMBINED SAMPLE

APPENDIX E

STANDARD ERROR TABLES FOR THE CTS PHYSICIAN SURVEY RESTRICTED USE FILE:

SITE-SPECIFIC ESTIMATES FROM THE AUGMENTED SITE SAMPLE

TABLE E.1

STANDARD ERRORS FOR PERCENTAGES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, ALL PHYSICIANS (OR ANY SUBSET)*

Sample Size	For Percentages Near								
	5% or 95%	10% or 90%	15% or 85%	20% or 80%	25% or 75%	30% or 70%	35% or 65%	40% or 60%	50%
12,500	0.26%	0.38%	0.46%	0.53%	0.58%	0.61%	0.64%	0.66%	0.68%
12,000	0.27%	0.39%	0.47%	0.53%	0.58%	0.62%	0.65%	0.67%	0.69%
11,500	0.27%	0.39%	0.48%	0.54%	0.59%	0.63%	0.66%	0.68%	0.70%
11,000	0.28%	0.40%	0.49%	0.55%	0.60%	0.64%	0.67%	0.69%	0.71%
10,500	0.28%	0.41%	0.49%	0.56%	0.62%	0.66%	0.69%	0.71%	0.72%
10,000	0.29%	0.41%	0.50%	0.57%	0.63%	0.67%	0.70%	0.72%	0.74%
9,500	0.29%	0.42%	0.51%	0.58%	0.64%	0.68%	0.71%	0.73%	0.75%
9,000	0.30%	0.43%	0.52%	0.60%	0.65%	0.70%	0.73%	0.75%	0.77%
8,500	0.31%	0.44%	0.54%	0.61%	0.67%	0.71%	0.74%	0.77%	0.78%
8,000	0.31%	0.45%	0.55%	0.62%	0.68%	0.73%	0.76%	0.79%	0.80%
7,500	0.32%	0.46%	0.56%	0.64%	0.70%	0.75%	0.78%	0.80%	0.82%
7,000	0.33%	0.47%	0.58%	0.66%	0.72%	0.77%	0.80%	0.83%	0.85%
6,500	0.34%	0.49%	0.59%	0.68%	0.74%	0.79%	0.83%	0.85%	0.87%
6,000	0.35%	0.50%	0.61%	0.70%	0.76%	0.81%	0.85%	0.88%	0.90%
5,500	0.36%	0.52%	0.63%	0.72%	0.79%	0.84%	0.88%	0.91%	0.93%

See note at end of table.

TABLE E.1

STANDARD ERRORS FOR PERCENTAGES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, ALL PHYSICIANS (OR ANY SUBSET)*
-- Continued

Sample Size	For Percentages Near								
	5% or 95%	10% or 90%	15% or 85%	20% or 80%	25% or 75%	30% or 70%	35% or 65%	40% or 60%	50%
5,000	0.38%	0.54%	0.66%	0.75%	0.82%	0.87%	0.91%	0.94%	0.96%
4,500	0.39%	0.56%	0.69%	0.78%	0.85%	0.91%	0.95%	0.98%	1.00%
4,000	0.41%	0.59%	0.72%	0.82%	0.89%	0.95%	0.99%	1.02%	1.05%
3,500	0.43%	0.62%	0.76%	0.86%	0.94%	1.00%	1.05%	1.08%	1.10%
3,000	0.46%	0.66%	0.80%	0.91%	1.00%	1.06%	1.11%	1.15%	1.17%
2,500	0.49%	0.71%	0.86%	0.98%	1.07%	1.14%	1.19%	1.23%	1.26%
2,000	0.54%	0.77%	0.94%	1.07%	1.17%	1.24%	1.30%	1.34%	1.37%
1,500	0.60%	0.86%	1.05%	1.19%	1.31%	1.39%	1.45%	1.50%	1.53%

* Separate tables are provided for all primary care physicians (E.2), all non-primary care physicians (E.3), general pediatricians (E.4), surgical specialists (E.5), physicians in solo or two-person practice (E.6), physicians in HMO, medical school, hospital, or other practice settings, excluding private group practices of three or more (E.7), physicians in practice with a higher percentage of revenue from managed care (E.8), and physicians in practice with a lower percentage of revenue from managed care (E.9). We recommend that you use one of these other tables if your estimate is limited to one these subgroups (or any subset within it).

TABLE E.2

STANDARD ERRORS FOR PERCENTAGES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, ALL PRIMARY CARE PHYSICIANS (OR ANY SUBSET)*

Sample Size	For Percentages Near								
	5% or 95%	10% or 90%	15% or 85%	20% or 80%	25% or 75%	30% or 70%	35% or 65%	40% or 60%	50%
7,200	0.36%	0.49%	0.58%	0.65%	0.71%	0.75%	0.78%	0.80%	0.82%
7,000	0.36%	0.50%	0.59%	0.66%	0.71%	0.76%	0.79%	0.81%	0.82%
6,500	0.37%	0.51%	0.61%	0.68%	0.74%	0.78%	0.81%	0.83%	0.85%
6,000	0.38%	0.53%	0.63%	0.70%	0.76%	0.80%	0.83%	0.86%	0.88%
5,500	0.40%	0.54%	0.65%	0.72%	0.78%	0.83%	0.86%	0.89%	0.90%
5,000	0.41%	0.56%	0.67%	0.75%	0.81%	0.86%	0.90%	0.92%	0.94%
4,500	0.43%	0.59%	0.70%	0.78%	0.85%	0.90%	0.93%	0.96%	0.98%
4,000	0.45%	0.61%	0.73%	0.82%	0.89%	0.94%	0.98%	1.00%	1.02%
3,500	0.47%	0.65%	0.77%	0.86%	0.93%	0.99%	1.03%	1.06%	1.08%
3,000	0.50%	0.69%	0.82%	0.91%	0.99%	1.05%	1.09%	1.12%	1.14%
2,500	0.54%	0.74%	0.88%	0.98%	1.06%	1.12%	1.17%	1.20%	1.23%
2,000	0.58%	0.80%	0.96%	1.07%	1.16%	1.23%	1.28%	1.31%	1.34%
1,500	0.65%	0.90%	1.07%	1.20%	1.30%	1.37%	1.43%	1.47%	1.50%
1,000	0.77%	1.05%	1.25%	1.40%	1.52%	1.61%	1.67%	1.72%	1.75%

* A separate table is provided for general pediatricians (E.4). We recommend that you use this other table if your estimate is limited to this subgroup (or any subset within it).

TABLE E.3

STANDARD ERRORS FOR PERCENTAGES: NATIONAL ESTIMATES FROM COMBINED SAMPLE,
ALL NON-PRIMARY CARE PHYSICIANS (OR ANY SUBSET)*

	For Percentages Near								
Sample Size	5% or 95%	10% or 90%	15% or 85%	20% or 80%	25% or 75%	30% or 70%	35% or 65%	40% or 60%	50%
5,350	0.38%	0.52%	0.62%	0.69%	0.75%	0.79%	0.82%	0.85%	0.86%
5,300	0.38%	0.52%	0.62%	0.69%	0.75%	0.79%	0.83%	0.85%	0.87%
5,000	0.39%	0.53%	0.63%	0.71%	0.77%	0.81%	0.84%	0.87%	0.88%
4,500	0.40%	0.55%	0.66%	0.74%	0.80%	0.84%	0.88%	0.90%	0.92%
4,000	0.42%	0.58%	0.68%	0.77%	0.83%	0.88%	0.92%	0.94%	0.96%
3,500	0.44%	0.60%	0.72%	0.81%	0.87%	0.92%	0.96%	0.99%	1.01%
3,000	0.46%	0.64%	0.76%	0.85%	0.92%	0.98%	1.02%	1.04%	1.07%
2,500	0.50%	0.68%	0.81%	0.91%	0.99%	1.04%	1.09%	1.12%	1.14%
2,000	0.54%	0.74%	0.88%	0.99%	1.07%	1.13%	1.18%	1.21%	1.24%
1,500	0.60%	0.82%	0.98%	1.10%	1.19%	1.26%	1.31%	1.35%	1.38%
1,000	0.70%	0.96%	1.14%	1.28%	1.39%	1.47%	1.53%	1.57%	1.60%
500	0.90%	1.25%	1.48%	1.66%	1.80%	1.90%	1.98%	2.04%	2.08%

* A separate table is provided for surgical specialists (E.5). We recommend that you use this other table if your estimate is limited to this subgroup (or any subset within it).

TABLE E.4

STANDARD ERRORS FOR PERCENTAGES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, GENERAL PEDIATRICIANS (OR ANY SUBSET)

Sample Size	For Percentages Near								
	5% or 95%	10% or 90%	15% or 85%	20% or 80%	25% or 75%	30% or 70%	35% or 65%	40% or 60%	50%
1,630	0.58%	0.82%	1.00%	1.13%	1.23%	1.30%	1.36%	1.39%	1.40%
1,600	0.58%	0.83%	1.01%	1.14%	1.24%	1.32%	1.37%	1.40%	1.42%
1,500	0.60%	0.86%	1.04%	1.18%	1.28%	1.36%	1.41%	1.45%	1.46%
1,400	0.62%	0.89%	1.08%	1.22%	1.33%	1.41%	1.46%	1.50%	1.52%
1,300	0.65%	0.92%	1.12%	1.26%	1.38%	1.46%	1.52%	1.56%	1.57%
1,200	0.67%	0.96%	1.16%	1.32%	1.43%	1.52%	1.58%	1.62%	1.64%
1,100	0.70%	1.00%	1.22%	1.37%	1.50%	1.59%	1.65%	1.69%	1.71%
1,000	0.74%	1.05%	1.27%	1.44%	1.57%	1.66%	1.73%	1.77%	1.79%
900	0.78%	1.11%	1.34%	1.52%	1.65%	1.75%	1.83%	1.87%	1.89%
800	0.83%	1.18%	1.43%	1.61%	1.75%	1.86%	1.94%	1.98%	2.01%
700	0.88%	1.26%	1.52%	1.72%	1.88%	1.99%	2.07%	2.12%	2.14%
600	0.95%	1.36%	1.65%	1.86%	2.03%	2.15%	2.24%	2.29%	2.32%
500	1.05%	1.49%	1.80%	2.04%	2.22%	2.35%	2.45%	2.51%	2.54%
400	1.17%	1.67%	2.02%	2.28%	2.48%	2.63%	2.74%	2.81%	2.84%
300	1.35%	1.92%	2.33%	2.64%	2.87%	3.04%	3.16%	3.24%	3.28%

TABLE E.5

STANDARD ERRORS FOR PERCENTAGES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, SURGICAL SPECIALISTS (OR ANY SUBSET)

Sample Size	For Percentages Near								
	5% or 95%	10% or 90%	15% or 85%	20% or 80%	25% or 75%	30% or 70%	35% or 65%	40% or 60%	50%
2,300	0.50%	0.69%	0.83%	0.93%	1.00%	1.06%	1.10%	1.13%	1.16%
2,000	0.54%	0.74%	0.88%	0.98%	1.07%	1.13%	1.17%	1.21%	1.23%
1,800	0.56%	0.77%	0.92%	1.03%	1.12%	1.18%	1.23%	1.26%	1.29%
1,500	0.61%	0.84%	1.00%	1.12%	1.21%	1.28%	1.33%	1.37%	1.40%
1,200	0.67%	0.92%	1.10%	1.23%	1.33%	1.41%	1.47%	1.51%	1.54%
1,000	0.72%	1.00%	1.19%	1.33%	1.44%	1.53%	1.59%	1.63%	1.67%
800	0.80%	1.10%	1.31%	1.47%	1.59%	1.68%	1.75%	1.80%	1.84%
500	0.98%	1.35%	1.61%	1.80%	1.95%	2.07%	2.15%	2.21%	2.26%
250	1.33%	1.83%	2.18%	2.44%	2.65%	2.80%	2.92%	3.00%	3.06%

TABLE E.6

STANDARD ERRORS FOR PERCENTAGES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PHYSICIANS IN SOLO OR TWO-PERSON PRACTICE (OR ANY SUBSET)

	For Percentages Near								
Sample Size	5% or 95%	10% or 90%	15% or 85%	20% or 80%	25% or 75%	30% or 70%	35% or 65%	40% or 60%	50%
7,000	0.26%	0.40%	0.51%	0.59%	0.66%	0.71%	0.75%	0.78%	0.80%
6,500	0.27%	0.41%	0.52%	0.61%	0.68%	0.74%	0.78%	0.81%	0.83%
6,000	0.28%	0.43%	0.55%	0.64%	0.71%	0.77%	0.81%	0.84%	0.87%
5,500	0.29%	0.45%	0.57%	0.67%	0.74%	0.80%	0.85%	0.88%	0.91%
5,000	0.31%	0.47%	0.60%	0.70%	0.78%	0.84%	0.89%	0.92%	0.95%
4,500	0.32%	0.50%	0.63%	0.74%	0.82%	0.89%	0.94%	0.97%	1.00%
4,000	0.34%	0.53%	0.67%	0.78%	0.87%	0.94%	0.99%	1.03%	1.06%
3,500	0.37%	0.56%	0.71%	0.83%	0.93%	1.01%	1.06%	1.10%	1.14%
3,000	0.40%	0.61%	0.77%	0.90%	1.00%	1.09%	1.15%	1.19%	1.23%
2,500	0.44%	0.67%	0.85%	0.99%	1.10%	1.19%	1.26%	1.31%	1.35%
2,000	0.49%	0.75%	0.95%	1.10%	1.23%	1.33%	1.41%	1.46%	1.50%
1,500	0.56%	0.86%	1.09%	1.27%	1.42%	1.54%	1.62%	1.69%	1.74%

TABLE E.7

STANDARD ERRORS FOR PERCENTAGES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PHYSICIANS IN HMO, MEDICAL SCHOOL, HOSPITAL, OR OTHER PRACTICE SETTING (OR ANY SUBSET)*

	For Percentages Near								
Sample Size	5% or 95%	10% or 90%	15% or 85%	20% or 80%	25% or 75%	30% or 70%	35% or 65%	40% or 60%	50%
4,400	0.42%	0.62%	0.76%	0.87%	0.95%	1.02%	1.06%	1.09%	1.10%
4,000	0.44%	0.64%	0.79%	0.90%	0.99%	1.05%	1.10%	1.13%	1.13%
3,500	0.46%	0.67%	0.83%	0.95%	1.04%	1.10%	1.15%	1.18%	1.19%
3,000	0.48%	0.71%	0.88%	1.00%	1.10%	1.17%	1.22%	1.25%	1.26%
2,500	0.52%	0.76%	0.94%	1.07%	1.17%	1.25%	1.30%	1.34%	1.35%
2,000	0.56%	0.83%	1.02%	1.16%	1.27%	1.36%	1.42%	1.45%	1.46%
1,500	0.63%	0.92%	1.13%	1.29%	1.42%	1.51%	1.57%	1.62%	1.63%
1,000	0.73%	1.07%	1.32%	1.51%	1.65%	1.76%	1.83%	1.88%	1.89%
900	0.76%	1.12%	1.37%	1.57%	1.71%	1.83%	1.90%	1.95%	1.97%
800	0.80%	1.17%	1.43%	1.64%	1.79%	1.91%	1.99%	2.04%	2.06%

- "Other Practice Setting" does not apply to private group practices of three or more.

TABLE E.8

STANDARD ERRORS FOR PERCENTAGES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PHYSICIANS IN PRACTICE WITH HIGH REVENUE FROM MANAGED CARE (OR ANY SUBSET)*

Sample Size	For Percentages Near								
	5% or 95%	10% or 90%	15% or 85%	20% or 80%	25% or 75%	30% or 70%	35% or 65%	40% or 60%	50%
7,000	0.32%	0.45%	0.55%	0.63%	0.69%	0.74%	0.77%	0.80%	0.83%
6,500	0.33%	0.47%	0.57%	0.65%	0.71%	0.76%	0.80%	0.83%	0.85%
6,000	0.34%	0.48%	0.59%	0.67%	0.73%	0.79%	0.82%	0.85%	0.88%
5,500	0.35%	0.50%	0.61%	0.69%	0.76%	0.81%	0.85%	0.88%	0.91%
5,000	0.36%	0.52%	0.63%	0.72%	0.79%	0.85%	0.89%	0.92%	0.95%
4,500	0.38%	0.54%	0.66%	0.75%	0.83%	0.88%	0.93%	0.96%	0.99%
4,000	0.40%	0.57%	0.69%	0.79%	0.87%	0.93%	0.97%	1.01%	1.04%
3,500	0.42%	0.60%	0.73%	0.83%	0.91%	0.98%	1.03%	1.06%	1.10%
3,000	0.45%	0.64%	0.78%	0.89%	0.97%	1.04%	1.09%	1.13%	1.17%
2,500	0.48%	0.69%	0.84%	0.96%	1.05%	1.12%	1.18%	1.22%	1.26%
2,000	0.53%	0.76%	0.92%	1.05%	1.15%	1.23%	1.29%	1.34%	1.38%
1,500	0.60%	0.85%	1.04%	1.18%	1.29%	1.38%	1.45%	1.50%	1.55%

* Revenue from managed care above the median of 35 percent.

TABLE E.9

STANDARD ERRORS FOR PERCENTAGES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PHYSICIANS IN PRACTICE WITH LOW REVENUE FROM MANAGED CARE (OR ANY SUBSET)*

Sample Size	For Percentages Near								
	5% or 95%	10% or 90%	15% or 85%	20% or 80%	25% or 75%	30% or 70%	35% or 65%	40% or 60%	50%
5,500	0.41%	0.57%	0.68%	0.76%	0.82%	0.87%	0.91%	0.93%	0.95%
5,300	0.42%	0.58%	0.70%	0.78%	0.84%	0.89%	0.93%	0.96%	0.97%
5,000	0.43%	0.60%	0.71%	0.80%	0.86%	0.91%	0.95%	0.97%	0.99%
4,500	0.45%	0.62%	0.74%	0.83%	0.89%	0.95%	0.98%	1.01%	1.03%
4,000	0.47%	0.64%	0.77%	0.86%	0.93%	0.98%	1.03%	1.05%	1.07%
3,500	0.49%	0.68%	0.80%	0.90%	0.97%	1.03%	1.07%	1.10%	1.13%
3,000	0.52%	0.71%	0.85%	0.95%	1.03%	1.09%	1.13%	1.16%	1.19%
2,500	0.55%	0.76%	0.90%	1.01%	1.10%	1.16%	1.21%	1.24%	1.27%
2,000	0.60%	0.82%	0.98%	1.10%	1.19%	1.25%	1.31%	1.34%	1.37%
1,500	0.66%	0.91%	1.08%	1.21%	1.31%	1.39%	1.44%	1.48%	1.51%
1,000	0.76%	1.05%	1.25%	1.40%	1.51%	1.60%	1.67%	1.71%	1.75%
900	0.79%	1.09%	1.30%	1.45%	1.57%	1.66%	1.73%	1.78%	1.82%

* Revenue from managed care at or below the median of 35 percent.

TABLE E.10

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, ALL PHYSICIANS (OR ANY SUBSET)*

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
13,000	0.227	0.307	0.416	0.496	0.563	0.620	0.672	0.719	0.762
12,000	0.235	0.318	0.431	0.515	0.584	0.644	0.697	0.746	0.791
11,500	0.240	0.325	0.440	0.525	0.595	0.656	0.711	0.760	0.806
11,000	0.245	0.331	0.449	0.536	0.607	0.670	0.725	0.776	0.823
10,500	0.250	0.338	0.458	0.547	0.621	0.684	0.741	0.793	0.840
10,000	0.256	0.346	0.469	0.560	0.635	0.700	0.758	0.811	0.859
9,500	0.262	0.354	0.480	0.573	0.650	0.716	0.776	0.830	0.880
9,000	0.268	0.363	0.492	0.587	0.666	0.734	0.795	0.851	0.902
8,500	0.275	0.373	0.505	0.603	0.684	0.754	0.816	0.873	0.926
8,000	0.283	0.383	0.519	0.620	0.703	0.775	0.840	0.898	0.952
7,500	0.292	0.395	0.535	0.639	0.724	0.799	0.865	0.925	0.981
7,000	0.301	0.408	0.552	0.659	0.748	0.824	0.893	0.955	1.013
6,500	0.312	0.422	0.571	0.682	0.774	0.853	0.924	0.988	1.048
6,000	0.323	0.438	0.593	0.708	0.803	0.885	0.959	1.026	1.087
5,500	0.337	0.456	0.617	0.737	0.836	0.922	0.998	1.068	1.132

See note at end of table.

TABLE E.10

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, ALL PHYSICIANS (OR ANY SUBSET)*
-- Continued

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
5,000	0.352	0.477	0.645	0.770	0.874	0.963	1.043	1.116	1.183
4,500	0.370	0.500	0.678	0.809	0.918	1.012	1.096	1.172	1.243
4,000	0.390	0.529	0.716	0.855	0.969	1.069	1.157	1.238	1.313
3,500	0.416	0.563	0.762	0.910	1.032	1.137	1.232	1.318	1.397
3,000	0.447	0.605	0.819	0.978	1.109	1.222	1.324	1.416	1.501
2,500	0.487	0.659	0.892	1.065	1.208	1.332	1.442	1.543	1.636
2,000	0.540	0.732	0.991	1.183	1.342	1.479	1.602	1.714	1.817
1,500	0.619	0.838	1.135	1.356	1.537	1.695	1.835	1.963	2.081
1,000	0.751	1.017	1.377	1.644	1.864	2.055	2.226	2.381	2.524

* Separate tables are provided for all primary care physicians (E.11), all non-primary care physicians (E.12), internal medicine physicians (E.13), family/general practice physicians (E.14), medical specialists (E.15), surgical specialists (E.16), physicians in solo or two-person practice (E.17), physicians in group practice of three or more (E.18), physicians in HMO, medical school, hospital, or other practice settings (E.19), physicians in practice with a higher percentage of revenue from managed care (E.20), and physicians in practice with a lower percentage of revenue from managed care (E.21). We recommend that you use one of these other tables if your estimate is limited to one these subgroups (or any subset within it).

TABLE E.11

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES:
NATIONAL ESTIMATES FROM COMBINED SAMPLE,
ALL PRIMARY CARE PHYSICIANS (OR ANY SUBSET)*

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
7,500	0.282	0.392	0.547	0.663	0.761	0.847	0.924	0.995	1.060
7,000	0.291	0.406	0.565	0.685	0.786	0.875	0.954	1.027	1.095
6,500	0.302	0.420	0.585	0.710	0.815	0.906	0.989	1.064	1.134
6,000	0.314	0.437	0.608	0.738	0.846	0.941	1.027	1.105	1.178
5,500	0.327	0.456	0.634	0.769	0.882	0.981	1.071	1.152	1.228
5,000	0.343	0.477	0.664	0.805	0.924	1.027	1.121	1.206	1.286
4,500	0.361	0.502	0.699	0.847	0.972	1.081	1.179	1.269	1.352
4,000	0.382	0.532	0.740	0.897	1.029	1.144	1.248	1.343	1.432
3,500	0.409	0.568	0.790	0.958	1.098	1.221	1.332	1.434	1.528
3,000	0.441	0.613	0.852	1.033	1.185	1.317	1.437	1.546	1.647
2,500	0.483	0.671	0.933	1.131	1.297	1.442	1.572	1.691	1.802
2,000	0.541	0.751	1.043	1.264	1.449	1.611	1.757	1.890	2.014
1,500	0.626	0.869	1.207	1.462	1.676	1.863	2.031	2.184	2.327
1,000	0.772	1.071	1.486	1.800	2.062	2.292	2.498	2.687	2.862
900	0.816	1.132	1.570	1.901	2.178	2.420	2.637	2.837	3.021
800	0.868	1.204	1.669	2.021	2.315	2.572	2.804	3.015	3.211
700	0.931	1.291	1.790	2.167	2.482	2.758	3.006	3.232	3.443
600	1.011	1.401	1.942	2.350	2.691	2.990	3.258	3.504	3.732
500	1.114	1.543	2.138	2.588	2.964	3.292	3.587	3.857	4.108
400	1.256	1.739	2.409	2.915	3.337	3.706	4.038	4.342	4.624

* Separate tables are provided for internal medicine physicians (E.13) and family/general practice physicians (E.14). We recommend that you use one of these other tables if your estimate is limited to one of these subgroups (or any subset within it).

TABLE E.12

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES:
NATIONAL ESTIMATES FROM COMBINED SAMPLE,
ALL NON-PRIMARY CARE PHYSICIANS (OR ANY SUBSET)*

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
5,300	0.436	0.498	0.569	0.615	0.650	0.679	0.704	0.725	0.744
5,000	0.447	0.510	0.583	0.631	0.667	0.696	0.721	0.743	0.763
4,500	0.467	0.534	0.610	0.660	0.697	0.728	0.755	0.777	0.798
4,000	0.491	0.561	0.641	0.694	0.733	0.766	0.793	0.817	0.839
3,500	0.520	0.594	0.679	0.734	0.776	0.811	0.840	0.865	0.888
3,000	0.555	0.635	0.725	0.784	0.829	0.866	0.897	0.924	0.948
2,500	0.600	0.686	0.784	0.848	0.896	0.936	0.969	0.999	1.025
2,000	0.661	0.754	0.862	0.932	0.986	1.029	1.066	1.099	1.127
1,500	0.747	0.853	0.975	1.054	1.114	1.164	1.205	1.242	1.274
1,000	0.888	1.014	1.159	1.253	1.325	1.383	1.433	1.476	1.515
900	0.929	1.061	1.212	1.311	1.386	1.447	1.499	1.544	1.585
800	0.977	1.116	1.275	1.378	1.457	1.521	1.576	1.624	1.666
700	1.035	1.181	1.350	1.459	1.543	1.611	1.668	1.719	1.764
600	1.105	1.262	1.442	1.559	1.647	1.720	1.782	1.836	1.884
500	1.195	1.364	1.558	1.685	1.781	1.859	1.926	1.984	2.036
400	1.314	1.501	1.714	1.853	1.959	2.045	2.118	2.182	2.239

* Separate tables are provided for medical specialists (E.15) and surgical specialists (E.16). We recommend that you use one of these other tables if your estimate is limited to one of these subgroups (or any subset within it).

TABLE E.13

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES:
NATIONAL ESTIMATES FROM COMBINED SAMPLE,
INTERNAL MEDICINE PHYSICIANS (OR ANY SUBSET)

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
2,500	0.432	0.611	0.864	1.058	1.222	1.366	1.497	1.617	1.729
2,000	0.505	0.713	1.008	1.233	1.424	1.591	1.743	1.883	2.013
1,500	0.620	0.875	1.234	1.509	1.741	1.945	2.130	2.299	2.457
1,000	0.833	1.173	1.652	2.018	2.327	2.598	2.844	3.069	3.279
900	0.901	1.267	1.784	2.179	2.512	2.805	3.070	3.313	3.539
800	0.983	1.383	1.946	2.376	2.738	3.057	3.345	3.610	3.856
700	1.087	1.527	2.148	2.623	3.022	3.373	3.690	3.982	4.253
600	1.220	1.715	2.410	2.942	3.389	3.782	4.137	4.463	4.766
500	1.402	1.969	2.765	3.374	3.886	4.335	4.742	5.115	5.461

TABLE E.14

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES:
NATIONAL ESTIMATES FROM COMBINED SAMPLE,
FAMILY/GENERAL PRACTICE PHYSICIANS (OR ANY SUBSET)

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
3,200	0.404	0.576	0.825	1.022	1.190	1.341	1.479	1.607	1.727
3,000	0.422	0.600	0.858	1.062	1.236	1.392	1.534	1.666	1.791
2,500	0.478	0.676	0.962	1.187	1.379	1.550	1.707	1.852	1.988
2,000	0.559	0.786	1.112	1.367	1.584	1.778	1.954	2.118	2.271
1,500	0.689	0.962	1.351	1.653	1.910	2.138	2.346	2.538	2.718
1,000	0.937	1.297	1.805	2.196	2.526	2.818	3.083	3.328	3.556
900	1.017	1.406	1.952	2.371	2.724	3.037	3.320	3.581	3.824
800	1.116	1.539	2.132	2.585	2.968	3.305	3.611	3.892	4.154
700	1.241	1.708	2.360	2.857	3.276	3.645	3.978	4.285	4.571
600	1.406	1.930	2.659	3.213	3.679	4.089	4.459	4.799	5.116

TABLE E.15

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES:
NATIONAL ESTIMATES FROM COMBINED SAMPLE,
MEDICAL SPECIALISTS (OR ANY SUBSET)

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
3,000	0.515	0.603	0.711	0.786	0.845	0.894	0.937	0.976	1.011
2,500	0.552	0.647	0.763	0.844	0.907	0.961	1.007	1.049	1.086
2,000	0.601	0.705	0.832	0.920	0.990	1.049	1.100	1.145	1.187
1,500	0.670	0.787	0.930	1.030	1.108	1.174	1.232	1.284	1.330
1,000	0.782	0.920	1.089	1.207	1.300	1.378	1.446	1.507	1.563
900	0.814	0.958	1.135	1.258	1.355	1.437	1.508	1.572	1.630
800	0.852	1.002	1.188	1.317	1.419	1.505	1.580	1.647	1.708
700	0.896	1.056	1.252	1.388	1.496	1.587	1.666	1.737	1.801
600	0.951	1.120	1.330	1.475	1.590	1.687	1.771	1.847	1.916
500	1.019	1.202	1.428	1.584	1.709	1.813	1.905	1.986	2.060

TABLE E.16

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES:
NATIONAL ESTIMATES FROM COMBINED SAMPLE,
SURGICAL SPECIALISTS (OR ANY SUBSET)

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
2,300	0.610	0.716	0.842	0.925	0.990	1.043	1.088	1.129	1.164
2,000	0.654	0.768	0.902	0.992	1.061	1.118	1.167	1.210	1.249
1,500	0.753	0.885	1.041	1.145	1.225	1.291	1.348	1.398	1.443
1,000	0.921	1.083	1.275	1.403	1.502	1.584	1.654	1.715	1.770
900	0.970	1.142	1.344	1.480	1.584	1.670	1.744	1.809	1.867
800	1.029	1.211	1.426	1.570	1.681	1.772	1.851	1.920	1.982
700	1.100	1.295	1.526	1.679	1.798	1.896	1.981	2.055	2.121
600	1.188	1.399	1.649	1.816	1.944	2.051	2.142	2.222	2.294
500	1.302	1.534	1.808	1.991	2.133	2.250	2.350	2.438	2.517

TABLE E.17

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES:
NATIONAL ESTIMATES FROM COMBINED SAMPLE,
PHYSICIANS IN SOLO OR TWO-PERSON PRACTICE (OR ANY SUBSET)

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
4,700	0.347	0.484	0.677	0.823	0.945	1.053	1.149	1.238	1.320
4,500	0.354	0.495	0.691	0.840	0.965	1.075	1.174	1.265	1.349
4,000	0.375	0.524	0.732	0.890	1.023	1.139	1.244	1.340	1.429
3,500	0.401	0.560	0.782	0.950	1.092	1.216	1.328	1.430	1.525
3,000	0.432	0.603	0.843	1.025	1.177	1.311	1.432	1.542	1.645
2,500	0.472	0.660	0.922	1.121	1.288	1.434	1.566	1.686	1.799
2,000	0.527	0.736	1.029	1.251	1.437	1.600	1.747	1.882	2.007
1,500	0.607	0.848	1.185	1.440	1.655	1.843	2.012	2.167	2.311
1,000	0.741	1.036	1.446	1.759	2.020	2.250	2.456	2.646	2.822
900	0.781	1.091	1.524	1.852	2.128	2.370	2.587	2.787	2.972
800	0.828	1.156	1.615	1.963	2.255	2.511	2.742	2.953	3.150

TABLE E.18

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES:
NATIONAL ESTIMATES FROM COMBINED SAMPLE,
PHYSICIANS IN GROUP PRACTICE (OR ANY SUBSET)*

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
3,500	0.509	0.616	0.745	0.833	0.902	0.959	1.009	1.052	1.092
3,000	0.552	0.668	0.808	0.904	0.978	1.041	1.095	1.142	1.185
2,500	0.607	0.735	0.890	0.996	1.078	1.147	1.206	1.259	1.307
2,000	0.683	0.827	1.002	1.121	1.214	1.292	1.359	1.419	1.473
1,500	0.796	0.964	1.168	1.308	1.417	1.508	1.586	1.656	1.719
1,000	0.987	1.197	1.452	1.626	1.762	1.876	1.974	2.062	2.140
900	1.044	1.267	1.537	1.721	1.866	1.986	2.090	2.183	2.266
800	1.112	1.349	1.638	1.835	1.989	2.117	2.228	2.327	2.416

* Practice with three or more physicians.

TABLE E.19

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES:
NATIONAL ESTIMATES FROM COMBINED SAMPLE,
PHYSICIANS IN HMO, MEDICAL SCHOOL, HOSPITAL,
OR OTHER PRACTICE SETTING (OR ANY SUBSET)

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
4,500	0.366	0.525	0.753	0.930	1.080	1.214	1.334	1.446	1.550
4,000	0.385	0.552	0.791	0.977	1.134	1.274	1.401	1.517	1.627
3,500	0.407	0.583	0.836	1.032	1.199	1.346	1.480	1.604	1.719
3,000	0.435	0.623	0.892	1.102	1.279	1.436	1.579	1.711	1.833
2,500	0.470	0.674	0.965	1.191	1.382	1.552	1.706	1.848	1.980
2,000	0.519	0.742	1.063	1.311	1.522	1.708	1.878	2.034	2.179
1,500	0.589	0.843	1.206	1.488	1.727	1.938	2.129	2.306	2.471
1,000	0.709	1.013	1.448	1.785	2.071	2.324	2.553	2.764	2.962
900	0.744	1.063	1.520	1.873	2.173	2.438	2.678	2.900	3.107
800	0.786	1.123	1.605	1.977	2.294	2.573	2.827	3.060	3.279

TABLE E.20

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PHYSICIANS IN PRACTICE WITH HIGH REVENUE FROM MANAGED CARE (OR ANY SUBSET)*

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
7,000	0.295	0.399	0.538	0.642	0.727	0.800	0.866	0.926	0.981
6,500	0.305	0.411	0.555	0.662	0.750	0.826	0.893	0.955	1.012
6,000	0.315	0.425	0.574	0.684	0.775	0.854	0.924	0.988	1.047
5,500	0.327	0.441	0.596	0.710	0.804	0.886	0.958	1.025	1.086
5,000	0.340	0.459	0.620	0.739	0.837	0.922	0.998	1.067	1.130
4,500	0.356	0.480	0.648	0.773	0.875	0.964	1.043	1.115	1.181
4,000	0.374	0.504	0.681	0.812	0.920	1.013	1.096	1.172	1.241
3,500	0.395	0.534	0.721	0.859	0.973	1.072	1.160	1.240	1.313
3,000	0.422	0.570	0.769	0.917	1.038	1.144	1.238	1.323	1.402
2,500	0.456	0.615	0.830	0.990	1.121	1.235	1.337	1.429	1.514
2,000	0.501	0.676	0.913	1.088	1.232	1.357	1.469	1.571	1.664
1,500	0.565	0.764	1.031	1.229	1.392	1.534	1.660	1.774	1.880
1,000	0.672	0.907	1.225	1.460	1.654	1.822	1.972	2.108	2.234

* Revenue from managed care above the median of 35 percent.

TABLE E.21

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PHYSICIANS IN PRACTICE WITH LOW REVENUE FROM MANAGED CARE (OR ANY SUBSET)*

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
5,600	0.280	0.378	0.512	0.612	0.695	0.767	0.832	0.891	0.945
5,500	0.283	0.382	0.517	0.618	0.701	0.774	0.839	0.899	0.954
5,000	0.297	0.401	0.543	0.649	0.737	0.813	0.882	0.944	1.002
4,500	0.314	0.424	0.574	0.686	0.778	0.859	0.931	0.997	1.058
4,000	0.334	0.451	0.610	0.729	0.827	0.913	0.989	1.059	1.124
3,500	0.359	0.484	0.654	0.781	0.886	0.978	1.060	1.135	1.204
3,000	0.389	0.525	0.709	0.846	0.960	1.059	1.148	1.229	1.304
2,500	0.429	0.577	0.780	0.931	1.056	1.165	1.262	1.351	1.433
2,000	0.482	0.649	0.876	1.046	1.186	1.308	1.417	1.516	1.608
1,500	0.562	0.755	1.019	1.215	1.377	1.519	1.645	1.761	1.867
1,000	0.696	0.936	1.260	1.502	1.702	1.876	2.032	2.174	2.305
900	0.736	0.989	1.332	1.588	1.799	1.982	2.147	2.296	2.435
800	0.784	1.053	1.417	1.689	1.913	2.108	2.283	2.442	2.589

* Revenue from managed care at or below the median of 35 percent.

TABLE E.22

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, ALL PHYSICIANS*

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	12444	345434	0.067	2.17
HRSMED	PH1:CV:Hrs prev wk medically-related act	12528	347436	0.178	1.55
HRSPAT	PH1:CV:Hrs prev wk direct patient care	12528	347436	0.198	2.07
HRFREE	PH1:B6:Hours previous month charity care	12528	347436	0.231	2.26
NPHYS	PH1:C7:Number of physicians at practice	9304	265282	3.217	5.62
NASSIST	PH1:C8:Number of assistants in practice	9314	265461	0.912	1.47
NMCCON	PH1:CV:Num of managed care contracts	12528	347436	0.243	4.16

* Separate tables are provided for all primary care physicians (E.23), all non-primary care physicians (E.24), internal medicine physicians (E.25), family/general practice physicians (E.26), general pediatricians (E.27), medical specialists (E.28), surgical specialists (E.29), physicians in solo or two-person practice (E.30), physicians in group practice of three or more (E.31), physicians in HMO, medical school, hospital, or other practice settings (E.32), physicians in practice with a higher percentage of revenue from managed care (E.33), and physicians in practice with a lower percentage of revenue from managed care (E.34). We recommend that you use one of these other tables if your estimate is limited to one these subgroups.

TABLE E.23

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, ALL PRIMARY CARE PHYSICIANS*

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	7156	134365	0.071	1.31
HRSMED	PH1:CV:Hrs prev wk medically-related act	7197	135085	0.204	1.26
HRSPAT	PH1:CV:Hrs prev wk direct patient care	7197	135085	0.236	1.98
HRFREE	PH1:B6:Hours previous month charity care	7197	135085	0.306	2.30
NPHYS	PH1:C7:Number of physicians at practice	5285	100161	3.638	3.89
NASSIST	PH1:C8:Number of assistants in practice	5293	100285	0.930	0.96
NMCCON	PH1:CV:Num of managed care contracts	7197	135085	0.274	3.59

* Separate tables are provided for internal medicine physicians (E.25), family/general practice physicians (E.26), and general pediatricians (E.27). We recommend that you use one of these other tables if your estimate is limited to one of these subgroups.

TABLE E.24

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, ALL NON-PRIMARY CARE PHYSICIANS*

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	5288	211069	0.087	1.59
HRSMED	PH1:CV:Hrs prev wk medically-related act	5331	212352	0.231	1.07
HRSPAT	PH1:CV:Hrs prev wk direct patient care	5331	212352	0.243	1.22
HRFREE	PH1:B6:Hours previous month charity care	5331	212352	0.278	1.40
NPHYS	PH1:C7:Number of physicians at practice	4019	165121	3.385	2.78
NASSIST	PH1:C8:Number of assistants in practice	4021	165176	1.262	1.15
NMCCON	PH1:CV:Num of managed care contracts	5331	212352	0.263	1.90

* Separate tables are provided for medical specialists (E.28) and surgical specialists (E.29). We recommend that you use one of these other tables if your estimate is limited to one of these subgroups.

TABLE E.25

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, INTERNAL MEDICINE PHYSICIANS

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	2351	43190	0.136	1.38
HRSMED	PH1:CV:Hrs prev wk medically-related act	2364	43441	0.377	1.40
HRSPAT	PH1:CV:Hrs prev wk direct patient care	2364	43441	0.352	1.35
HRFREE	PH1:B6:Hours previous month charity care	2364	43441	0.482	1.06
NPHYS	PH1:C7:Number of physicians at practice	1736	32176	4.934	1.96
NASSIST	PH1:C8:Number of assistants in practice	1739	32216	1.746	0.95
NMCCON	PH1:CV:Num of managed care contracts	2364	43441	0.307	1.49

TABLE E.26

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, FAMILY/GENERAL PRACTICE PHYSICIANS

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	3149	60959	0.090	1.15
HRSMED	PH1:CV:Hrs prev wk medically-related act	3168	61305	0.384	1.94
HRSPAT	PH1:CV:Hrs prev wk direct patient care	3168	61305	0.478	3.57
HRFREE	PH1:B6:Hours previous month charity care	3168	61305	0.420	2.76
NPHYS	PH1:C7:Number of physicians at practice	2300	44916	3.772	2.36
NASSIST	PH1:C8:Number of assistants in practice	2304	44987	1.074	0.62
NMCCON	PH1:CV:Num of managed care contracts	3168	61305	0.367	3.35

TABLE E.27

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PEDIATRICIANS

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	1618	28329	0.139	0.96
HRSMED	PH1:CV:Hrs prev wk medically-related act	1627	28451	0.374	1.16
HRSPAT	PH1:CV:Hrs prev wk direct patient care	1627	28451	0.355	1.22
HRFREE	PH1:B6:Hours previous month charity care	1627	28451	0.315	1.10
NPHYS	PH1:C7:Number of physicians at practice	1218	21528	4.798	1.27
NASSIST	PH1:C8:Number of assistants in practice	1219	21544	1.628	0.66
NMCCON	PH1:CV:Num of managed care contracts	1627	28451	0.462	1.81

TABLE E.28

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, MEDICAL SPECIALISTS

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	3024	113133	0.119	1.54
HRSMED	PH1:CV:Hrs prev wk medically-related act	3053	113927	0.287	0.99
HRSPAT	PH1:CV:Hrs prev wk direct patient care	3053	113927	0.290	1.02
HRFREE	PH1:B6:Hours previous month charity care	3053	113927	0.291	1.04
NPHYS	PH1:C7:Number of physicians at practice	2070	80857	4.526	2.15
NASSIST	PH1:C8:Number of assistants in practice	2072	80912	1.604	1.06
NMCCON	PH1:CV:Num of managed care contracts	3053	113927	0.262	1.32

TABLE E.29

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, SURGICAL SPECIALISTS

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	2302	99824	0.101	1.08
HRSMED	PH1:CV:Hrs prev wk medically-related act	2316	100312	0.336	0.98
HRSPAT	PH1:CV:Hrs prev wk direct patient care	2316	100312	0.360	1.18
HRFREE	PH1:B6:Hours previous month charity care	2316	100312	0.412	1.14
NPHYS	PH1:C7:Number of physicians at practice	1980	85804	3.190	1.51
NASSIST	PH1:C8:Number of assistants in practice	1980	85804	1.769	1.05
NMCCON	PH1:CV:Num of managed care contracts	2316	100312	0.362	1.34

TABLE E.30

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PHYSICIANS IN SOLO OR TWO-PERSON PRACTICE

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	4703	140582	0.092	1.85
HRSMED	PH1:CV:Hrs prev wk medically-related act	4730	141274	0.267	1.18
HRSPAT	PH1:CV:Hrs prev wk direct patient care	4730	141274	0.280	1.46
HRFREE	PH1:B6:Hours previous month charity care	4730	141274	0.323	2.30
NPHYS	PH1:C7:Number of physicians at practice	4718	140871	0.250	1.33
NASSIST	PH1:C8:Number of assistants in practice	4723	140987	0.036	2.00
NMCCON	PH1:CV:Num of managed care contracts	4730	141274	0.311	2.95

TABLE E.31

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PHYSICIANS IN GROUP PRACTICE (THREE OR MORE)

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	3402	97310	0.081	1.02
HRSMED	PH1:CV:Hrs prev wk medically-related act	3422	97882	0.288	1.27
HRSPAT	PH1:CV:Hrs prev wk direct patient care	3422	97882	0.286	1.42
HRFREE	PH1:B6:Hours previous month charity care	3422	97882	0.297	1.13
NPHYS	PH1:C7:Number of physicians at practice	3367	96644	3.089	4.41
NASSIST	PH1:C8:Number of assistants in practice	3367	96644	0.559	0.91
NMCCON	PH1:CV:Num of managed care contracts	3422	97882	0.363	2.31

TABLE E.32

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PHYSICIANS IN HMO, MEDICAL SCHOOL, HOSPITAL, OR OTHER PRACTICE SETTING

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	4339	107542	0.122	1.85
HRSMED	PH1:CV:Hrs prev wk medically-related act	4376	108281	0.326	1.95
HRSPAT	PH1:CV:Hrs prev wk direct patient care	4376	108281	0.317	1.96
HRFREE	PH1:B6:Hours previous month charity care	4376	108281	0.532	2.88
NPHYS	PH1:C7:Number of physicians at practice	1219	27768	15.761	3.16
NASSIST	PH1:C8:Number of assistants in practice	1224	27830	7.607	1.70
NMCCON	PH1:CV:Num of managed care contracts	4376	108281	0.316	2.32

TABLE E.33

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PHYSICIANS IN PRACTICE WITH HIGH REVENUE FROM MANAGED CARE (ABOVE MEDIAN OF 35%)

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	6937	171915	0.087	1.98
HRSMED	PH1:CV:Hrs prev wk medically-related act	6985	172961	0.215	1.32
HRSPAT	PH1:CV:Hrs prev wk direct patient care	6985	172961	0.216	1.53
HRFREE	PH1:B6:Hours previous month charity care	6985	172961	0.180	1.28
NPHYS	PH1:C7:Number of physicians at practice	5218	132851	5.139	5.08
NASSIST	PH1:C8:Number of assistants in practice	5223	132914	1.582	1.47
NMCCON	PH1:CV:Num of managed care contracts	6985	172961	0.319	3.22

TABLE E.34

STANDARD ERRORS FOR MEANS OF CONTINUOUS VARIABLES: NATIONAL ESTIMATES FROM COMBINED SAMPLE, PHYSICIANS IN PRACTICE WITH LOW REVENUE FROM MANAGED CARE (AT OR BELOW MEDIAN OF 35%)

Variable	Description of Variable	Unweighted Sample Size	Weighted Sample Size	Standard Error of Mean	Design Effect
WKSWRKC	PH1:CV:Weeks worked in 1995, w/o new physicians	5507	173519	0.080	1.39
HRSMED	PH1:CV:Hrs prev wk medically-related act	5543	174475	0.231	1.11
HRSPAT	PH1:CV:Hrs prev wk direct patient care	5543	174475	0.259	1.44
HRFREE	PH1:B6:Hours previous month charity care	5543	174475	0.407	2.23
NPHYS	PH1:C7:Number of physicians at practice	4086	132431	1.726	1.90
NASSIST	PH1:C8:Number of assistants in practice	4091	132548	0.696	1.28
NMCCON	PH1:CV:Num of managed care contracts	5543	174475	0.251	2.98

TABLE E.35

STANDARD ERRORS FOR PERCENTAGES: HIGH-INTENSITY SITE-SPECIFIC ESTIMATES, ALL PHYSICIANS (OR ANY SUBSET)

Sample Size	For Percentages Near				
	10% or 90%	20% or 80%	30% or 70%	40% or 60%	50.0%
650	1.2%	1.6%	1.8%	1.9%	1.9%
600	1.2%	1.6%	1.9%	2.0%	2.0%
500	1.3%	1.8%	2.0%	2.2%	2.2%
400	1.5%	2.0%	2.3%	2.4%	2.5%
300	1.7%	2.3%	2.6%	2.8%	2.9%
250	1.9%	2.5%	2.9%	3.1%	3.1%
200	2.1%	2.8%	3.2%	3.5%	3.5%
150	2.4%	3.3%	3.7%	4.0%	4.1%
100	3.0%	4.0%	4.6%	4.9%	5.0%
80	NA	4.5%	5.1%	5.5%	5.6%

Note: Cells where the coefficient of variation is >30% are marked "NA". In these cases, the estimate of the standard error is considered unreliable . Analyses of such groups require special techniques.

TABLE E.36

STANDARD ERRORS FOR PERCENTAGES: LOW-INTENSITY SITE-SPECIFIC ESTIMATES, ALL PHYSICIANS (OR ANY SUBSET)

Sample Size	For Percentages Near				
	10% or 90%	20% or 80%	30% or 70%	40% or 60%	50.0%
240	2.1%	2.8%	3.2%	3.4%	3.5%
200	2.3%	3.1%	3.5%	3.7%	3.8%
150	2.7%	3.6%	4.0%	4.3%	4.4%
100	NA	4.4%	5.0%	5.3%	5.4%

Note: Cells where the coefficient of variation is >30% are marked "NA". In these cases, the estimate of the standard error is considered unreliable . Analyses of such groups require special techniques.

TABLE E.37

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES: SITE-SPECIFIC ESTIMATES (ANY SITE), ALL PHYSICIANS (OR ANY SUBSET)*

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
650	0.443	0.607	0.832	1.001	1.141	1.263	1.372	1.472	1.564
600	0.459	0.629	0.862	1.037	1.182	1.309	1.422	1.525	1.621
500	0.497	0.682	0.935	1.124	1.281	1.418	1.541	1.653	1.757
400	0.549	0.752	1.032	1.241	1.414	1.566	1.701	1.825	1.939
300	0.623	0.854	1.172	1.409	1.606	1.778	1.932	2.072	2.202
200	0.746	1.022	1.402	1.686	1.922	2.127	2.311	2.479	2.635
100	1.013	1.389	1.905	2.291	2.611	2.891	3.141	3.369	3.580

* Separate tables are provided for all primary care physicians (E.38) and all non-primary care physicians (E.39). We recommend that you use one of these other tables if your estimate is limited to one of these subgroups (or any subset within it).

TABLE E.38

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES: SITE-SPECIFIC ESTIMATES (ANY SITE), PRIMARY CARE PHYSICIANS (OR ANY SUBSET)

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
400	0.465	0.653	0.916	1.117	1.286	1.434	1.568	1.690	1.804
300	0.541	0.759	1.064	1.298	1.494	1.666	1.821	1.964	2.096
200	0.668	0.937	1.315	1.603	1.845	2.058	2.250	2.426	2.589
100	0.958	1.345	1.887	2.300	2.648	2.953	3.228	3.481	3.716

TABLE E.39

STANDARD ERRORS FOR MEANS OF QUASI-CONTINUOUS VARIABLES: SITE-SPECIFIC ESTIMATES (ANY SITE), NON-PRIMARY CARE PHYSICIANS (OR ANY SUBSET)

	For Means Near								
Sample Size	5	10	20	30	40	50	60	70	80
400	0.619	0.799	1.031	1.197	1.331	1.445	1.545	1.635	1.718
300	0.698	0.902	1.164	1.351	1.502	1.631	1.744	1.846	1.939
200	0.828	1.069	1.380	1.602	1.782	1.934	2.068	2.189	2.300
100	1.109	1.431	1.848	2.145	2.385	2.589	2.769	2.931	3.078