2016 National Ambulatory Medical Care Survey Supplement on Culturally and Linguistically Appropriate Services for Office-based Physicians (National CLAS Physician Survey)

Public Use File Documentation

November 2018

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ABSTRACT

This material provides documentation for users of the public use micro-data file for the 2016 National Ambulatory Medical Care Survey Supplement on Culturally and Linguistically Appropriate Services for Office-based Physicians (National CLAS Physician Survey). The purpose of the National CLAS Physician Survey is to understand the provision of culturally and linguistically appropriate services among office-based physicians. The National CLAS Physician Survey is a supplement to the National Ambulatory Medical Care Survey (NAMCS), which is a national probability sample survey of visits to office-based physicians and Community Health Center-based (CHC-based) physicians and non-physician clinicians. NAMCS is a component of the National Health Care Surveys that measure health care utilization across a variety of health care providers' settings. NAMCS and the National CLAS Physician Survey are conducted by the National Center for Health Statistics (NCHS).

The National CLAS Physician Survey public use file includes data from office-based physicians. No patient level data were collected. This documentation describes the public use micro-data file produced from data collected in the National CLAS Physician Survey.

Section I, "Description of the National Ambulatory Medical Care Survey Supplement on Culturally and Linguistically Appropriate Services for Office-based Physicians," includes information on the scope of the survey, the sampling design, field activities, data collection procedures, weighting and estimation measures and sampling errors. Section II provides a detailed description of the contents of each data record, and a list of physician specialty groups represented in the survey. Section III contains marginal data for selected items on the National CLAS Physician Survey file. Appendix I contains information on analysis, and instructions and definitions given to the physicians to complete the survey questionnaire.

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I. DESCRIPTION OF THE NATIONAL AMBULATORY MEDICAL CARE SURVEY SUPPLEMENT ON CULTURALLY AND LINGUISTICALLY APPROPRIATE SERVICES FOR OFFICE-BASED PHYSICIANS

A. INTRODUCTION

This micro-data file contains the first publicly available data on a nationally representative sample of office-based physicians on the topic of culturally and linguistically appropriate services (CLAS). CLAS are respectful of and responsive to individual cultural health beliefs and practices, preferred languages, health literacy levels, and communication needs. The National Ambulatory Medical Care Survey Supplement on Culturally and Linguistically Appropriate Services for Office-based Physicians (National CLAS Physician Survey) is a supplement to the National Ambulatory Medical Care Survey (NAMCS). NAMCS is a national probability sample survey of visits to office-based physicians and community health center providers. NAMCS and the National CLAS Physician Survey were conducted by the Division of Health Care Statistics, National Center for Health Statistics (NCHS). Data in this file must be weighted to produce national estimates that describe cultural and linguistic competency and the provision of culturally and linguistically appropriate services among office-based physicians in the United States.

Three modes were used to collect data for the 2016 National CLAS Physician: (1) electronically via a self-administered web-based instrument, (2) self-administered via a paper instrument returned via mail or (3) through a computer-assisted telephone interview (CATI). The majority of questionnaires were completed either on the paper instrument or electronically via the web-based instrument.

In 2016, a total of 397 questionnaires were received from physicians who participated in the National CLAS Physician Survey. A brief description of the survey design and data collection procedures is below. Information on the origin of the National CLAS Physician Survey and cognitive testing of the questionnaire is available from CDC's Q-bank (1).

Please note the following important points concerning analysis of the National CLAS Physician Survey data on this micro-data file:

- PHYSICIAN WEIGHT
  Micro-data file users should be fully aware of the importance and proper use of the physician weight (CLASWEIGHT) and how it must be used. Information about the physician weight is presented on page 17. If more information is needed, the staff of the Ambulatory and Hospital Care Statistics Branch can be consulted by calling (301) 458-4600 during regular working hours.

- RELIABILITY OF ESTIMATES
  Data users should also be aware of the reliability or unreliability of survey estimates, particularly smaller estimates. The National Center for Health Statistics recently published new guidelines for the assessment of reliability and presentation of proportional estimates (2). For frequencies and rates, an estimate is considered to be reliable if it has a relative

standard error of 30 percent or less (i.e., the standard error is no more than 30 percent of the estimate). It should be noted that estimates of frequencies and rates based on fewer than 30 records are also considered unreliable, regardless of the magnitude of the relative standard error.

For presentation or publication of CLAS estimates, we recommend rounding to the nearest hundred. If you would like more information, do not hesitate to consult the staff of the Ambulatory and Hospital Care Statistics Branch.

B. SCOPE OF THE SURVEY

The basic sampling unit for the National CLAS Physician Survey is the physician. The sampling frame for the National CLAS Physician Survey included non-federally employed physicians classified by the American Medical Association (AMA) or the American Osteopathic Association (AOA) as "office-based, patient care" and physicians classified as hospital-employed by the AMA. Physicians in the specialties of anesthesiology, pathology, and radiology were excluded from the physician universe.

C. SAMPLING FRAME AND SIZE OF SAMPLE

The sampling frame for the 2016 National CLAS Physician Survey was composed of all physicians listed in the Masterfiles maintained by the AMA and AOA at the end of 2015, who met the following criteria:

- Office-based, as defined by either the AMA or AOA, or hospital-employed as defined by the AMA;
- Principally engaged in patient care activities;
- Non-federally employed;
- Not in specialties of anesthesiology, pathology, and radiology
- Younger than 85 years of age at the time of the survey.

The 2016 National CLAS Physician Survey sample included 2,400 physicians. Sampled physicians were asked several eligibility questions to assure that they met the above-mentioned criteria. Of these 2,400 physicians, 358 physicians did not meet all of the criteria and were ruled out-of-scope (ineligible) for the survey (Table 1 final dispositions 3 and 9). The most frequent reasons for being out of scope were that the physician was no longer in practice, did not see ambulatory patients, was retired, or was not office-based. An additional 339 physicians could not be located (Table 1 final disposition 4) and, as a result, were also determined to be out-of-scope. This is based on the assumption that if survey personnel could not find the physician after using location and phone number search measures, neither would patients be able to find the physicians if the physicians were, indeed, seeing patients in an office-based practice as required for survey eligibility. Eligibility status for 1,115 physicians (Table 1 final dispositions 5 and 7) could not be determined prior to the end of data collection because of resource issues.

Of the 588 eligible (in-scope) physicians (Table 1 final dispositions 1, 2, 6 and 8), 397 participated in the study by completing one or more subject matter item(s) on the survey (Table 1 final dispositions 1 and 6). Of the 397 physicians for whom surveys were completed, 340 participated fully or adequately (i.e., completed questions required to satisfy the definition of a complete responder, (Table 1 final disposition 1), and 57 participated minimally (partially) (i.e., completed some questions but not enough to be considered a complete responder (Table 1 final disposition 6).

To compute National CLAS Physician Survey response rates, the 2016 sample was classified into nine disposition categories by eligibility status. Table 1 shows the sample distribution and distribution of calibrated population counts of the sampled physicians by the final nine disposition categories.

Table 1: Final disposition of the sampled physicians: National CLAS Physician Survey, 2016

Final Disposition	Sample Size, n	Unweighted Percent %	Calibrated Weight, n (1)	Weighted Percent %
1. Eligible respondent, complete	340	14.17	84,186.1	13.7
2. Eligible, refused	41	1.71	10,310.1	1.7
3. Ineligible, out-of-scope	347	14.46	105,470.4	17.1
4. Ineligible, not locatable	339	14.13	102,576.5	16.7
5. Unknown eligibility, refusal	57	2.38	15,417.1	2.5
6. Eligible respondent, partially complete	57	2.38	13,638.1	2.2
7. Unknown eligibility, partially complete	1,058	44.08	248,635.8	40.4
8. Eligible, post survey	150	6.25	34,182.7	5.6
9. Ineligible, out-of-scope, post survey	11	0.46	1,340. 4	0.2
All Physicians	2,400	100.00	615,757.2	100.00

(1) Sampling weights are calibrated to numbers of physicians listed in files from the American Medical Association in June 2017 and the American Osteopathic Association in December 2016.

The unweighted overall response rate was 31.0% (Table 2); the weighted overall response rate was 33.8%, not shown. Both overall response rates were based on the number of full responders. Full responders were eligible respondents that either completed or partially completed the survey based on non-blank response to pre-determined items. The unweighted overall participation rate was 36.1% (Table 2); the weighted overall participation rate was 39.3%, not shown. Both overall participation rates were based on the total of full and partial responders. The weighted response rate uses the same computation procedures as used for the unweighted response rate except estimated physician counts replace the unweighted sample

counts in those computations. Table 2 shows sample distribution and survey response and participation rates by physician specialty group.

Table 2. Number of physicians in the universe eligible for the 2016 NAMCS CLAS Physician Survey, total sample, eligibility categories and rate, respondents and participants with corresponding rates, by sampled physician specialty group

Physician specialty group at sampling	Universe (1)	Sample Total	Out of Scope	In Scope	Unknown Eligibility Status	Known Eligibility Status	Eligibility Rate (2)	Respondents (3)	Respondent Rate (4)	Overall Response Rate (5)	Participants (6)	Participant Rate (7)	Overall Participation Rate (8)
Total	535,467	2,400	697	588	1,115	1,285	53.5	340	57.8	31.0	397	67.5	36.1
General/Family Practice	85,301	176	52	52	72	104	59.1	36	67.9	40.1	36	67.9	40.1
Internal Medicine	81,131	179	74	41	64	115	64.2	30	73.2	47.0	30	73.2	47.0
Pediatrics	61,948	182	69	45	68	114	62.6	29	63.0	39.5	29	63.0	39.5
General Surgery	18,092	171	46	38	87	84	49.1	24	72.7	35.7	24	72.7	35.7
Obstetrics and Gynecology	33,831	178	50	49	79	99	55.6	24	49.0	27.2	34	69.4	38.6
Orthopedic Surgery	19,477	168	36	26	106	62	36.9	16	61.5	22.7	16	61.5	22.7
Cardiovascular Diseases	16,528	145	34	12	99	46	31.7	16	57.1	18.1	16	57.1	18.1
Dermatology	8,768	166	27	51	88	78	47.0	28	54.9	25.8	28	54.9	25.8
Urology	7,591	168	32	45	91	77	45.8	36	80.0	36.7	36	80.0	36.7
Psychiatry	33,234	168	64	47	57	111	66.1	40	85.1	56.2	40	85.1	56.2
Neurology	11,538	164	62	34	68	96	58.5	25	73.5	43.0	25	73.5	43.0
Ophthalmology	14,779	169	37	60	72	97	57.4	39	65.0	37.3	39	65.0	37.3
Otolaryngology	7,177	166	42	40	84	82	49.4	19	48.7	24.1	19	48.7	24.1
Other Specialties	136,072	200	72	48	80	120	60.0	25	69.4	41.7	25	69.4	41.7

(1) Data are derived from the Masterfiles of the American Medical Association and the American Osteopathic Association and represent the total number of physicians who were eligible for inclusion in the NAMCS. These are physicians classified as office-based in the Masterfiles.

(2) Eligibility rate is number of physicians with known eligibility status divided by sample totals.

(3) Respondents are eligible physicians who responded fully by providing non-blank responses to at least 10 specified items of the questionnaire.

(4) Respondent rate is number of responding physicians divided by number of in-scope physicians.
(5) Overall response rate is respondent rate multiplied by eligibility rate.
(6) Participants are eligible physicians who responded minimally by failing to meet the criteria for full respondent but who provided some additional responses. The complete algorithm is available from NCHS.
(7) Participant rate is number of participating physicians divided by number of in-scope physicians.
(8) Overall participant rate is participant rate multiplied by eligibility rate.

D. SAMPLING DESIGN

The 2016 National CLAS Physician Survey followed a similar sample design and eligibility rules as the 2015 NAMCS (https://www.cdc.gov/nchs/ahcd/ahcd_questionnaires.htm).

The sample for the 2016 National CLAS Physician Survey included 2,400 physicians. One objective of the survey included comparing results from two questions in the 2015 NAMCS with results from the same two questions in the National CLAS Physician Survey.

For the National CLAS Physician Survey sample, a stratified sample of NAMCS eligible physicians was selected where explicit strata were defined by the four U.S. Census regions and 14 physician specialty groups. The 14 physician specialty groups were general and family practice, internal medicine, pediatrics, obstetrics and gynecology, general surgery, orthopedic surgery, cardiovascular diseases, dermatology, urology, psychiatry, neurology, ophthalmology, otolaryngology, and a residual category for all other specialties.

Physicians were given random numbers that were assigned to their respective sampling strata. Within each sampling stratum, they were sorted first by U.S. Census division and, then within Census division, by metropolitan statistical area (MSA) status (i.e., location in a metropolitan statistical area or not), based on Office of Management and Budget designations from U.S. Census 2010 data. Within MSA status, physicians were sorted by practice type (primary care, surgical specialty, or medical specialty). Within each of the implicit strata defined by Census division, MSA status, and practice type, physicians were ordered by the previously assigned random number. Within each of the 56 hard strata, a systematic random sample was selected from the list of sorted physicians. On average, 43 physicians were selected from within each stratum, with actual numbers ranging from 42 to 45 physicians.

E. FIELD ACTIVITIES

The National CLAS Physician Survey was fielded from August 2016 through December 2016. The first contact with the sample physician was through an introductory letter from the NCHS Director. The introductory letter invited physicians to participate via the web, informed them of the voluntary nature of the survey and provided login instructions for the web version of the survey.

Three weeks after the introductory letter, all sampled physicians who had not responded to the web-based survey received the first mailing. This mailing included a modified introductory letter, a paper questionnaire, and self-addressed return envelope for the paper questionnaire.

Approximately four and a half weeks after the introductory letter, all sampled physicians received a postcard that either thanked them for their participation or reminded them that their participation was still needed.

Seven weeks after the introductory letter, physicians who had not responded to the web-based questionnaire or returned the paper questionnaire received a second mailing. This mailing included a modified introductory letter, a paper questionnaire and self-addressed return envelope for the paper questionnaire.

Eleven weeks after the introductory letter, physicians who had not responded to the web-based questionnaire or returned the paper questionnaire received a third mailing. The third mailing included a modified introductory letter, the paper questionnaire and a self-addressed return envelope.

Finally, fourteen weeks after the introductory letter, telephone calls were made to all remaining non-responding physicians in a final attempt to obtain survey data. If the physician was contacted and agreed to participate, the survey was administered via CATI. If the physician declined participation, the interviewer documented this.

F. DATA COLLECTION

The survey used mixed-mode data collection that included self-administered web questionnaire (n=48, 12.1%), self-administered mail paper questionnaire (n=346, 87.1%) or CATI (n=3, 0.8%). The questionnaire had specific instructions that it should only be completed by the physician to whom it was addressed. The physician was the preferred respondent since the survey asked about the physician's training, knowledge, provision of services and organizational environment.

The 2016 National CLAS Physician Survey instrument showing the questions included in the survey is available at the NCHS National Health Care Surveys' Ambulatory Health Care Data website:
https://www.cdc.gov/nchs/ahcd/ahcd_survey_instruments.htm#namcs. Terms and definitions relating to the instrument are included in Appendix I.

G. CONFIDENTIALITY

This data collection is authorized by Section 306 of the Public Health Service Act (Title 42, U.S. Code, 242k). All information was collected according to law [Section 308(d) of the Public Health Service Act (42, U.S. Code, 242m(d))], and the Confidential Information Protection and Statistical Efficiency Act (Title 5 of PL 107-347). The National CLAS Physician Survey protocol was approved by the NCHS Research Ethics Review Board, protocol #2016-08. Waivers of the requirements to obtain informed consent of the physicians were granted.

Assurance of confidentiality was provided to all physicians according to Section 308 (d) of the Public Health Service Act (42, U.S. Code, 242m(d)). Strict procedures were utilized to prevent disclosure of National CLAS Physician Survey data. All information that could identify the physician was confidential and was seen only by persons engaged in the National CLAS Physician Survey, and was not disclosed or released to others for any other purpose.

Prior to the release of the public use micro-data file, NCHS conducted extensive disclosure risk analysis to minimize the chance of any inadvertent disclosure. Based on research conducted by NCHS for 2016 National CLAS Physician Survey, some variables were subject to masking (PHYCODE, CSTRATM). Furthermore, outlier values for certain variables (i.e., physician's number of years providing office-based care and age) were top-coded or categorized in accordance with NCHS confidentiality requirements. Masking was performed in such a way to cause minimal impact on the data. Data users who wish to use unmasked data can submit a proposal to the NCHS Research Data Center (https://www.cdc.gov/rdc/index.htm).

H. DATA PROCESSING

1. EDITS

SRA International, Inc. (SRA) was the data collection contractor for the National CLAS Physician Survey. Once electronic data from the web-based instrument were collected by SRA a number of steps were required for data processing. Specifications for checking, configuring, and transmitting the data files were first developed by NCHS and SRA, and then applied by SRA. Data files were transmitted to NCHS for further processing. At NCHS, the data underwent multiple consistency checks and review of verbatim entries.

In addition to the completeness checks made by the field staff, clerical edits were performed upon receipt of the paper instrument data for central processing. Detailed editing instructions were provided to manually review the paper questionnaires and to reclassify or recode ambiguous entries. Data processing was performed by SRA International, Inc.

2. QUALITY CONTROL

All mailed surveys were placed into batches upon receipt. A data entry operator would enter the batch of surveys into the system, and a different operator would then rekey the batch of surveys into the system. A third person would perform adjudication of any discrepancies between the two records. The discrepancy rate was 0.58 discrepancies per survey.

3. ITEM NONRESPONSE

Item nonresponse occurs when a survey participant does not answer one or more items on the survey. There are various reasons for item nonresponse, including participant refusal to answer certain items and incorrect following of the survey instrument flow by the participant. Refusal to answer certain items could be either due to the sensitive nature of the item or the participant not knowing the answer to the item. Incorrect survey instrument flow occurs when the participant skips items that should have been answered, or answers items that should have been skipped. Unweighted item nonresponse rates were 5.0% or less for all items except the following:

CME12POP1-CME12POP6 - If 'yes' to CLASTRAIN (Within the past 12 months, have you participated in any training for cultural competency?), which of these population groups have been addressed in the training(s) for cultural competency in which you have participated in the past 12 months? – 8.6%

CME12AREA1-CME12AREA5 - If 'yes' to CLASTRAIN, which of the following areas have been typically included in training(s) for cultural competency in which you have participated in the past 12 months? – 8.6%

OFFERTRG - How often does your practice offer or make available training in cultural competency? – 9.4%

AWAREPOLICY - If 'yes' to CLASPOLICY (Does your practice have at least one written policy related to the provision of culturally and linguistically appropriate services?), if you work in a non-solo practice, how aware are you of your practice's written policy related to culturally and linguistically appropriate services? – 16.1%

INTERP - Do you use interpreters when working with patients who have limited English proficiency? – 8.1%

INTERPTY1 - If 'yes' to INTERP (Do you use interpreters when working with patients who have limited English proficiency?), when you use interpreters, how often do you use staff/contractor trained as a medical interpreter? – 17.7%

INTERPTY2 - If 'yes' to INTERP (Do you use interpreters when working with patients who have limited English proficiency?), when you use interpreters, how often do you use bilingual staff? – 13.5%

INTERPTY3 - If 'yes' to INTERP (Do you use interpreters when working with patients who have limited English proficiency?), when you use interpreters, how often do you use patient's relative or friend? – 12.5%

LANGUAGE - Are you fluent in a language besides English? – 6.6%

LANGSERV - How many languages, other than English, do you feel comfortable enough to provide health care services? – 8.6%

KNOWBELIEFS - How knowledgeable are you of your patients' health beliefs, customs, and values? – 7.1%

FORMALPOLICY – How has each of the following factors affected you in providing culturally and linguistically appropriate services to your patients: Formal policy – 7.9%

RESOURCES - How has each of the following factors affected you in providing cultural and linguistically appropriate services to your patients? – Organizational resources – 8.4%

CULTRTRG - How has each of the following factors affected you in providing cultural and linguistically appropriate services to your patients? - Training in cultural competency – 10.3%

PATKNOW - How has each of the following factors affected you in providing cultural and linguistically appropriate services to your patients? - Personal knowledge about the prevailing beliefs, customs, norms, and values of the diverse groups in your patient load – 6.0%

OTHERFACTOR - How has each of the following factors affected you in providing cultural and linguistically appropriate services to your patients? - Other factors – 91.3%

CLASKNOW1-CLASKNOW3 – If any familiarity with National CLAS Standards is indicated by responding 2, 3, or 4 to CLASKNOW (How familiar are you with the National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care (the National CLAS Standards?), how have you gained knowledge about the National CLAS Standards? – 30.3%

CLASADOPT - Has your practice adopted the National CLAS standards? – 12.7% (an additional 44% responded “I don’t know”.)

What percent of your patient population is represented by each of the following categories? – 29.2%

What is your race? – 7.3%

The denominators for the rates of missing values were adjusted to account for skip patterns in the data collection instrument. For example, only surveys where physicians used interpreter services were included in the calculation of item nonresponse on the items concerning how often the physician used various types of interpreters.

I. ESTIMATION PROCEDURES

The 2016 National CLAS Physician Survey data file contains a physician-level analysis weight (CLASWEIGHT) for producing national estimates from sample data. This is a vital component of the survey data, and micro-data file users should understand how to use and apply it correctly. Each record on the data file represents one physician in the sample, and that single physician represents physicians within his/her region and specialty group.

Statistics produced from the 2016 National CLAS Physician Survey use a multistage estimation procedure. The objective of these procedures is to produce essentially unbiased national estimates. The procedure has three components: (1) inflation by reciprocals of the selection

probabilities, (2) adjustment for nonresponse and (3) a ratio adjustment to fixed totals. Each of these components is described below.

1. INFLATION BY RECIPROCALS OF SAMPLING PROBABLITIES

The first weight component is the sampling weight (or reciprocal of the physician's selection probability). Because the survey used a one-stage sample design, the sampling probabilities were determined by sampling strata defined by Census region and physician specialty group. For each sampling stratum, the initial selection probability is the number of sample physicians in the stratum divided by the total number of physicians listed in the sampling frame for that stratum.

2. ADJUSTMENT FOR NONRESPONSE

National CLAS Physician Survey estimates were adjusted to account for nonresponse in two steps: (1) adjustments were made first for those physicians whose eligibility for the survey was not determined and then (2) adjustments were made for in-scope physicians who did not participate in the survey.

Adjustments for nonresponse were made by shifting the weights of non-respondent physicians to those who were deemed respondents within the same Census region, specialty type (for this purpose, primary care, surgical, medical care and psychiatry) and physician specialty group as the non-respondent, when practical. If response within a group defined by region/specialty type/specialty group was not sufficient, the group was collapsed with another for the adjustments. In the first adjustment (for those whose eligibility status was never determined), weights of the non-respondents were shifted to weights of only locatable physicians under the assumption that the physicians with unknown eligibility status could be either eligible or ineligible, unlike the unlocatable physicians who were all deemed to be ineligible.

3. RATIO ADJUSTMENT

A post-ratio adjustment was made within each of the sampling strata defined by U.S. Census region and physician specialty group in order to adjust for changes in the physician population represented in the sampling frame between the time when the sample was selected and the spring of 2017, which was closer in time to the end of 2016 when the survey was conducted. The ratio adjustment is a multiplication factor that had as its numerator the number of physicians eligible for the sampling frame in each region and physician specialty group, and as its denominator the estimated number of physicians in that particular region and specialty group. The numerator was the number of sample eligible physicians listed for the stratum in the AMA Masterfile obtained in June 2017 (i.e. the first files obtained after the end of 2016) and AOA Masterfile obtained in June 2017, and the denominator was the estimate of the numerator based on the sample.

J. PHYSICIAN WEIGHT

The 2016 National CLAS Physician Survey data file contains a weight (CLASWEIGHT) for producing national estimates from sample data. As stated before, this is a vital component of the survey data and micro-data file users should understand how to use and apply it correctly.

The information contained in the micro-data file reflect the provision of culturally and linguistically appropriate services among office-based physicians in the United States. Each record on the data file represents one physician in the sample. In order to obtain national or regional estimates from survey data, each record is assigned an inflation factor called CLASWEIGHT. By aggregating the weights contained in the CLASWEIGHT variable on the 397 sample records for 2016, the user can obtain the estimated total of 293,306 office-based physicians in the United States. This number is slightly lower than the physician estimate of 330,582 obtained from the 2016 National Ambulatory Medical Care Survey. The difference is due to the large number of CLAS physicians for whom survey eligibility status could not be determined.

See the Marginal Data section for the distribution of CLASWEIGHT by selected characteristics.

These weights allow data users to calculate physician-level estimates and the associated variances (see example SAS, SUDAAN, Stata and SPSS code in Appendix I). There is one weight for each physician with complete or partial survey data.

K. ASSESSMENT OF BIAS

Potential for bias in survey estimates occurs when there are large differences between the estimates from the respondents and non-respondents. The physician-level response rate for the CLAS sample was 33.8% (weighted) in 2016. This was lower than the physician-level response rate (successful collection of data in the Physician Induction Interview) for the core 2015 NAMCS (46.0%, weighted). Some factors that might have contributed to the lower response rate include small sample size of the CLAS supplement, the higher percentages of unlocatable physicians among most of the specialty groups sampled, and the higher percentages of physicians with unknown eligibility. In addition, for various reasons, the survey fielding period was slightly delayed. As a result, the data collection schedule was compressed. This led to the end of data collection, the computer-assisted phone interview mode, to occur during the fall and winter holiday season when many physicians were out of the office or their offices were closed. This negatively contributed to participation rates.

A detailed analysis of nonresponse bias will be included in a forthcoming report. Nonresponse bias in CLAS estimates will be evaluated at the physician-level. Physicians' responses will be examined by: 1) comparing percent distributions of respondents and non-respondents by physician characteristics available for the sampled physicians; 2) analyzing nonresponse bias

after adjustments for post-survey nonresponse adjustments were applied; and 3) estimating bias in the physician-level estimates by comparing them with those from an external survey.

REFERENCES

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II. CODEBOOK AND PHYSICIAN SPECIALTY LIST

A. CODEBOOK

The 2016 National CLAS Physician Survey public use micro-data file contains 397 records. This section consists of a detailed breakdown of each variable in the data file, including a sequential item number, field length, file location, item name, questionnaire item number where applicable, and a description of the item, including codes and labels. Most data are from the survey. The American Medical Association (AMA) and the American Osteopathic Association (AOA) are alternative sources of data. Some information is obtained by recoding selected data from these sources.

ITEM NO.	FIELD LENGTH	FILE LOCATION	[ITEM NAME], DESCRIPTION, AND CODES
1	4	1-4	[PHYCODE] Physician Code A unique marker randomly assigned to each physician on the file. 4-2398
2	2	5-6	[YRSCARER] Including residency, how many years have you been providing direct care for patients in an office-based setting? (recoded, Q1) -9 = Blank 1 = Under 25 years 2 = 25 years of more
3	1	7	[SETTINGR] In what setting do you typically provide care to the most patients? (recoded, Q4) 1= Solo or group practice 2= Settings other than solo or group practice
4	2	8-9	[MDSCHTRG] Did you receive any training in cultural competency in your clinical training programs including medical school and residency? (Q6) -9 = Blank 1 = Yes 2 = No

5	2	10-11	[CMETRG] After medical school and residency, have you participated in training for cultural competency such as continuing medical education (CME)? (Q7) -9 = Blank 1 = Yes 2 = No If 'yes' to CMETRG, which of these population groups have been addressed in the training(s) for cultural competency in which you have participated? (Check all that apply.) (Q7a.1-Q7a.6)
6	2	12-13	[CMEPOP1] Racial/ethnic minorities -7 = Not applicable -5 = Entire item blank 0 = Box is not marked 1 = Box is marked
7	2	14-15	[CMEPOP2] Religious groups See CMEPOP1.
8	2	16-17	[CMEPOP3] Lesbian, gay, bisexual, transgender (LGBT) populations See CMEPOP1.
9	2	18-19	[CMEPOP4] Persons with limited English proficiency (LEP) See CMEPOP1.
10	2	20-21	[CMEPOP5] Inmates/formerly incarcerated See CMEPOP1.
11	2	22-23	[CMEPOP6] Other See CMEPOP1. If 'yes' to CMETRG, which of the following areas have been typically included in training(s) for cultural competency in which you have participated? (Check all that apply.) (Q7b.1-Q7b.5)
12	2	24-25	[CMEAREA1] Cultural beliefs, values, and behaviors See CMEPOP1.
13	2	26-27	[CMEAREA2] Organizational policies, plans, and protocols regarding culturally and linguistically appropriate services See CMEPOP1.

14	2	28-29	[CMEAREA3] Health disparities See CMEPOP1.
15	2	30-31	[CMEAREA4] Complementary and alternative healing practices See CMEPOP1.
16	2	32-33	[CMEAREA5] Other See CMEPOP1.
17	2	34-35	[CMEREQ] Was your participation in training for cultural competency to satisfy a continuing medical education unit (CME) requirement or as a requirement for credentialing? (Q7c) -9 = Blank -7 = Not applicable 1 = Yes 2 = No
18	2	36-37	[CLASTRAIN] Within the past 12 months, have you participated in any training for cultural competency? (Q8) -9 = Blank -7 = Not applicable 1 = Yes 2 = No If 'yes' to CLASTRAIN, which of these population groups have been Addressed in the training(s) for cultural competency in which you have participated in the past 12 months? (Q8a.1-Q8a.6)
19	2	38-39	[CME12POP1] Racial/ethnic minorities -7 = Not applicable -5 = Entire item blank 0 = Box is not marked 1 = Box is marked
20	2	40-41	[CME12POP2] Religious groups See CME12POP1.
21	2	42-43	[CME12POP3] Lesbian, gay, bisexual, transgender (LBGT) populations See CME12POP1.
22	2	44-45	[CME12POP4] Persons with limited English proficiency (LEP) See CME12POP1.

23	2	46-47	[CME12POP5] Inmates/formerly incarcerated See CME12POP1.
24	2	48-49	[CME12POP6] Other See CME12POP1.
			If 'yes' to CLASTRAIN, which of the following areas have been typically included in training(s) for cultural competency in which you have participated in the past 12 months? (Q8b.1-Q8b.5)
25	2	50-51	[CME12AREA1] Cultural beliefs, values, and behaviors -7 = Not applicable -5 = Entire item blank 0 = Box is not marked 1 = Box is marked
26	2	52-53	[CME12AREA2] Organizational policies, plans, and protocols regarding culturally and linguistically appropriate services See CME12AREA1.
27	2	54-55	[CME12AREA3] Health disparities See CME12AREA1.
28	2	56-57	[CME12AREA4] Complementary and alternative healing practices See CME12AREA1.
29	2	58-59	[CME12AREA5] Other See CME12AREA1.
30	2	60-61	[CME12REQ] Was your participation in training for cultural competency in the past 12 months to satisfy a continuing medical education unit (CME) requirement or as a requirement for credentialing? (Q8c) -9 = Blank -7 = Not applicable 1 = Yes 2 = No
31	2	62-63	[HIRETRG] Is training in cultural competency required for newly hired physicians who join your practice? (Q9) -9 = Blank 1 = Yes 2 = No

32	2	64-65	[OFFERTRG] How often does your practice offer or make available training in cultural competency? (Q10) -9 = Blank -7 = Not Applicable 1 = Annually 2 = Biannually 3 = Quarterly 4 = Other
33	2	66-67	[CLASPOLICY] Does your practice have at least one written policy related to the provision of culturally and linguistically appropriate services? (Q11) -9 = Blank 1 = Yes 2 = No 3 = I don't know
34	2	68-69	[AWAREPOLICY] If 'yes' to CLASPOLICY, if you work in a non-solo practice, how aware are you of your practice's written policy related to culturally and linguistically appropriate services? (Q11a) -9 = Blank -7 = Not applicable (based on skip pattern) 1 = Not applicable (do not work in non-solo practice) 2 = Not at all 3 = Barely 4 = Fairly well 5 = Very well
			In what format are printed materials provided to your patients with limited English literacy? (Check all that apply.) (Q12)
35	2	70-71	[LIMITLIT1] Documents created with plain language software or reviewed for literacy level -7 = Not applicable -5 = Entire item blank 0 = Box is not marked 1 = Box is marked
36	2	72-73	[LIMITLIT2] Universal symbols See LIMITLIT1.
37	2	74-75	[LIMITLIT3] Infographics See LIMITLIT1.

38	2	76-77	[LIMITLIT4] Other See LIMITLIT1.
39	2	78-79	[LIMITLIT5] Not applicable. No printed materials are available to my patients with limited literacy. See LIMITLIT1.
			Which of these free language-assistance services are available to patients in your practice? (Check all that apply.) (Q13)
40	2	80-81	[LANGASST1] Translated informational documents -7 = Not applicable -5 = Entire item blank 0 = Box is not marked 1 = Box is marked
41	2	82-83	[LANGASST2] Recorded messages in different languages on telephone lines See LANGASST1.
42	2	84-85	[LANGASST3] Translated signage and notices at key points of contact throughout the office See LANGASST1.
43	2	86-87	[LANGASST4] Other See LANGASST1.
44	2	88-89	[LANGASST5] Not applicable. Free language assistance is not available to my patients. See LANGASST1.
45	2	90-91	[INTERP] Do you use interpreters when working with patients who have limited English proficiency? (Q14) -9 = Blank -7 = Not applicable 1 = Yes 2 = No
			If ‘yes’ to INTERP, when you use interpreters how often do you use each type?

46	2	92-93	[INTERPTY1] Staff/contractor trained as a medical interpreter -9 = Blank -7 = Not applicable 1 = Often 2 = Sometimes 3 = Rarely 4 = Never
47	2	94-95	[INTERPTY2] Bilingual staff -9 = Blank -7 = Not applicable 1 = Often 2 = Sometimes 3 = Rarely 4 = Never
48	2	96-97	[INTERPTY2] Patient's relative or friend -9 = Blank -7 = Not applicable 1 = Often 2 = Sometimes 3 = Rarely 4 = Never
			What types of materials, in language(s) other than English, are available to your patients? (Check all that apply.) (Q15)
49	2	98-99	[TRANSMAT1] Wellness/illness related education -7 = Not applicable -5 = Entire item blank 0 = Box is not marked 1 = Box is marked
50	2	100-101	[TRANSMAT2] Patient rights/informed consent documents See TRANSMAT1.
51	2	102-103	[TRANSMAT3] Advanced directives See TRANSMAT1.
52	2	104-105	[TRANSMAT4] Payment See TRANSMAT1.
53	2	106-107	[TRANSMAT5] Care plan See TRANSMAT1.

54	2	108-109	[TRANSMAT6] Other See TRANSMAT1.
55	2	110-111	[TRANSMAT7] Not applicable. No translated materials are available to my patients. See TRANSMAT1.
56	2	112-113	[LANGUAGE] Are you fluent in a language besides English? (Q16) -9 = Blank 1 = Yes 2 = No
57	2	114-115	[LANGSERV] How many languages, other than English, do you feel comfortable enough to provide health care services? (Q17) -9 = Blank 1 = 0 2 = 1 3 = 2 4 = 3 5 = 4 or more
58	2	116-117	[KNOWBELIEFS] How knowledgeable are you of your patients' health beliefs, customs, and values? (Q18) -9 = Blank 1 = Not at all 2 = Barely 3 = Fairly well 4 = Very well When assessing your patients' medical needs, how often do you consider: (Q19)
59	2	118-119	[MEDNEED1] Race/ethnicity? -9 = Blank 1 = Often 2 = Sometimes 3 = Rarely 4 = Never

60	2	120-121	[MEDNEED2] Other cultural factors such as health beliefs, customs, values? See MEDNEED1.
			When diagnosing your patients, how often do you consider: (Q20)
61	2	122-123	[DIAGNOSE1] Race/ethnicity? -9 = Blank 1 = Often 2 = Sometimes 3 = Rarely 4 = Never
62	2	124-125	[DIAGNOSE2] Other cultural factors such as health beliefs, customs, values? See DIAGNOSE1.
			When treating your patients, how often do you consider: (Q21)
63	2	126-127	[TREAT1] Race/ethnicity? -9 = Blank 1 = Often 2 = Sometimes 3 = Rarely 4 = Never
64	2	128-129	[TREAT2] Other cultural factors such as health beliefs, customs, values? See TREAT1.
			When conducting health education with your patients, how often do you consider: (Q22)
65	2	130-131	[HLTHEDU1] Race/ethnicity? -9 = Blank 1 = Often 2 = Sometimes 3 = Rarely 4 = Never
66	2	132-133	[HLTHEDU2] Other cultural factors such as health beliefs, customs, values? See HLTHEDU1.

67	2	134-135	[SERVASMT] How often does your practice assess your services to patients for their cultural and linguistic appropriateness? -9 = Blank 1 = More than 4 times a year 2 = About 2 to 4 times a year 3 = A bout once a year 4 = Less than once a year 5 = My services are not assessed for their cultural and linguistic appropriateness Mark your agreement or disagreement with the following statements. By providing culturally and linguistically appropriate services to my patients I expect:
68	2	136-137	[SATISFY] Improved patient satisfaction with the services provided (Q24) -9 = Blank 1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree
69	2	138-139	[COMPREHEND] Improved comprehension of treatment and lifestyle recommendations (Q25) -9 = Blank 1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree
70	2	140-141	[TRMTADHERE] Better adherence to treatment and lifestyle recommendations (Q26) -9 = Blank 1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree
71	2	142-143	[TRUST] Improved patient trust (Q27) -9 = Blank 1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree

72	2	144-145	[QUALITYCARE] Improved quality of patient care (e.g., diagnostics, communication, treatment) (Q28) -9 = Blank 1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree
73	2	146-147	[LIABILITY] Decreased likelihood of liability/malpractice claims (Q29) -9 = Blank 1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree
			How has each of the following factors affected you in providing culturally and linguistically appropriate services to your patients?
74	2	148-149	[FORMALPOLICY] Formal written policy (Q30) -9 =Blank -7 = Not applicable 1 = Helped 2 = Helped a little 3 = Did not help
75	2	150-151	[RESOURCES] Organizational resources (Q31) See FORMALPOLICY.
76	2	152-153	[CULTRTRG] Training in cultural competency (Q32) See FORMALPOLICY.
77	2	154-155	[PATKNOW] Personal knowledge about the prevailing beliefs, customs, norms, and values of the diverse groups in your patient load (Q33) See FORMALPOLICY.
78	2	156-157	[OTHERFACTOR] Other factors (Q34) See FORMALPOLICY.

79	2	158-159	[CLASKNOW] How familiar are you with the National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care (the National CLAS Standards)? (Q35) 1 = Never heard of it 2 = Heard of it but do not know much about it 3 = Know something about it 4 = Very familiar with it -9 = Blank If 'yes' to CLASKNOW, how have you gained knowledge about the National CLAS standards? (Q35)
80	2	160-161	[CLASKNOW1] Through initial employment orientation in my current organization -7 = Not applicable -5 = Entire item blank 0 = Box is not marked 1 = Box is marked
81	2	162-163	[CLASKNOW2] Through other trainings such as in-service, continuing education, or professional development activities in my current organization See CLASKNOW1.
82	2	164-165	[CLASKNOW3] Through attending a training/meeting/webinar outside of my current organization See CLASKNOW1.
83	2	166-167	[CLASKNOW4] Through reading a report, publication, newsletter, or other materials publicly available See CLASKNOW1.
84	2	168-169	[CLASKNOW5] Other See CLASKNOW1.
85	2	170-171	[CLASADOPT] Has your practice adopted the National CLAS standards? (Q36) -9 = Blank 1 = Yes 2 = No 3 = I don't know

86	2	172-173	[RECRACETH] Does your practice record your patients' race or ethnicity? (Q37) -9 = Blank 1 = Yes 2 = No 3 = I don't know

Note about Patient Ethnicity and Race:

Ethnicity refers to a person's national or cultural group. Patient population race and ethnicity are combined in the National CLAS Physician Survey in a question that asks about the percent of the patient population represented by each category. There are eight categories for ethnicity and race: "Hispanic or Latino, of any race," "American Indian or Alaska Native, not Hispanic or Latino," "Asian, Not Hispanic or Latino," "Black or African American, not Hispanic or Latino," "Native Hawaiian or Other Pacific Islander, not Hispanic or Latino," "White, not Hispanic or Latino," "Two or more races, not Hispanic or Latino" and "I don't know".

What percent of your patient population is represented by each of the following categories? (Q37a recode)

87	3	174-176	[PATHISPANICR] Hispanic or Latino, of any race -9 = Blank -8 = Unknown -7 = Not applicable -5 = Entire item blank 0 -100
88	3	177-179	[PATAINALNR] American Indian or Alaska Native, not Hispanic or Latino See PATHISPANICR.
89	3	180-182	[PATASIANR] Asian, not Hispanic or Latino See PATHISPANICR.
90	3	183-185	[PATBLACKR] Black or African American, not Hispanic or Latino See PATHISPANICR.
91	3	186-188	[PATNHOPIR] Native Hawaiian or Other Pacific Islander, not Hispanic or Latino See PATHISPANICR.
92	3	189-191	[PATWHITER] White, not Hispanic or Latino See PATHISPANICR.

93	3	192-194	[PAT2MORER] Two or more races, not Hispanic or Latino See PATHISPANICR.
94	3	195-197	[PATDKNOWR] I don't know. See PATHISPANICR.
			What information does your practice record on your patients' culture and language characteristics? (Check all that apply.) (Q38)
95	2	198-199	[RECORD1] Nationality/Nativity -5 = Entire item blank 0 = Box is not marked 1 = Box is marked
96	2	200-201	[RECORD2] Patient's primary language See RECORD1.
97	2	202-203	[RECORD3] Sexual orientation/gender identity See RECORD1.
98	2	204-205	[RECORD4] Religion See RECORD1.
99	2	206-207	[RECORD5] Income See RECORD1.
100	2	208-209	[RECORD6] Other See RECORD1.
101	2	210-211	[RECORD7] Not applicable. We do not collect information related to culture and language. See RECORD1.
102	2	212-213	[PHYSEX] What is your sex? (Q39) (Imputed if blank) 1= Female 2 = Male

Note about Physician's Sex
Physician sex was left blank on 9 records. In each of these cases, the physician's sex from the sample file was used.

103	2	214-215	[PHYETHR] Are you Hispanic, Latino/a, or Spanish Origin? (Check all that apply) (Q40 recode) -9 = Blank 1= No, not of Hispanic, Latino/a, or Spanish origin 2= Yes, of Hispanic, Latino/a or Spanish origin

Note about Physician's Ethnicity
Ethnicity refers to a person's national or cultural group. There were five categories for physician ethnicity on the survey instrument. These included "No, not Hispanic, Latino/a, or Spanish origin", "Yes, Mexican, Mexican American, Chicano/a", "Yes, Puerto Rican", "Yes, Cuban", "Yes, another Hispanic, Latino/a or Spanish origin". The physician could choose all that apply. Physician ethnicity was collapsed into two groups: "No, not Hispanic, Latino/a, or Spanish origin", and "Yes, Hispanic, Latino/a, or Spanish origin" (Mexican, Mexican American, Chicano/a, Puerto Rican, Cuban, another Hispanic, Latino/a, or Spanish origin) on the public use micro-data file to minimize disclosure risk of the physician.

104	2	216-217	[PHYRACER] What is your race? (Check all that apply.) (Q41) (recoded) -9 = Blank 1 = White only 2 = All Other

Note about Physician's Race
There were 14 categories for physician race on the survey instrument, including: "White", "Black or African American", "American Indian or Alaska Native", "Asian Indian", "Chinese", "Filipino", "Japanese", "Korean", "Vietnamese", "Other Asian", "Native Hawaiian", "Guamanian or Chamorro", "Samoan" and "Other Pacific Islander". The physician could choose all that apply. The physician race categories were collapsed into the following groups: "White only" and "All Other" (Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, Other Asian, Black or African American, American Indian or Alaska Native, Native Hawaiian, Guamanian or Chamorro, Samoan, and Other Pacific Islander) on the public use micro-data file to minimize disclosure risk of the physician.

105	1	218	[PHYAGE50R] Physician age recode 1 = Under 50 years 2 = 50 years and over
106	1	219	[SPECRTYPER] Physician specialty recode 1 = Primary care 2 = Surgical care 3 = Medical care
107	4	220-223	[YEAR] Survey year 2016

108	1	224	[SUBFILE] Survey identifier 1 = CLAS survey
109	1	225	[REGION] Geographic region of physician address from survey Response 1 = Northeast 2 = Midwest 3 = South 4 = West
110	3	226-228	[CSTRATM] Masked sampling stratum 104-415
111	12	229-240	[CLASWEIGHT] Physician weight to produce national estimates with CLAS survey data 133.80824-4298.88915

B. PHYSICIAN SPECIALTY LIST

The 2016 National CLAS Physician Survey sample design grouped physicians into 14 strata, or specialty groups, for sampling purposes. These groups were developed based on information from the American Medical Association (AMA). Below is a list of the AMA physician specialties that were eligible for selection within each of the sample strata. These are grouped into primary, surgical, and medical care specialties for analytic purposes (see SPECRTYPER variable on file layout).

GENERAL & FAMILY PRACTICE (Primary Care)

AMF Adolescent Medicine (Family Practice)
AMI Adolescent Medicine (Internal Medicine)
EFM Emergency Medicine/Family Medicine
FMP Family Medicine/Preventive Medicine
FP Family Practice
FPG Geriatric Medicine (Family Practice)
GP General Practice
HPF Hospice & Palliative Medicine (Family Medicine)
IFP Internal Medicine/Family Practice
IMG Geriatric Medicine (Internal Medicine)
IPM Internal Medicine/Preventive Medicine

INTERNAL MEDICINE (Primary Care)

IM Internal Medicine

OBSTETRICS & GYNECOLOGY (Primary Care)

FPR Female Pelvic Medicine and Reconstructive Surgery (Obstetrics & Gynecology)
GO Gynecological Oncology
GYN Gynecology
HPO Hospice & Palliative Med (Obstetrics & Gynecology)
MFM Maternal & Fetal Medicine
OBG Obstetrics and Gynecology
OBS Obstetrics
OCC Critical Care Medicine (Obstetrics & Gynecology)

OBSTETRICS & GYNECOLOGY (Primary Care) (cont.)

UPF Female Pelvic Medicine & Reconstructive Surgery (Urology)

PEDIATRICS (Primary Care)

ADL Adolescent Medicine (Pediatrics)
CAP Child Abuse Pediatrics
CCP Pediatric Critical Care Medicine
DBP Developmental - Behavioral Pediatrics
EMP Pediatrics - Emergency Medicine
HPP Hospice & Palliative Medicine (Pediatrics)
MPD Internal Medicine/Pediatrics
NDN Neurodevelopmental Disabilities (Psychiatry & Neurology)
NDP Neurodevelopmental Disabilities (Pediatrics)
NPM Neonatal-Perinatal Medicine
PD Pediatrics
PDA Pediatric Allergy
PDC Pediatric Cardiology
PDE Pediatric Endocrinology
PDI Pediatric Infectious Diseases
PDP Pediatric Pulmonology
PDT Medical Toxicology (Pediatrics)
PEM Pediatric Emergency Medicine (Pediatrics)
PG Pediatric Gastroenterology
PHO Pediatric Hematology/Oncology
PMG Pediatrics - Medical Genetics
PN Pediatric Nephrology
PPR Pediatric Rheumatology

PEDIATRICS (Primary Care) (cont.)

PSM Pediatric Sports Medicine
PTP Pediatric Transplant Hepatology

GENERAL SURGERY (Surgical)

GS General Surgery

OPHTHALMOLOGY (Surgical)

OPH Ophthalmology
OPR Ophthalmic Plastic and Reconstructive Surgery
PO Pediatric Ophthalmology

ORTHOPEDIC SURGERY (Surgical)

HSO Hand Surgery
OAR Adult Reconstructive Orthopedics
OFA Foot and Ankle Orthopedics
OMO Musculoskeletal Oncology
OP Pediatric Orthopedics
ORS Orthopedic Surgery
OSM Sports Medicine (Orthopedic Surgery)
OSS Orthopedic Surgery of the Spine
OTR Orthopedic Trauma

OTOLARYNGOLOGY (Surgical)

NO Neurotology (Otolaryngology)
OTO Otolaryngology
PDO Pediatric Otolaryngology
PSO Plastic Surgery within the Head & Neck (Otolaryngology)
SMO Sleep Medicine (Otolaryngology)

UROLOGY (Surgical)

U Urology
UP Pediatric Urology

CARDIOVASCULAR DISEASES (Medical)
CD Cardiovascular Diseases

DERMATOLOGY (Medical)

D Dermatology

PSYCHIATRY (Medical)

ADP Addiction Psychiatry
CHP Child and Adolescent Psychiatry
CPP Pediatrics/Psychiatry/Child & Adolescent Psychiatry
NUP Neuropsychiatry
P Psychiatry
PFP Forensic Psychiatry

PSYCHIATRY (Medical) (cont.)

PYA Psychoanalysis
PYG Geriatric Psychiatry
PYM Psychosomatic Medicine

NEUROLOGY (Medical)

CHN Child Neurology
CN Clinical Neurophysiology
ENR Endovascular Surgical Neuroradiology (Neurology)
EPL Epilepsy
ESN Endovascular Surgical Neuroradiology
N Neurology

ALL OTHER SPECIALTIES (Medical)

AS Abdominal Surgery
ASO Advanced Surgical Oncology
CCS Surgical Critical Care (Surgery)
CFS Craniofacial Surgery
CHS Congenital Cardiac Surgery (Thoracic Surgery)
CRS Colon & Rectal Surgery
CS Cosmetic Surgery
DS Dermatologic Surgery
ES Endovascular Surgical Neuroradiology (Neurological Surgery)
FPS Facial Plastic Surgery

ALL OTHER SPECIALTIES (Medical) (cont.)

HNS Head & Neck Surgery
HPS Hospice and Palliative Medicine (Surgery)
HS Hand Surgery
HSP Hand Surgery (Plastic Surgery)
HSS Hand Surgery (Surgery)
NS Neurological Surgery
NSP Pediatric Surgery (Neurology)
OMF Oral & Maxillofacial Surgery
PCS Pediatric Cardiothoracic Surgery
PDS Pediatric Surgery (Surgery)
PRD Procedural Dermatology
PS Plastic Surgery
PSH Plastic Surgery within the Head & Neck
PSP Plastic Surgery within the Head & Neck (Plastic Surgery)
SO Surgical Oncology
TRS Traumatic Surgery
TS Thoracic Surgery
TTS Transplant Surgery
VS Vascular Surgery
A Allergy
ADM Addiction Medicine
AHF Advanced Heart Failure and Transplant Cardiology
AI Allergy and Immunology
ALI Clinical Laboratory Immunology (Allergy & Immunology)
AM Aerospace Medicine
CBG Clinical Biochemical Genetics
CCG Clinical Cytogenetics
CCM Critical Care Medicine (Internal medicine)
CG Clinical Genetics
CHD Adult Congenital Heart Disease (Internal Medicine)
CMG Clinical Molecular Genetics
DDL Clinical and Lab Derm Immunology
DIA Diabetes
EM Emergency Medicine
END Endocrinology, diabetes and metabolism
EP Epidemiology
ESM Sports Medicine (Emergency Medicine)
ETX Medical Toxicology (Emergency Medicine)
FPP Psychiatry/Family Practice
FSM Family Practice/Sports Medicine
GE Gastroenterology
GPM General Preventive Medicine
HEM Hematology (Internal medicine)
HEP Hepatology
HO Hematology/Oncology
HPE Hospice & Palliative Medicine (Emergency Medicine)
HPI Hospice & Palliative Medicine (Internal Medicine)
HPM Hospice & Palliative Medicine
HPN Hospice & Palliative Medicine (Psychiatry & Neurology)
HPR Hospice & Palliative Med (Physical Medicine)
IC Interventional Cardiology
ICE Clinical Cardiac Electrophysiology
ID Infectious Diseases
IEC Internal Medicine/Emergency Medicine/Critical Care Medicine
IG Immunology
ILI Clinical and Laboratory Immunology (Internal Medicine)
IMD Internal Medicine/Dermatology
ISM Internal Medicine - Sports Medicine
LM Legal Medicine
MDM Medical Management
MEM Internal Medicine/Emergency Medicine
MG Medical Genetics
MO Medical Oncology
MBG Medical Biochemical Genetics
MDG Internal Medicine/Medical Genetics
MN Internal Medicine/Neurology
MP Internal Medicine/Psychiatry
MPM Internal Medicine/Physical Medicine and Rehabilitation

ALL OTHER SPECIALTIES (Medical) – cont.

NC Nuclear Cardiology
NEP Nephrology
NMN Neuromuscular Medicine
NMP Neuromuscular Medicine (Physical Medicine & Rehabilitation)
NTR Nutrition
OM Occupational Medicine
OMM Osteopathic Manipulative Medicine
PA Clinical Pharmacology
PCC Pulmonary Critical Care Medicine
PDD Pediatric Dermatology
PDM Pediatrics/Dermatology
PE Pediatric Emergency Medicine (Emergency Medicine)
PHL Phlebology
PHM Pharmaceutical Medicine
PHP Public Health and General Preventive Medicine
PLI Clinical and Laboratory Immunology (Pediatrics)
PLM Palliative Medicine
PM Physical Medicine and Rehabilitation
PME Pain Management
PMM Pain Medicine
PMN Pain Medicine (Neurology)
PMP Pain Management (Physical Medicine and Rehabilitation)PPM Pediatrics/Physical Medicine & Rehabilitation
PPN Pain Medicine (Psychiatry)
PRO Proctology
PRS Sports Medicine (Physical Medicine and Rehabilitation)
PTX Medical Toxicology (Preventive Medicine)
PUD Pulmonary Diseases
PYN Psychiatry (Neurology)
REN Reproductive Endocrinology
RHU Rheumatology
RPM Pediatric Rehabilitation Medicine
SCI Spinal Cord Injury Medicine
SME Sleep Medicine
SMI Sleep Medicine (Internal Medicine)
SMN Sleep Medicine (Psychiatry & Neurology)
SMP Sleep Medicine (Pediatrics)
THP Transplant Hepatology (Internal Medicine)
UCM Urgent Care Medicine
UM Underseas Medicine (Preventive Medicine)
UME Underseas Medicine (Emergency Medicine)
VM Vascular Medicine

III. MARGINAL DATA

A. SELECTED SURVEY ESTIMATES

Category	Records	Weighted Estimate (rounded)	Weighted Percent (rounded)
DID YOU RECEIVE ANY TRAINING IN CULTURAL COMPETENCY IN YOUR CLINICAL TRAINING PROGRAMS INCLUDING MEDICAL SCHOOL AND RESIDENCY? (MDSCHTRG)			
Total	397	293,306	100.0
-9 – Blank	4	3,196	1.1
1 – Yes	179	139,083	47.4
2 – No	214	151,026	51.5
AFTER MEDICAL SCHOOL AND RESIDENCY, HAVE YOU PARTICIPATED IN TRAINING FOR CULTURAL COMPETENCY SUCH AS CONTINUING EDUCATION (CME)? (CMETRG)			
Total	397	293,306	100.0
-9 – Blank	2	1,000	0.3
1 – Yes	188	138,918	47.4
2 – No	207	153,387	52.3
WITHIN THE PAST 12 MONTHS, HAVE YOU PARTICIPATED IN ANY TRAINING FOR CULTURAL COMPETENCY? (CLASTRAIN)			
Total	397	293,306	100.0
-9 – Blank	7	2,523	0.9
-7 – Not applicable	207	153,387	52.3
1 – Yes	74	47,416	16.2
2 – No	109	89,979	30.7
DOES YOUR PRACTICE HAVE AT LEAST ONE WRITTEN POLICY RELATED OT THE PROVISION OF CULTURALLY AND LINGUISTICALLY APPRECIATE SERVICES? (CLASPOLICY)			
Total	397	293,306	100.0
-9 – Blank	7	2,811	1.0
1 – Yes	166	120,325	41.0
2 – No	115	97,239	33.2
3 – I don’t know	109	72,931	24.9

HOW KNOWLEDGEABLE ARE YOU OF YOUR PATIENTS' HEALTH BELIEFS, CUSTOMS, AND VALUES? (KNOWBELIEFS)

Total	397	293,306	100.0
-9 – Blank	28	19,876	6.8
1 – Not at all	7	3,567	1.2
2 – Barely	67	56,818	19.4
3 – Fairly well	236	153,212	52.2
4 – Very well	59	59,833	20.4

HOW FAMILIAR ARE YOU WITH THE NATIONAL STANDARDS FOR CULTURALLY AND LINGUISTICALLY APPRORIATE SERVICES IN HEALTH AND HEALTH CARE (THE NATIONAL CLAS STANDARDS)? (CLASKNOW)

Total	397	293,306	100.0
-9 - Blank	14	10,386	3.5
1 – Never heard of it	255	182,560	62.2
2 – Heard of it but do not know much about it	69	58,694	20.0
3 – Know something about it	47	34,626	11.8
4 – Very familiar with it	12	7,039	2.4

B. PHYSICIAN ESTIMATES

REGION

Total	397	293,306	100.0
North East	97	74,342	25.3
Midwest	103	58,804	20.0
South	102	95,328	32.5
West	95	64,831	22.1

SPECIALTY TYPE

Total	397	293,306	100.0
Primary care	129	143,053	48.8
Surgical care	134	46,103	15.7
Medical care	134	104,149	35.5

AGE

Total	397	293,306	100.0
Under 50 years	127	99,268	33.8
50 years & above	270	194,038	66.2

SEX			
Total	397	293,306	100.0
Female	131	101,422	34.6
Male	266	191,884	65.4

APPENDIX I

A. STANDARD ERRORS AND VARIANCE ESTIMATION

Standard error is primarily a measure of the sampling variability that occurs by chance because only a sample is surveyed, rather than the entire universe.

The sampling methodology employed in the 2016 National CLAS Physician Survey uses a list sample. The design variables reflect this sampling methodology. Examples of SUDAAN, SAS, Stata, and SPSS statements that incorporate these design variables for variance estimation are below. All examples use a data set named "CLASdata" that represents the National CLAS Physician Survey public use micro-data file.

1. VARIANCE ESTIMATION EXAMPLES IN SUDAAN
   The linearized Taylor series procedure in SUDAAN software is used to approximate variances for the National CLAS Physician Survey estimates. SUDAAN's 1-stage WR (With Replacement) Option is used. This code provides a without replacement ultimate cluster (1-stage) estimate of standard errors for a cross-tabulation with a dataset called CLASdata. SAS-callable SUDAAN software requires that the dataset be sorted by the NEST variable prior to analysis. In this case SAS's PROC SORT procedure was used to sort the dataset (code provided below).

   ```
   PROC SORT DATA=CLASdata; by CSTRATM; run;
   ```

   The required SUDAAN statements for estimating variances in the sorted dataset are:

   ```
   PROC (procedure) DATA = CLASdata DESIGN = (statistic type);
   NEST            CSTRATM / MISSUNIT;
   WEIGHT          CLASWEIGHT;
   ```

The items in the parentheses are replaced with the information required by the specific SUDAAN procedure used, and design type specified. The variance variables required by the software are included in a VAR, CLASS, LEVEL and TABLE statements (see below).

An example to produce frequency tables using the CROSSTAB procedure in SAS-callable SUDAAN, the following statements are used:

```
PROC CROSSTAB DATA=CLASdata filetype=SAS Design=WR;
NEST CSTRATM / MISSUNIT;
WEIGHT CLASWEIGHT;
CLASS  REGION CLASTRAIN;
TABLE REGION*CLASTRAIN;
run;
```

2. VARIANCE ESTIMATION EXAMPLE IN SAS

   Below is an example of the PROC CROSSTAB SUDAAN analysis (shown above) using the SAS SURVEYFREQ procedure.

```
PROC SURVEYFREQ DATA=CLASdata;
STRATA CSTRATM;
WEIGHT CLASWEIGHT;
TABLE REGION*CLASTRAIN;
run;
```

3. VARIANCE ESTIMATION EXAMPLES IN STATA

   The pweight (CLASWEIGHT), stratum (CSTRATM), and psu (PHYCODE) are set with the svyset command as follows:

   Stata 8:

```
svyset [pweight=CLASWEIGHT], psu (PHYCODE) strata(CSTRATM)
```

   Stata 9 and later:

```
svyset PHYCODE [pweight=CLASWEIGHT], strata(CSTRATM)
```

4. VARIANCE ESTIMATION EXAMPLES IN SPSS

   To obtain variance estimates, which take the sample design into account, IBM SPSS Inc.'s Complex Samples module can be used. This description applies to version 24.0. From the main menu, first click on 'Analyze', then 'Complex Samples,' then 'Prepare for Analysis.' The 'Analysis Preparation Wizard' can be used to set CSTRATM as the stratum variable, PHYCODE as the cluster variable, and CLASWEIGHT as the weighting variable. The WR design option may be chosen. This will create the PLAN FILE syntax, which should resemble the code below; where PLAN FILE reflects the location you have selected to store the file on your computer:

```
CSPLAN ANALYSIS
/PLAN FILE='DIRECTORY\PLANNAME.CSAPLAN'
/PLAN VARS ANALYSISWEIGHT=CLASWEIGHT
/PRINT PLAN
/DESIGN STAGELABEL= 'ANY LABEL' STRATA=CSTRATM CLUSTER=PHYCODE
/ESTIMATOR TYPE=WR.
```

After creating the plan file, various analyses can be selected from the 'Complex Samples' menu. This is an example of a cross tabulation with options selected for counts, percents and standard errors, with missing data (if any) included:

```
CSTABULATE
/PLAN FILE='DIRECTORY\PLANNAME.CSAPLAN'
/TABLES VARIABLES = REGION BY CLASKNOW
/CELLS POPSIZE ROWPCT COLPCT
/STATISTICS SE COUNT
/MISSING SCOPE = TABLE CLASSMISSING = INCLUDE.
```

Note that results using IBM SPSS with the WR option were found to be the same as those obtained using SUDAAN Release 11.0.1 with the WR option.

B. 2016 NATIONAL CLAS PHYSICIAN SURVEY INSTRUMENT - INSTRUCTIONS AND DEFINITIONS

The National CLAS Physician Survey was administered electronically using a web-based format, on a paper form or as CATI. The instructions and definition text used in the survey instrument are provided below. The survey instrument can be found at: https://www.cdc.gov/nchs/ahcd/ahcd_survey_instruments.htm#namcs.

Initial instructions on the survey instrument:

The survey is affiliated with the National Ambulatory Medical Care Survey (NAMCS). The survey should only be completed by the physician to whom it is addressed. The purpose of this survey is to understand the provision of culturally and linguistically appropriate services among office-based physicians. Culturally and linguistically appropriate services consider cultural health beliefs, practices, and preferred languages associated with various racial, ethnic, linguistic and religious groups. Your participation is voluntary and greatly appreciated. Your answers are completely confidential.

Setting definitions where the physician typically provides care to the most patients (multiple settings could be selected):

- Community Health Center (e.g., Federally Qualified Health Center (FQHC), federally-funded clinics or "look alike" clinics
- Non-federal government clinic (e.g., state, county, city, maternal and child health, etc.)
- Family planning clinic (including Planned Parenthood)
- Health maintenance organization or other prepaid practice (e.g., Kaiser Permanente)
- Faculty practice plan (an organized group of physicians that treat patients referred to an academic medical center)

Instruction after Question 4, on setting(s) where the most patients are seen:

For the remaining questions, please provide answers reflecting your experiences at the location where you see the most patients that are not in hospital emergency or hospital outpatient departments. If you feel you see the same number of patients at more than one location please select one.

Training in cultural competency – includes educational opportunities that address topics of culture in settings such as employee orientation, continuing medical education, conferences, or webinars.

Universal symbols – a sign recognized by most people. Example: a square around a plus sign for first aid.

Infographics – a visual image such as a chart or diagram used to represent information or data

Improved quality of patient care – e.g., diagnostics, communication, treatment

C. DEFINITIONS OF CERTAIN TERMS

Many of the definitions used in the NAMCS office-based component also apply to the National CLAS Physician Survey. The following includes common terms and those that are specific to the National CLAS Physician Survey.

Office – Place which the sampled physician indicates is the location where the most patients are seen that is not in a hospital emergency or hospital outpatient department. In some instances, the office might be owned by a hospital and these are still in-scope for the National CLAS Physician Survey.

Out-of-scope office –

- Hospital outpatient department or emergency department.
- Offices in Federal Government operated facilities, such as a VA clinic.
- Offices in on-site facilities that are operated by a large institution and restricted to that population, such as an industrial clinic serving employees of a particular company or a university clinic serving only students and staff.

In-Scope physician – All sampled physicians currently in practice who spend any time caring for ambulatory patients at an office location (see definition of office above). In offices and community health centers, sampled physicians include Medical Doctors (MDs) and Doctors of Osteopathy (DOs).

Out-of-Scope physician – Those sampled providers who treat patients only indirectly. For office-based physicians, out-of-scope will include physician specialists in anesthesiology, pathology and forensic pathology, radiology, therapeutic radiology, and diagnostic radiology (note a more detailed list is available by contacting the NCHS Ambulatory and Hospital Care Statistics Branch). In community health centers, out-of-scope includes non-medical providers such as dentists, optometrists, or social workers. The following kinds of physicians are also out-of-scope:

- Physicians employed full-time by the Federal Government and having no private practice (e.g., physicians who work for the V.A.).
- Physicians employed full-time by an institution to serve its own population. The physician does not see ambulatory patients from outside the institutional community. For example, the physician works for Ford Motor Company, and provides care only to ambulatory patients and their families employed by Ford.
- Physicians who spend no time during a normal week seeing ambulatory patients (e.g., physicians who exclusively teach or are engaged in research).
- Physicians employed full-time by a hospital working with inpatients, in an ED or OPD, with no private practice.
- Physicians in military service, with no private practice.
- Physicians who treat only institutionalized patients (e.g., patients in nursing homes, hospitals, and prisons).

Physician specialty – Principal specialty (including general practice) as designated by the physician at the time of the survey. All respondents provided a specialty.

Metropolitan status — Physicians are classified by their location in metropolitan statistical area as follows:

Metropolitan statistical area (MSA)—As defined by the U.S. Office of Management and Budget, the definition of an individual MSA involves two considerations: first, a city or cities of specified population, that constitute the central city and identify the county in which it is located as the central county; second, economic and social relationships with "contiguous"' counties that are metropolitan in character so that the periphery of the specific metropolitan area may be determined. MSAs may cross state lines. In New England, MSAs consist of cities and towns rather than counties.

Non-MSA—Non-MSA areas are those not defined as MSAs, including rural and micropolitan areas.

Region of practice location – The four geographic regions which correspond to those used by the U.S. Bureau of the Census, are as follows:

Region	States included
Northeast	Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont
Midwest	Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin
South	Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia
West	Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, Alaska, Hawaii