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Effects of Form Length and Item Format on Response Patterns and Estimates of Physician Office and Hospital Outpatient Department Visits

National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey, 2001

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

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Abstract

Objectives

This report describes effects due to form length and/or item formats on respondent cooperation and survey estimates.

Methods

Two formats were used for the Patient Record form for the 2001 NAMCS and OPD component of the NHAMCS: a short form with 70 subitems and a long form with 140 subitems. The short form also contained many write-in items and fit on a one-sided page. The long form contained more check boxes and other unique items and required a two-sided page. The NAMCS sample of physicians and NHAMCS sample of hospitals were randomly divided into two half samples and randomly assigned to either the short or long form. Unit and item nonresponse rates, as well as survey estimates from the two forms, were compared using SUDAAN software, which takes into account the complex sample design of the surveys.

Results

Physician unit response was lower for the long form overall and in certain geographic regions. Overall OPD unit response was not affected by form length, although there were some differences in favor of the long form for some types of hospitals. Despite having twice the number of check boxes on the long form as the short form, there was no difference in the percentage of visits with any diagnostic or screening services ordered or provided. However, visit estimates were usually higher for services collected with long form check-boxes than with (recoded) short form write-in entries. Finally, the study confirmed the feasibility of collecting certain items found only on the long form.

Conclusion

Overall, physician cooperation was more sensitive to form length than was OPD cooperation. The quality of the data was not affected by form length. Visit estimates were influenced by both content and item format.

Keywords: questionnaire design • split-panel study • physician office care • hospital outpatient care

Effects of Form Length and Item Format on Response Patterns and Estimates of Physician Office and Hospital Outpatient Department Visits

National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey, 2001

By Esther Hing, M.P.H.; Susan M. Schappert, M.A.; Catharine W. Burt, Ed.D., Division of Health Care Statistics, and Iris M. Shimizu, Ph.D., Office of Research and Methodology

Introduction

The National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) provide nationally representative estimates of the number and kinds of medical encounters in physician offices, hospital emergency departments (EDs), and outpatient departments (OPDs). In each survey, information on randomly sampled encounters with eligible providers is collected on the Patient Record form (PRF). The information collected is based on physician's knowledge of the patient and/or abstracted from medical records. The PRF collects information on characteristics of the patient who made the visit, such as age, sex, race, ethnicity, and expected source of payment; and visit characteristics such as reason for visit, physician diagnoses, tests and procedures ordered or provided, medications provided or prescribed, and disposition of visit. Because the OPD component of the NHAMCS was designed to produce statistics on medical encounters similar to those collected in the NAMCS, the PRFs used in these two settings are similar.

Both the NAMCS and NHAMCS survey content and methodology are often copied by other organizations and governments to collect visit data, and NAMCS and NHAMCS public use files are popular sources for secondary analysis. To maintain the quality of estimates derived from these surveys, efforts are needed to minimize measurement errors due to nonresponse and reporting errors. To refine the survey instrument and collect data needed by policymakers and the health services research community, the PRF is redesigned every few years. In planning for the 2001 surveys, the PRF was redesigned into a two-sided page that included data items typically fielded, many new data items requested by consultants and an Expert Panel, as well as many check boxes for the most frequently written-in services. The longer form was then tested in a pilot study with a convenience sample of physicians and hospitals. During the pilot study with a convenience sample of providers, the form required an average of 13 minutes to complete compared with an estimated 4 minutes in recently fielded survey panels (1).

Additionally, comments from the respondent and interviewer debriefing indicated a negative reaction to the longer form. However, it was thought that the pilot test was too limited in scope and may not have been sufficiently robust to provide definitive results pertaining to the feasibility of collecting data items from a longer PRF.

To test instrumentation effects in a real-life survey situation while addressing concerns that a lengthy form might negatively affect response rates, the 2001 NAMCS and OPD component of the 2001 NHAMCS were fielded as split-panel surveys to compare two versions of the PRF. Physicians sampled for the NAMCS were divided into two panels; one panel received a short version of the PRF (Form A) and the other received a longer version (Form B) (see figures I and II). Similarly, hospitals were divided into two panels; eligible OPD clinics in each panel received either the short or long form (see figures III and IV).

Research Objectives

The goal of the split-panel study was to measure PRF instrumentation effects on physician and hospital cooperation and survey estimates in a real-world setting. Another goal was to test the feasibility of capturing more detailed survey content. The purpose of this report is to describe the conduct of the study and to evaluate the effects of the split-panel design on the quality and magnitude of NAMCS and NHAMCS-OPD estimates. Key questions addressed in this report are:

- Did the length of the form affect the willingness of physicians and OPD clinics to participate?
- How complete were the data provided on each form?
- Did the additional check boxes provided on the long form result in increased reporting of the listed services compared with corresponding data from the short form items?
- Was the short form's write-in response format an efficient way to collect information on services ordered or provided at the visit?
- What was learned about data items collected exclusively on the long form?

Previous Research

Split-panel studies are typically used to investigate interviewer effects on responses, respondent recall, errors due to questionnaire wording or format, or mode effect (2). There is little research on measurement errors due to question wording or form length for records-based surveys, such as the NAMCS and NHAMCS. A separate report describes the logistical considerations of conducting a split-panel test of forms while simultaneously fielding a national survey of physician visits (3).

Background

National Ambulatory Medical Care Survey

The National Ambulatory Medical Care Survey (NAMCS) has provided nationally representative estimates of the number and kinds of medical encounters in physician offices since 1973. The scope of the NAMCS is physician/patient encounters in the offices of nonfederally employed physicians classified by the American Medical Association (AMA) or American Osteopathic Association (AOA) as "office-based, patient care." Physicians in the specialties of anesthesiology, radiology, and pathology were excluded. Physicians in private, nonhospital-based clinics were included, but those in hospital-based outpatient clinics were not. Telephone contacts and nonoffice visits were also excluded, as were purely administrative visits (e.g., bill payment, leaving specimens).

The NAMCS utilizes a multistage probability sample design involving samples of geographic primary sampling units (PSUs), physician practices within PSUs, and patient visits within physician practices. The PSUs are counties, groups of counties, county equivalents (such as parishes or independent cities), or towns and townships for some PSUs in New England, or a metropolitan statistical area (MSA).

The U.S. Census Bureau was responsible for data collection for the 2001 NAMCS. The Census Bureau trained field representatives (FRs) who, in turn, coordinated data collection from physicians. FRs contacted physicians for induction interviews after advance letters were mailed by NCHS notifying the physicians of their selection. During the induction interview, the visit

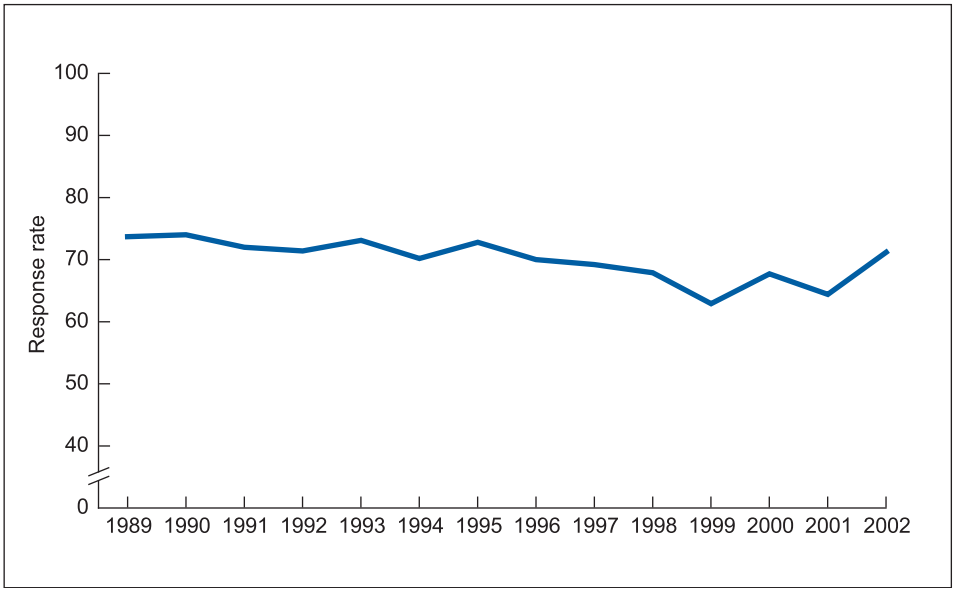


Figure 1. Unweighted physician response rate: National Ambulatory Medical Care Survey 1989–2002

sampling rate is established, and the final disposition of the interview is recorded. The induction interview is also used to obtain basic information about the practice such as the physician's employment status, ownership of the practice, practice size, and office type. Sample physicians are asked to complete PRFs for a systematic random sample of visits occurring during a randomly assigned 1-week period. In 2001, 1,252 of 1,910 in-scope physicians participated in the NAMCS by completing 24,281 PRFs. A total of 1,230 responded fully for an unweighted response rate of 64.4 percent. Figure 1 presents the NAMCS response rates during 1989–2002.

Statistics from the NAMCS are derived by a multistage estimation procedure that produces essentially unbiased national estimates. The estimation procedure includes inflation by reciprocals of the sampling selection probabilities, adjustment for nonresponse, a population-weighting ratio adjustment, and weight smoothing.

It should be noted that the 24,281 PRFs completed across both panels of the 2001 NAMCS include forms completed by physicians with minimal response (i.e., provided PRFs for less than 50 percent of expected number of sampled visits). PRFs from these ''less-than-fully cooperating'' physicians were included on the data file, and the weight of these visits and the visits from similar physicians were increased to account for the missing visit PRFs. Physicians supplying a minimal response are not considered respondents for response rate calculations.

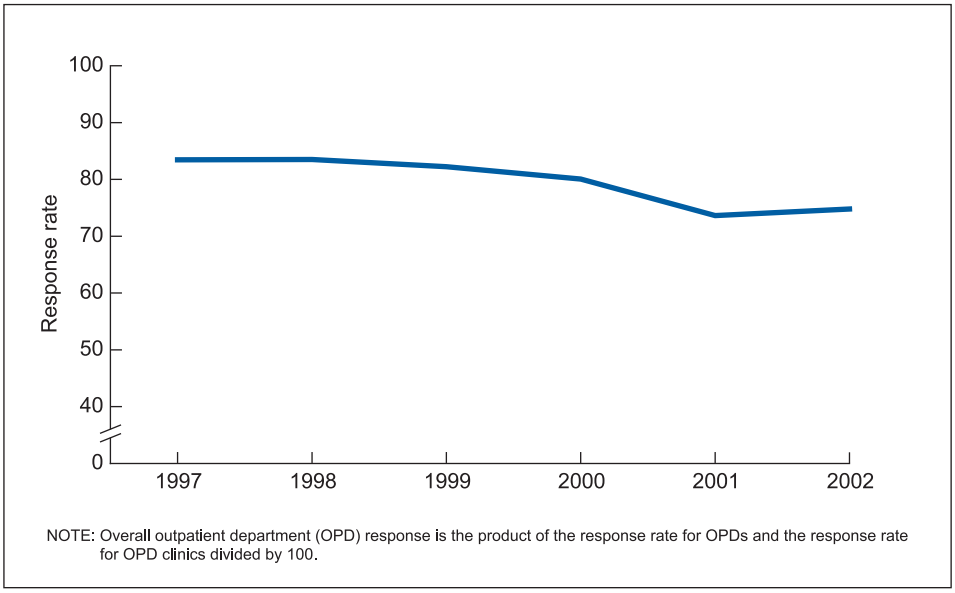
National Hospital Ambulatory Medical Care Survey

The National Hospital Ambulatory Medical Care Survey (NHAMCS) is a nationally representative survey of ambulatory visits to hospital emergency departments (EDs) and outpatient departments (OPDs) conducted annually since 1992. The scope of the NHAMCS is patient visits to EDs and OPDs of non-Federal, short-stay hospitals (hospitals with an average length of stay of less than 30 days) or those whose specialty is general (medical or surgical) or children's general. Federal hospitals, hospital units of institutions, and hospitals with less than six beds are ineligible for the NHAMCS. Telephone contacts are excluded, as are purely administrative visits. In OPDs, only clinics supervised by a physician and for which the hospital kept patient volume statistics are included; ancillary clinics (e.g., radiology, laboratory services, physical rehabilitation, renal dialysis, and pharmacy) are excluded. The hospital sampling frame consisted of hospitals listed in the 1991 SMG Hospital Database, which was updated using the 2000 SMG Hospital Database to include hospitals that opened or became eligible after 1991. Approximately 50 newly eligible hospitals were added to the 2001 sample. Hospitals that had lost eligibility were dropped from both the sample and sampling frame during the update.

A four-stage probability sample design is used in the NHAMCS. The design involves samples of geographic PSUs, hospitals with EDs and/or OPDs within PSUs, emergency service areas (ESAs) within EDs, or clinic sampling units (SUs) within OPDs, and patient visits within ESAs or SUs. If a hospital has five or fewer OPD clinics, all are included in the survey. A clinic sampling unit is generally one clinic, except when a clinic expects fewer than 30 visits. In that case, it is grouped with one or more other clinics to form a clinic SU. If the grouped SU was selected, all clinics included in that SU were included in the sample. In hospitals with more than five OPD clinics, each clinic is assigned to one of six specialty groups (i.e., general medicine, surgery, pediatrics, obstetrics/gynecology, substance abuse, and other). Within each specialty group, clinics are grouped into SUs, and a sample of SUs is selected by using probability proportional to the total expected number of visits to the SU. A maximum of 12 clinic SUs could be selected because the sample of clinic SUs within each specialty group is limited to two. A sample of 479 hospitals was selected for the 2001 NHAMCS, of which 261 had eligible OPDs.

The U.S. Census Bureau was responsible for data collection for the 2001 NHAMCS. The Census Bureau trained field representatives (FRs) who, in turn, coordinated data collection from hospitals. FRs contact hospitals for induction interviews after advance letters are mailed by NCHS notifying the hospital of their selection. During the induction interview, the visit sampling rates are established and the final disposition of the interview is recorded. The induction interview is also used to obtain basic information to establish whether the hospital is in scope for the survey, whether hospitals have eligible EDs and/or OPDs, and to determine eligibility of emergency service areas and sampling units. Basic information about the hospital, emergency department, and outpatient department are also collected in the induction interview. This includes types of clinics within an ED or OPD, visit volume expected for each clinic, hospital ownership, and bed size. Hospital staff was asked to complete Patient Record forms for a systematic random sample of patient visits occurring during a randomly assigned 4-week period. In 2001, 1,036 clinics within 261 eligible OPDs participated by completing 33,567 Patient Record forms. The unweighted visit response rate for OPDs in 2001 was 73.6 percent. Figure 2 presents NHAMCS response rates for OPDs during 1997–2002.

Similar to the NAMCS, statistics from the NHAMCS are derived by a multistage estimation procedure that produces essentially unbiased national estimates. The estimation procedure includes inflation by reciprocals of the sampling selection probabilities, adjustment for nonresponse, and a population-weighting ratio adjustment. Similar to the NAMCS, the 33,567 Patient Record forms completed in OPDs include those completed by clinics with minimal response (provided PRFs for less than 50 percent of expected number of sampled visits). The weights for PRFs from these and similar clinics were increased to account for the missing PRFs. Minimally responding clinics are not considered respondents for response rate calculations.



NOTE: Overall outpatient department (OPD) response is the product of the response rate for OPDs and the response rate for OPD clinics divided by 100.

Figure 2. Unweighted overall outpatient department response rate: National Hospital Ambulatory Medical Care Survey, 1997–2002

Methods

Split-panel Questionnaire Design

Two forms, one short and one long, were tested in the 2001 split-panel study. Both forms required an 8 × 14 inch sheet. However, the short form took up only the front of the sheet, and the long form covered both sides. Both forms contained the same 12 broad categories of items from past surveys, but the long form included more new items. There were more check box options on the long than short form for the following data categories: diagnostic or screening services (44 on the long form versus 18 on the short form); counseling, education, or therapeutic services (23 versus 11); surgical procedures (4 versus none); visit disposition (10 versus 7); and providers seen (12 versus 8). The medication question was the only data item that permitted more write-in entries on the long than the short form (8 medications versus 6).

With one exception, the short form check boxes were a subset of check boxes included on the long form. The exception was the diagnostic or screening services item, which included two check boxes (general medical exam and other exam) on the short form, but not on the long form. The short form diagnostic or screening services item also included four boxes to allow write-in entries in place of many check box items included on the long form item. The latter feature was included to study reporting differences using write-in responses versus check boxes, as well as to maximize the amount of comparable data that could be published in reports (4,5).

Split-panel Sample Design

The split-panel study was conducted using the production samples of the 2001 NAMCS and 2001 NHAMCS outpatient department component. That is, after sample selection, NAMCS physicians and NHAMCS hospitals were randomly assigned to one of two panels. One panel was assigned the short form for data collection, and the other panel used the long form. Randomized assignment of questionnaires to replicate samples enables attribution of differences to the question or questionnaire. Conducting the split-panel study using the production samples of the NAMCS/NHAMCS also ensured the same time frame for the questionnaire items tested.

In the NAMCS, 3,000 physicians were selected for the sample. Prior to randomization, physicians within the same group practice were identified to ensure that the same form would be administered to any multiple physicians selected within the same medical practice. As a result, the number of physicians on each panel varied slightly: 1,496 physicians were assigned the short form (Form A), and 1,504 physicians were assigned the long form (Form B). Of the physicians found to be eligible for the survey, 941 were in the short form panel and 969 were in the long form panel. Of the physicians providing at least one PRF, 646 completed 12,872 short forms and 606 completed 11,409 long forms. Among physicians with full or adequate response, the unweighted response rate was 67.7 percent for the short form and 61.2 percent for the long form.

A total of 479 hospitals were selected in the 2001 NHAMCS sample. After sample selection, hospitals were randomly assigned to one of two panels; 239 were in the short form panel and 240 were in the long form panel. Of the hospitals with eligible OPDs, 132 were in the short form panel and 129 were in the long form panel. Of the clinics selected from eligible OPDs, 548 were administered the short form (Form A) and 618 were administered the long form (Form B). Among OPD clinics providing at least one PRF, 492 completed 17,236 short forms and 544 completed 16,331 long forms. The overall unweighted OPD response rate is the product of the response rate for OPDs and the response rate for OPD clinics. This rate was 73.5 percent for the short form and 73.9 percent for the long form.

Data Collection

The U.S. Census Bureau was responsible for data collection for the 2001 split-panel study. The Census Bureau trained field representatives (FRs) who, in turn, coordinated data collection from physicians and hospitals. To minimize the potential for interviewer bias (biases introduced by interviewers against the long form in favor of the short form) on the split-panel study, FRs for each survey were trained at two large-scale training conferences in Atlanta and New Orleans during November 2000. FRs were trained to use the two forms along with exercises in how they would abstract the data for each form. The fielding of two

different forms was not presented as a test (3). FRs were also told that substitution of forms could not be made for any reason and that doing so would void the sample case (1). To ensure correct usage of the forms, the letter ''A'' for the short form or ''B'' for the long form was preprinted adjacent to the randomly assigned facility ID on the facility induction forms for physician offices (NAMCS) and hospitals (NHAMCS).

Data processing and medical coding operations were performed by the Constella Group, formerly Analytical Sciences, Inc., Durham, North Carolina. Separate keying and coding specifications were provided for each panel of the NAMCS and NHAMCS. These included extensive instructions designed to map write-in responses from the short form to the corresponding check box categories on the long form whenever possible.

Weighting and Estimation

Because the split-panel study took place with the production samples of the NAMCS and NHAMCS, survey-specific weights utilizing both half samples were developed for published reports. Weights were also developed for each half sample to independently yield national estimates. This report presents estimates based exclusively on these half sample weights. Physician unit response rates for the NAMCS were based on the final disposition of physicians at the induction stage. Although unweighted physician response rates were described in the previous section, ''Split-panel Sample Design,'' they were not tested for significance because unweighted response rates reflect only the sample cases, and differences cannot be generalized to the entire population of physicians. Consequently, only weighted physician response rates are analyzed in this report so that differences in response can be generalized to all physicians. Standard errors that take into account the complex design of the survey were calculated and used to test differences between the half samples.

Similar to the NAMCS, only weighted response rates for NHAMCS outpatient departments, clinics (within outpatient departments), and overall response were analyzed. The weight for analyzing hospital outpatient department response rates is the reciprocal of the probability of hospital selection. The weight for hospital outpatient clinic response rates is the product of the reciprocal of the probability of hospital selection and the reciprocal of the probability of outpatient clinic selection within the hospital.

In this report, visit estimates have been rounded to the nearest thousand. Visit estimates are not presented if they are based on fewer than 30 sample visits. When this occurred, only an asterisk (*) appears in the tables. Estimates based on 30 or more visits include an asterisk when the relative standard error (standard error expressed as a percentage of the estimate) exceeded 30 percent.

Analysis

Survey cooperation was measured by provider unit response rates and item nonresponse rates. The unit response rate for the NAMCS and NHAMCS is generally defined as the number of sampled providers responding divided by the sum of responding and refusing providers. Response is defined as providing at least 50 percent of the PRFs expected to be completed during the reporting period. The expected number of sample visits is the product of the sampling rate assigned to the provider and the total number of visits occurring in the randomly assigned reporting period. Physicians, OPDs, or OPD clinics providing no or minimal response (PRFs obtained for less than 50 percent of the expected number of sampled visits) were considered as refusing to respond. The overall weighted OPD response rate is the product of the OPD response rate and clinic response rate.

''Item nonresponse'' is defined as the percent of PRFs with no valid response, including a response of ''unknown,'' to a questionnaire data item among completed PRFs. The range of NAMCS item nonresponse rates evaluated in this report was 0.8 to 36.2 percent; the range of NHAMCS item nonresponse rates was 0.0 to 50.7 percent.

Standard error estimates for physician, outpatient department, and outpatient clinic unit response rates, item nonresponse rates and visit estimates were computed using SUDAAN software (6) so that the complex sample designs of the NAMCS and NHAMCS were taken into account. The standard error of the overall OPD response rate was derived from the relative variance formula for the product of two random variables (7), under the assumption of perfect correlation between the department and clinic response rates (since all responding clinics were included within responding departments). This assumption was made because no clinic information was available for outpatient departments that did not participate in the survey. The standard errors of overall outpatient department and clinic response rates should be considered maximums for these estimates, due to the missing information from nonresponding outpatient departments.

In this report, chi-square tests of association were performed to detect significant associations between form length and provider characteristics for weighted unit response rates (physician, OPD, and clinic) using the SUDAAN routine PROC CROSSTAB. Because this test only indicates that an association exists between form length and a characteristic, the odds of response to the short over long form (odds ratio) were calculated to identify individual characteristics significantly affecting response by form length. All other tests of statistical significance between estimates from the short and long forms (overall OPD unit response rate, item nonresponse rate, and visit estimates) were based on the two-tailed *t*-test at the 0.05 level of significance, unless otherwise noted. Terms relating to differences such as ''greater than'' or ''less than'' indicate that the difference is statistically significant. A lack of comment regarding the difference between any two estimates does not mean that the difference was tested and found to be not significant.

Results

Effect on Provider Response

Physician Response Rates

The weighted physician response rate was higher for the short than for the long form (67.6 percent versus 61.9 percent). The odds of response were more likely for the short than the long form among general and family practice physicians (OR=1.78), among physicians in solo practice (OR=1.54), and among ''Other'' practice types (OR=5.91) (table 1).

Response also varied by geographic location of the physician practice. Response was lower for the short than for the long form in the geographic area administered by the Chicago Census regional office (OR=0.50). Response was higher for the short than for the long form, however, in areas administered by the Boston (OR=1.98) and the Los Angeles Census regional office (OR=2.40). Consequently, differential response favoring the short form was also observed in the Northeast (OR=1.65) and the West (OR=1.79). Response was also higher for the short form in physician practices located in MSAs (OR=1.30).

To simultaneously account for differences in response between forms and physician characteristics, a logistic regression was performed. When using this model, response to the short form was 29 percent higher than response to the long form overall, controlling for physician specialty, type of practice, region, and MSA status (data not shown).

Hospital Outpatient Department and Clinic Response Rates

Weighted response rates at the OPD and clinic levels, as well as for OPDs overall, were examined for patterns of response (tables 2–4). At the OPD level, response favored the long form (95.2 percent) over the short form (87.9 percent) at the 0.10 level of significance. The odds of response also favored the long form over the short form in general and specialty hospitals (OR=0.39) at the 0.10 level of significance and among hospitals located in the West (OR=0.09) (table 2). Response varied by teaching hospital status. Among teaching hospitals, response favored the short form (OR=5.04). Among nonteaching hospitals, however, OPD response favored the long over the short form (OR=0.18). The associations found for these characteristics were significant at the 0.10 level. The lower power of these tests may be due to the small number of sampled hospitals with OPDs (261 hospitals). OPD response rates were not examined among the 12 interviewer administrative regions (Census regional offices) because sample sizes within each administrative region were not large enough to support such detailed analysis.

At the clinic level, the weighted response rate for the short form (85.9 percent) was similar to that for the long form (89.7 percent). There were no significant differences in response between forms among the hospital and clinic characteristics shown in table 3 due to the small number of cases limiting statistical power.

The overall OPD response rate (incorporating response at the OPD and clinic levels) was 85.4 percent for the long form compared with 75.5 percent for the short form (table 4). Although the difference between these two rates appears to be large, the two rates were not statistically different at the 0.05 level of significance (4). Overall response was significantly higher for the long form in the mid-sized hospitals with 100–199 beds (98.8 percent compared with 79.4 percent for the short form) and in nonteaching hospitals (83.9 percent compared with 64.1 percent for the short form).

Effect on Item Nonresponse

As in any survey, results are subject to both sampling and nonsampling errors. Nonsampling errors include unit and item nonresponse, as well as reporting and processing errors. Both unit and item nonresponse rates are measures of survey quality. Item nonresponse occurs when the needed information is not available in the medical record and/or is unknown to the person filling out the survey instrument. Nonresponse can also result when the information is available, but survey procedures are not followed and the item is left blank.

Item nonresponse was evaluated to determine whether the long form was associated with higher levels of nonresponse than the short form overall. Item nonresponse rates were also examined for differences by location on the form (back of the long form versus front of the short form).

Item Nonresponse by Form Length

When physicians and hospital OPDs decided to participate, the patterns of nonresponse for the 24 questionnaire items common to both forms were very similar (table 5). The only exceptions to this general trend occurred for two NAMCS items (patient sex and visit diagnosis) and one NHAMCS item (patient sex). The direction of these differences was lower rates of missing data for the long form. In both cases, it appears that related items on the long form helped the abstractor to complete the items more fully. In addition to the item on sex, the long form requested the associated item ''If female, was the patient pregnant?'' and, in addition to diagnoses rendered, the long form requested abstractors to check any of eight chronic conditions (e.g., asthma, depression) that the patient had.

There were no significant differences in item nonresponse rates among the five items with more check boxes on the long than the short form: diagnostic and screening services; counseling, education, and therapy; surgical procedures; visit disposition; and providers seen (table 5). ''Medications and Injections'' was the only item with a different number of maximum line entries (six on the short form versus eight on the long form). Item nonresponse rates for medications and injections were also similar between forms.

Item Nonresponse by Location on Form

Because the NAMCS and NHAMCS have traditionally used one-sided forms, one might expect higher nonresponse for questions located on the back of the long form. Nonresponse rates, however, were similar across forms for comparable items located on the front of the short form and on the back of the long form in both settings. The nonresponse rate (4) for all subitems located on the back of the NAMCS long form (3.9 percent) was statistically similar to the nonresponse rate for comparable subitems located on the front page of the NAMCS short form (4.6 percent). The NHAMCS OPD nonresponse rates for the subitems located on the back page of the long form (2.0 percent) was also similar to the nonresponse rate for the comparable short form front page items (2.4 percent) (table 5). Items included on the back of the long form covered the following topics: counseling, education, and therapy; surgical procedures, number and type of medications; visit disposition; providers seen; and, for NAMCS only, time spent with physician and time spent with other providers.

Effect on Visit Estimates

The 2001 NAMCS/NHAMCS split-panel study tested the effects of the longer form on the likelihood of reporting visit characteristics. A major feature tested was the availability of more response options on the long than the short form. As described in the section, ''Split-panel Questionnaire Design,'' five items on the long form included more check boxes than comparable items on the short form. Estimates for these items are presented in tables 6–11.

Number of Response Options

It was hypothesized that the availability of more response options on the long form, either in the form of check boxes or line entries, would result in increased proportions of visits reporting any service. However, this did not occur for the diagnostic and screening services item (table 6). The short form estimate of at least one diagnostic or screening service (83.5 percent) in physician offices was similar to the long form estimate (81.5). The percentages of visits reporting one or more diagnostic or screening services were also similar between forms in OPDs (87.7 percent for the short form compared with 82.0 percent for the long form).

There were no differences between forms in the proportion of visits reporting one or more surgical procedures (table 7); one or more counseling, education or therapeutic services (table 8); one or more visit dispositions (table 9); or one or more providers seen (table 10). Although more medications could be collected per visit on the long form, there were also no significant differences in the proportion of visits with any drug mentioned between forms in physicians offices (62.5 percent for the short form compared with 60.9 percent for the long form) or in hospital OPDs (62.4 percent for the short form compared with 67.0 percent for the long form) (table 11).

It was expected that the greater number of check boxes on the long form would result in more services being marked so that the number of services mentioned on the short and long forms should differ. There was a shift in number of diagnostic and screening services ordered or provided in physician offices and OPDs between forms (table A). Among physician office and OPD visits, there were more visits with six or more diagnostic or screening services reported using the long (10.4 and 7.0 percent, respectively) than the short form (3.7 and 3.5 percent, respectively). When at least one service was ordered or provided in physician offices, the average reported was also higher for the long (2.9 services) than the short form (2.4 services). There were no differences between forms in the distributions of number of counseling, education, or therapeutic services in either setting (table B).

Although more medications could be listed on the long than on the short form, the percent of visits with six or more medications using the NAMCS long form (6.8 percent) was similar to the short form (6.2 percent). Similar findings also occurred in OPDs. It is of interest that 4.7 percent of physician office visits and 6. 6 percent of OPD visits had 7–8 medications reported using the long form. This suggests that collection of more medications is feasible.

When at least one medication was provided or prescribed, the average number of medications listed was similar between forms in physician offices (2.4 for each form) and in hospital OPDs (2.3 and 2.4) (table 11). It should be noted that although a separate question asking for the total number of medications provided or prescribed was included on both forms, the average total number of drugs reported from that question was similar to averages obtained from counting the number of drugs listed, regardless of form length or setting (table 11).

Write-in Responses Versus Check Boxes

A major format difference between the long and the short forms involved the use of write-in response boxes. That is, the long form item on diagnostic and screening services used only check boxes, and the short form used fewer check boxes and had ''other, specify'' write-in response boxes for selected categories of services (examinations, cultures, scope procedures, and a residual ''other services''). The latter feature permitted reporting diagnostic and screening services not included among the short form check boxes. The write-in entries, in turn, were used to create recodes that could be compared with long form check box data. The recodes also increased the amount of comparable data that could be published in reports using both panels of data (4,5). Estimates based on recodes from short form write-in responses are compared with estimates based on long form check boxes for selected diagnostic and screening services (table 7).

The format of the surgical procedures item also varied between forms. The short form item on surgical procedures included only two write-in

Table A. Percent of visits to ambulatory care settings with standard errors, by number of diagnostic and screening services ordered or provided and form length: Split-panel study, 2001

Number of diagnostic and screening services ordered or provided	Physician offices		Hospital outpatient departments		Physician offices		Hospital outpatient departments	
	Short form	Long form	Short form	Long form	Short form	Long form	Short form	Long form
	Percent of visits				Standard error of percent			
1 or more diagnostic or screening services	83.5	81.5	87.7	82.0	1.4	1.5	1.7	2.4
1 service	28.5	31.1	31.6	31.7	1.3	1.6	2.6	2.3
2 services[1]	27.2	15.9	26.2	18.1	1.4	0.9	1.6	1.3
3 services	12.6	12.2	13.9	12.7	0.6	0.9	1.0	1.0
4–5 services	11.5	11.9	12.5	12.5	0.8	1.2	1.8	1.3
6 services or more[1]	3.7	10.4	3.5	7.0	0.5	1.0	0.5	1.0

[1]Difference between short and long form percentage is statistically significant at the α=0.05 level for National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey.

Table B. Percent of visits to ambulatory care settings with standard errors, by number of counseling, education, or therapeutic services ordered or provided and form length: Split-panel study, 2001

Number of counseling, education, or therapeutic services ordered or provided	Physician offices		Hospital outpatient departments		Physician offices		Hospital outpatient departments	
	Short form	Long form	Short form	Long form	Short form	Long form	Short form	Long form
	Percent of visits				Standard error of percent			
1 or more counseling, education, or therapeutic services	39.9	43.4	39.3	47.9	2.0	2.5	3.1	3.7
1 service	27.0	28.3	26.9	31.5	1.4	1.7	2.0	2.7
2 services	8.3	8.9	9.1	10.7	0.7	1.2	1.3	1.3
3 services or more	4.5	6.2	3.3	5.7	0.6	0.8	0.6	1.0

entry lines, and the long form item included four check boxes and two write-in entry lines. Data from the short form write-in entries were also recoded into categories comparable to the four long form check boxes for the following surgical procedure categories: none, biopsy, excision of tissue, and suture removal. Visit estimates based on these two formats are also presented in table 7.

Visit estimates based on write-in responses were often lower than estimates based on check boxes. In physician offices, the percentage of visits based on check boxes was significantly higher than the comparable percentage based on write-in responses for six types of examinations (rectal, skin, eye, ear, mental status, and neurological examinations), blood glucose level, visual acuity tests, and suture removal.

A similar pattern was also noted among visits to OPDs, where visit percentages based on check boxes exceeded estimates based on write-in responses for eight types of examinations and two tests. The ratio of visit estimates based on check box (long form) versus write-in responses (short form) is shown in figure 3. Ratios of long over short form estimates ranged from 2.8 for rectal exams in physician offices to 93.0 for mental status exams in OPDs (figure 3).

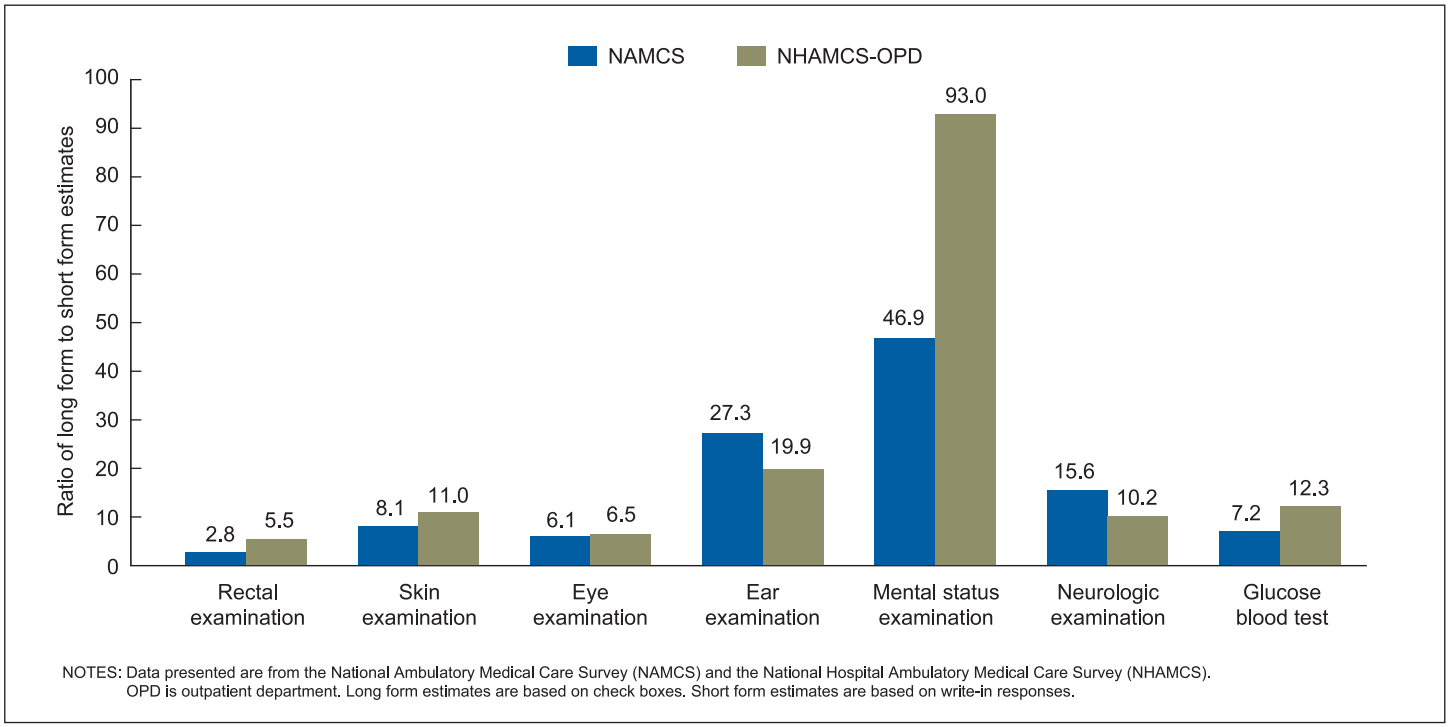
Differences in visit estimates based on check box versus write-in formats are due to the explicit information requested in the check-box wording, compared with the parenthetical examples provided as probes with write-in response boxes. For example, the long form check boxes for eight types of examinations (breast, pelvic, rectal, skin, eye, ear, mental status, and neurologic) explicitly requested these examinations, and the short form provided only two examples in the probe ‘‘(e.g., breast, rectal)’’ for the ‘‘other exam—specify’’ write-in responses.

However, estimates produced by these two methods for several other services were not significantly different. For example, similar visit percentages were obtained in physician offices for throat or rapid strep-test cultures, ultrasound, cardiac stress test, sigmoidoscopy/colonoscopy, cystoscopy, no surgical procedures, biopsy, and excision of tissue. Similar estimates in hospital OPDs were found for cervical/urethral cultures, no surgical procedures, and excision of tissue. This suggests that write-in response boxes may be an efficient way to collect data for certain tests or procedures, but, in general, write-in response boxes can significantly underestimate visits for a large number of tests and procedures.

Question Wording and Item Format

Visit estimates based on check boxes also varied by question wording or probes associated with the check box and item format, including whether the item was located on the front or back of the form.

As described in the last section, the short form included check boxes and

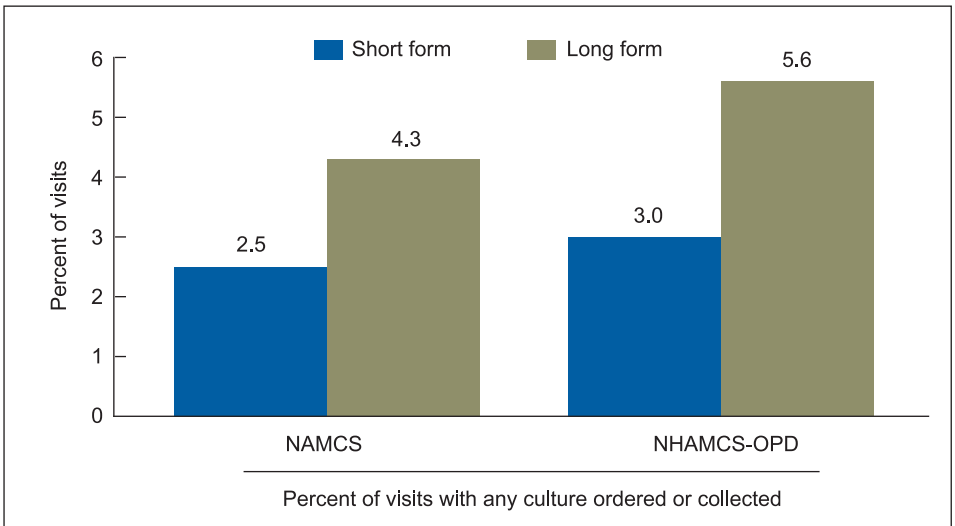


NOTES: Data presented are from the National Ambulatory Medical Care Survey (NAMCS) and the National Hospital Ambulatory Medical Care Survey (NHAMCS). OPD is outpatient department. Long form estimates are based on check boxes. Short form estimates are based on write-in responses.

Figure 3. Ratio of long form to short form estimate for selected diagnostic and screening services by survey: Split-panel study, 2001

spaces for write-in entries for type of examination (excluding general medical examination), culture, scope procedure, and other services; and the long form included check boxes for specific services within these procedure categories. The specificity of the wording associated with the long form check boxes increased reporting for some of these services. For example, the short form percentage of visits reporting any culture was based on a single check box labeled "Culture (e.g., throat)—specify" with a write-in box, and the closest derived estimate from the long form is based on response to any of four check boxes ("Cervical/Urethral," "Stool," "Throat/Rapid strep test," and "Urine") without a write-in response box (figure 4). In both physician offices and hospital OPDs, the check-box format of the long form yielded higher proportions of visits with cultures (4.3 and 5.6 percent, respectively) than reported on the short form (2.5 and 3.0 percent, respectively).

It was also possible that long form visit estimates might be lower than comparable short form estimates for items located on the back page of the long form, but on the front of the short form. This did occur for selected items. The short form percentage of physician office visits with asthma education was significantly higher than the long form percentage (2.0 percent versus 0.9 percent of long form visits). This was also found for physiotherapy (2.3 percent versus 0.7 percent). However, wording for these check boxes was identical, and nonresponse rates for these items were similar between forms (table 8). There were no significant differences in percentages of OPD visits, however, by individual categories of counseling, education or therapy by form (table 8). There were also no differences between forms in the percentage of visits by individual categories of providers seen (table 9) or visit disposition (table 10) in either physician offices or OPDs. Both of these items were located on the back page of the long form.



NOTES: Data presented are from the National Ambulatory Medical Care Survey (NAMCS) and the National Hospital Ambulatory Medical Care Survey (NHAMCS). OPD is outpatient department.

Figure 4. Percent of visits with any culture ordered or collected by form length and survey: Split-panel study, 2001

Type of Respondent

Across both forms in the NAMCS and NHAMCS, about half of the PRFs were completed by physicians and/or their staff (51.0 percent) or hospital staff (47.2 percent), respectively. About 13.1 percent of PRFs were jointly completed by the FR and physicians and their staff, and 8.5 percent of PRFs were jointly completed by the FR and hospital OPD staff (data not shown). Overall, patterns of questionnaire completion by respondent type did not vary between panels in either setting (figures 5 and 6).

Although there were few differences in respondent types by panel, differences could occur if certain services were not always recorded on the medical record. A previous study found that physician recording of health habit counseling on the medical records was lower than the rate of advice found by direct observation, but physician recording of procedures and examinations had high validity with direct observation (8). Consequently, it might be hypothesized that reporting by physicians or their staff versus FR abstraction would differ for counseling and procedural services because physicians and their staffs could report from personal knowledge, but FRs could not. This occurred in the NAMCS; there were no differences in the percentage of visits with one or more diagnostic and screening services by type of respondent, but the percentage of visits with at least one type of counseling, education, or therapy ordered or provided was lower when FRs abstracted the data (figure 7).

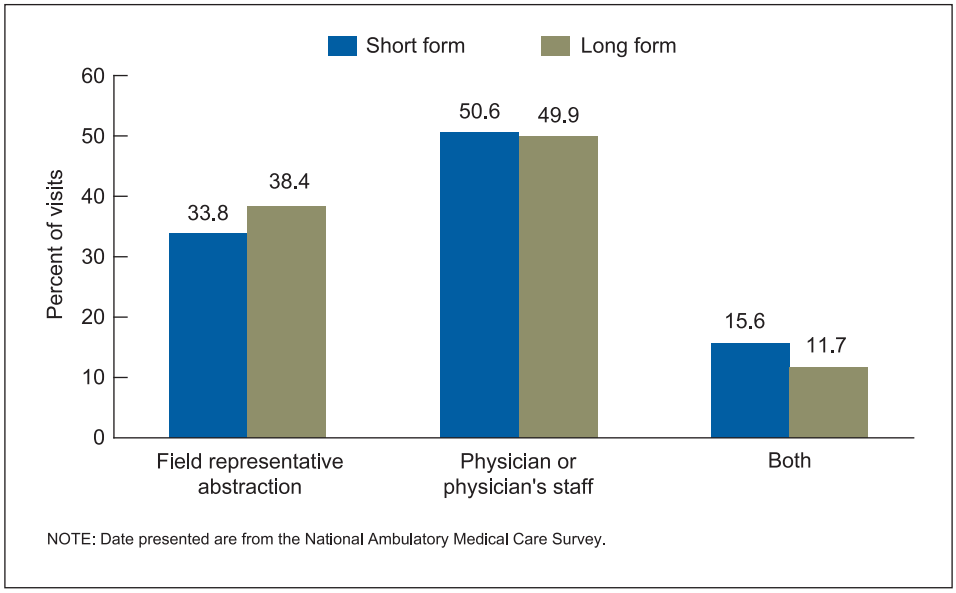


Figure 5. Percent of office visits by respondent type and form length: Split-panel study, 2001

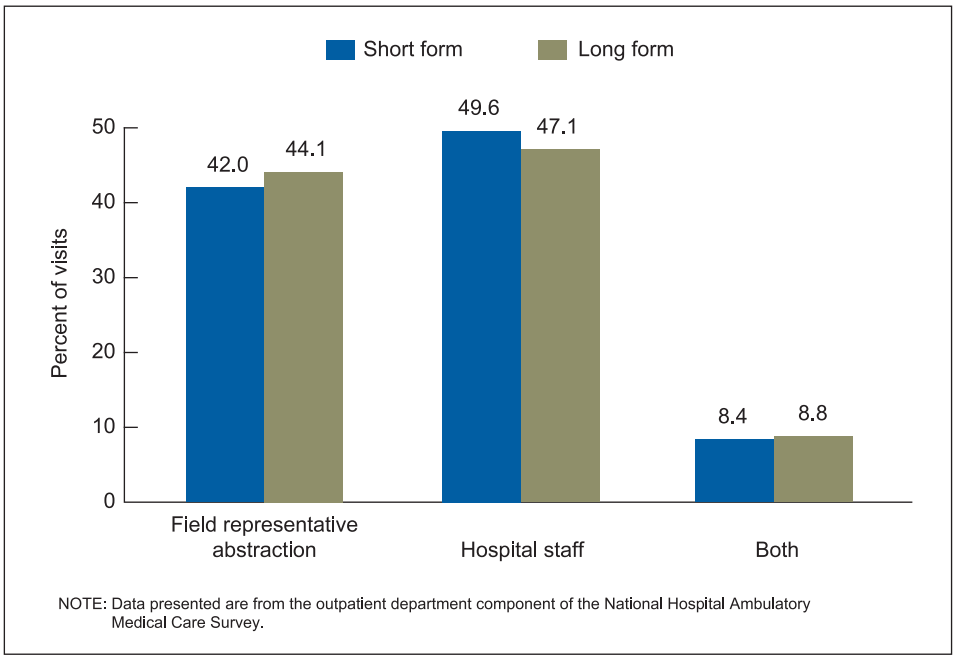


Figure 6. Percent of visits to hospital outpatient departments by respondent type and form length: Split-panel study, 2001

Feasibility of Collecting Data Items Specific to the Long Form

Finally, another goal of the split-panel study was to test the feasibility of capturing more detailed survey content by including seven additional items on the long form. The following five items had never been collected in the NAMCS and OPD component of the NHAMCS: type of insurance plan, blood pressure reading (if blood pressure test was indicated), check boxes for selected ambulatory medical procedures, whether each medication listed (up to eight) was a new medication for the patient, and time spent with providers other than a physician (NAMCS only). The following two items were fielded in previous rounds of the surveys: whether the patient was pregnant (female only), and presence of eight conditions (regardless of physician diagnosis). Visit estimates for these data items are presented in table 12.

Nonresponse rates for the five new items indicate the feasibility of collecting these items in future rounds of the NAMCS and NHAMCS (figure 8). For example, when blood pressure was taken, blood pressure readings were almost never missing (i.e., data were missing for these variables in 3.0 and 0.7 percent of visits in physician

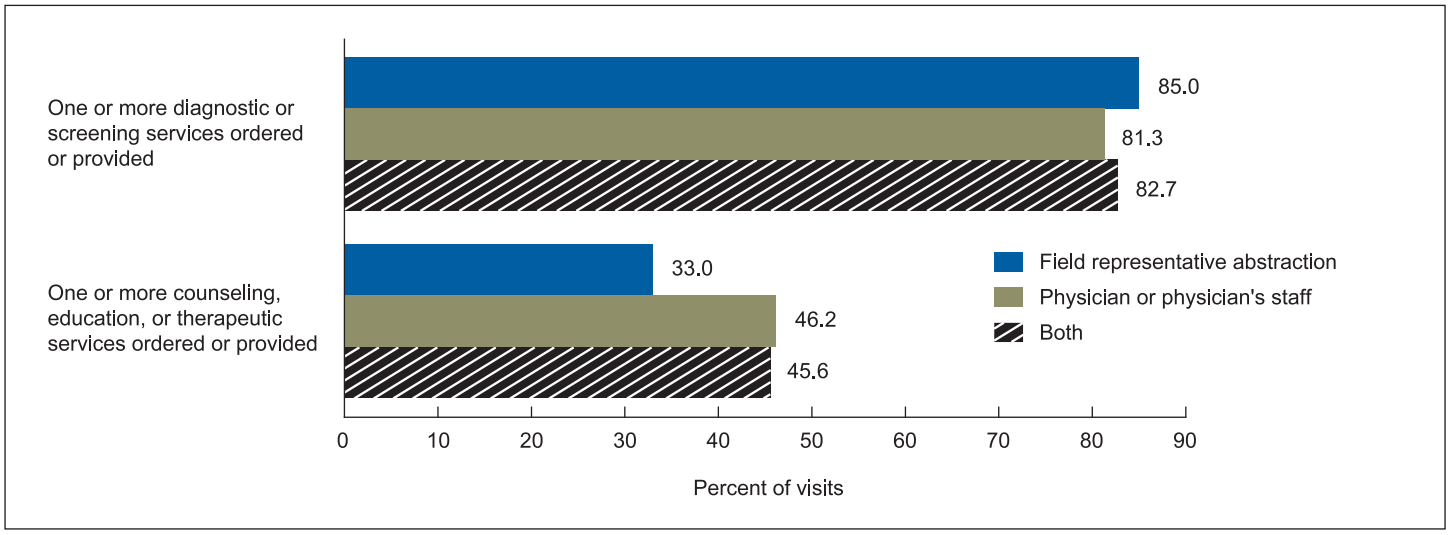


Figure 7. Percent of office visits reporting one or more diagnostic or screening services and one or more counseling, education, or therapeutic services by type of respondent: Split-panel study, 2001

offices and OPDs, respectively). The distribution of visits by blood pressure reading in physician offices was similar to that found in OPDs (table 12). Nonresponse to the additional surgical procedure check boxes appearing only on the long form seldom occurred in either physician offices or OPDs.

The item on whether the medication was new or continued was also generally available in both settings; item nonresponse rates were 9.0 percent in physician offices and 10.6 percent in OPDs, respectively (figure 8). Table 12 shows that about half of drug visits (i.e., visits with any mention of a drug) in physician offices involved medications new to the patient (52 percent), either alone (37.4 percent) or in conjunction with an old prescription (14.6 percent). About 39 percent of drug visits in physician offices involved only previously prescribed medications. Similar patterns of old and new prescriptions were also found in OPDs.

The percentage of visits with missing data for the new item on time spent with nonphysician providers (14.2 percent) was similar to the percentage of visits with missing data for time spent with physicians (17.6 percent), an item collected every year in the NAMCS (table 5). In 2001, providers other than physicians were seen in 73.7 percent of visits (calculated from table 12). They may have been seen alone or in addition to the physician. The average time spent with physicians (18.3 minutes) was significantly longer than the average time spent with nonphysician providers (9.3 minutes). These averages excluded missing data for each item, as well as cases in which a physician or nonphysician provider was not seen.

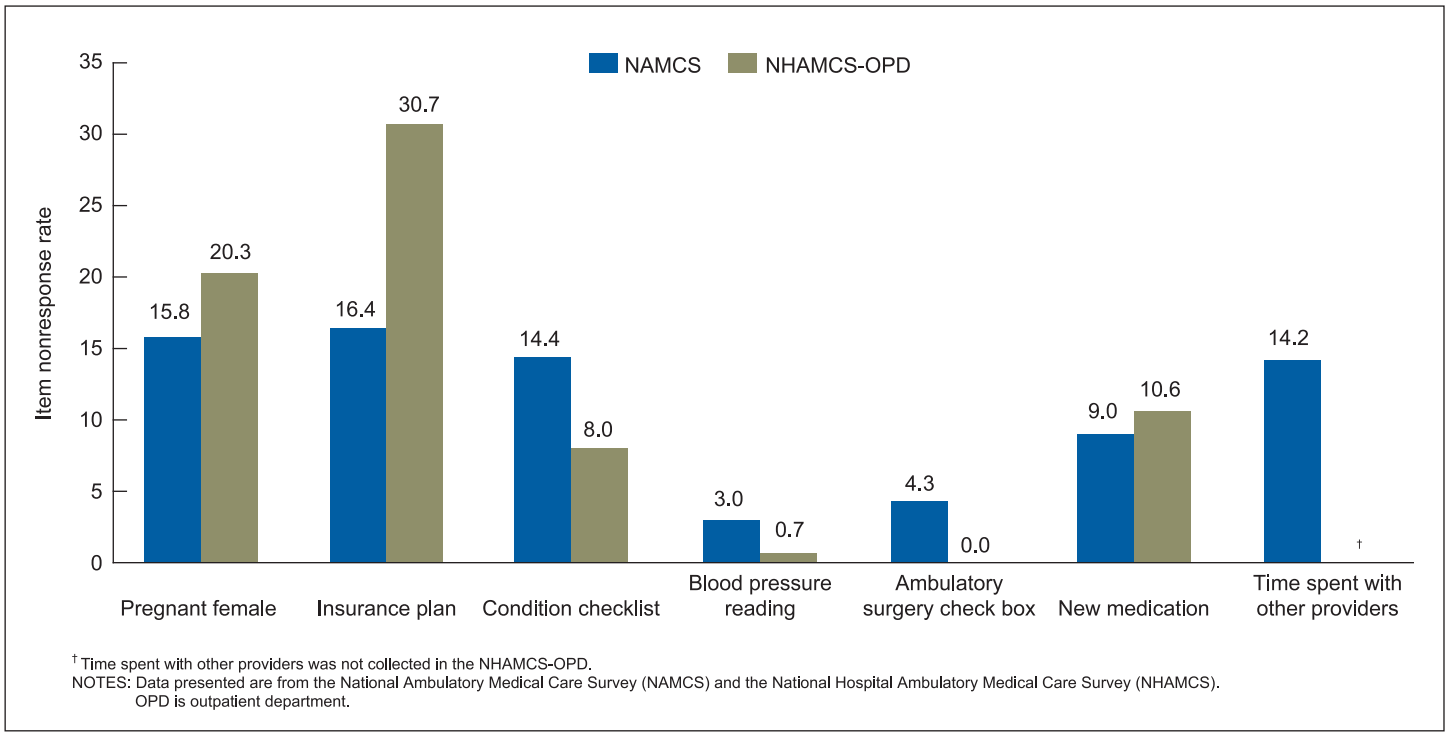
The percentage of visits missing data for type of health insurance plan was higher in OPDs (30.7 percent) than in physician offices (16.4 percent). Type of health insurance plan may have been missing more often in OPDs because visits to this setting were less likely to be insured by one of the listed types of health plans (30.6 percent) than visits to physician offices (66.1 percent) (calculated from table 12).

Check boxes indicating pregnant females have been collected in previous years of the NAMCS and NHAMCS. However, the 2001 nonresponse rate for this item was lower than in previous years. For example, the percentage of missing data for this item in physician offices was 15.8 percent in 2001 and 24.7 percent in 2000 (9). The OPD nonresponse rate for this item was 20.3 percent in 2001 and 34.8 percent in 2000 (10).

Information identifying patients with selected conditions can be used to track trends in utilization of physician offices and hospital OPDs by patients with these conditions, as well as to provide context for utilization patterns. In addition, data from the condition check boxes provide more complete reporting of these conditions because physician diagnoses were limited to three and to those related to the current visit. Since 1995, the percent of office visits by patients with hypertension increased by 18.8 percent (from 14.9 to 17.7 percent), visits by patients with diabetes increased by 33.3 percent (from 5.7 to 7.6 percent), and visits by patients with depression increased by 31.5 percent (from 5.4 to 7.1 percent) (11). The 2001 percent of missing data for chronic conditions was 14.4 percent in physician offices and 8 percent in OPDs.

Conclusions

In this study, PRF instrumentation effects, including both form length and item formats, were tested. The study found that form length had mixed effects on the quality of the data as measured by unit and item nonresponse. Form length affected overall physician response negatively (61.9 percent for the long form compared with 67.6 percent for the short form), but had no effect on OPD response. Although there was a difference in outpatient department response favoring the long form at the 0.10 level of significance, there were no differences at the clinic level or overall (combining response at both the department and clinic level). A few



† Time spent with other providers was not collected in the NHAMCS-OPD.
NOTES: Data presented are from the National Ambulatory Medical Care Survey (NAMCS) and the National Hospital Ambulatory Medical Care Survey (NHAMCS). OPD is outpatient department.

Figure 8. Weighted item nonresponse rates for data items collected only on long form by survey: Split-panel study, 2001

differences occurred favoring the long over the short form in some types of hospitals. It is of interest that although overall response to the long form in OPDs was not significant, the direction of response favored the long form over the short form. The response patterns between forms observed in OPDs was probably affected by small cell sizes. Overall, only 54 percent (n=261) of sampled hospitals had eligible OPDs. The lower response associated with the NAMCS long form suggests that the continued use of the one-sided form traditionally administered in the NAMCS and OPD component of the NHAMCS is warranted.

For the most part, item nonresponse rates for the 24 questionnaire items common to both forms were similar, although some significant differences were observed by setting. These differences (patient sex and visit diagnosis) were associated with lower nonresponse for these items on the long form. Items located on the back page of the long form were completed as frequently as on the front page of the short form. These results, however, do not factor in the increased time required by FRs to call back long form respondents for missing information nor costs associated with call backs.

There were mixed results on reporting levels for long form items with more response options. For example, there was evidence that having more check boxes on the long form's diagnostic or screening services item was associated with an increase in number of services reported, but the same was not true for the long form's counseling, education, or therapeutic services item. There was also no difference in distributions of number of medications between forms despite eight, rather than six, medications collected on the long form. Similar reporting was also observed between forms for the following data items: surgical procedures, visit disposition, and providers seen. These items also had more response options on the long than the short form.

The format of the items appeared to have a larger effect on estimates than the question wording of check boxes. Multiple check boxes for a type of service on the long form, such as types of specific cultures, yielded more visits with these services than did a single check box with write-in entries on the short form. A few items located on the back of the NAMCS long form had lower reporting than comparable items located on the front page of the short form (asthma education and physiotherapy). The study found that estimates based on write-in responses were generally lower than the corresponding estimates based on check boxes.

Finally, this study found that some long form specific items could be successfully collected. The feasibility of listing eight instead of six medications, asking if the recorded medication was new to the patient, and collecting blood pressure readings was demonstrated. Collecting information on the type of health insurance plan was problematic in OPDs; about a third of visits were missing data for this item.

Form-specific estimates presented in this report will differ from estimates derived from the 2001 NAMCS and NHAMCS public use files because estimates presented in this report were derived using panel-specific weights designed to produce nationally representative visit estimates. In contrast, the patient weights included on the NAMCS and NHAMCS public use files were designed to include both panels of each respective survey to produce nationally representative visit estimates (12,13).

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Table 1. Sample size and weighted physician response rate by form length and selected physician characteristics, with standard error of rate, unadjusted odds ratio, and 95% confidence interval of odds ratio: Split-panel study, 2001

Physician characteristic	Sample size	Response rate		Standard error of rate		Unadjusted odds ratio[1]	95% confidence interval of odds ratio
		Short form	Long form	Short form	Long form		
All physicians[2]	1,910	67.6	61.9	2.0	2.1	1.29	(1.02 – 1.61)
Specialty[2]							
General and family practice	193	71.8	58.9	4.6	5.2	1.78	(1.01 – 3.12)
Internal medicine	140	62.7	65.3	6.6	5.6	0.89	(0.43 – 1.83)
Pediatrics	121	77.3	69.8	5.3	6.1	1.47	(0.62 – 3.51)
General surgery	105	70.0	60.1	6.5	7.5	1.55	(0.66 – 3.60)
Obstetrics and gynecology	125	66.5	51.7	6.3	6.8	1.86	(0.82 – 4.18)
Other	1,226	65.3	62.1	2.7	2.7	1.15	(0.85 – 1.55)
Type of practice[2]							
Solo	632	65.4	55.2	3.2	3.9	1.54	(1.02 – 2.32)
Partnership	151	77.9	65.8	5.5	7.4	1.84	(0.77 – 4.34)
Group or HMO[3]	672	65.2	66.0	3.3	3.4	0.96	(0.63 – 1.47)
Medical school or government	40	83.9	68.3	7.7	12.5	2.43	(0.47 –12.57)
Other	38	91.4	64.3	4.7	11.3	5.91	(1.24 –28.15)
Unclassified	377	67.9	62.9	4.4	4.6	1.25	(0.68 – 2.28)
Census regional office[2]							
Boston	160	65.8	49.2	4.9	6.3	1.98	(1.13 – 3.47)
New York	178	58.2	46.1	7.0	6.1	1.63	(0.76 – 3.49)
Philadelphia	201	54.1	52.8	6.4	5.6	1.05	(0.52 – 2.15)
Detroit	154	74.8	71.0	5.8	5.9	1.21	(0.62 – 2.36)
Chicago	164	59.8	75.0	7.0	6.1	0.50	(0.26 – 0.94)
Kansas City	143	75.9	81.2	7.2	4.4	0.73	(0.30 – 1.77)
Seattle	129	71.7	69.3	7.0	6.4	1.12	(0.45 – 2.80)
Charlotte	138	69.0	59.4	5.4	8.0	1.52	(0.72 – 3.21)
Atlanta	126	83.6	86.5	5.0	4.9	0.80	(0.25 – 2.55)
Dallas	200	63.6	52.8	6.0	6.0	1.56	(0.80 – 3.04)
Denver	133	77.8	71.9	6.7	7.7	1.37	(0.57 – 3.30)
Los Angeles	184	68.3	47.3	5.7	5.5	2.40	(1.20 – 4.79)
Region[2]							
Northeast	477	61.2	48.9	3.9	3.6	1.65	(1.08 – 2.52)
Midwest	385	66.7	74.8	4.5	4.2	0.68	(0.43 – 1.07)
South	616	68.0	63.7	3.5	3.8	1.21	(0.80 – 1.83)
West	432	74.4	61.9	4.0	4.6	1.79	(1.06 – 3.00)
Metropolitan status[2]							
MSA[4]	1,693	66.6	60.5	2.0	2.2	1.30	(1.04 – 1.63)
Not MSA[4]	217	74.9	71.2	6.3	5.6	1.20	(0.54 – 2.70)

[1]Odds ratio of short form over long form response. Based on Cochran-Mantel-Haenszel chi-square test.

[2]Cochran-Mantel-Haenszel test of association is statistically significant at the α=0.05 level.

[3]HMO is health maintenance organization.

[4]MSA is metropolitan statistical area.

Table 2. Sample size and weighted hospital outpatient department response rate by form length and selected hospital characteristics, with standard error of rate, unadjusted odds ratio, and 95% confidence interval of odds ratio: Split-panel study, 2001

Hospital characteristic	Sample size	Outpatient department response rate		Standard error of rate		Unadjusted odds ratio[1]	95% confidence interval of odds ratio
		Short form	Long form	Short form	Long form		
All outpatient departments[2]	261	87.9	95.2	3.8	1.6	0.37	(0.14 – 0.98)
Type of hospital[2]							
General medical and surgical	236	88.8	95.4	4.0	1.7	0.39	(0.13 – 1.15)
Specialty hospital	25	80.6	93.7	12.8	6.8	0.28	(6.02 – 4.52)
Hospital size							
Under 100 beds	50	86.3	96.5	7.5	2.5	0.23	(0.03 – 1.66)
100 – 199 beds	50	84.8	98.8	7.7	0.9	0.07	(0.01 – 0.47)
200 or more beds	161	90.7	87.4	3.3	3.7	1.41	(0.56 – 3.54)
Teaching hospital[2]							
Yes	128	98.1	91.1	0.6	4.0	5.04	(1.58 –16.11)
No	133	83.4	96.6	5.3	1.7	0.18	(0.05 – 0.65)
Hospital ownership[3]							
Voluntary, nonprofit	171	84.8	94.1	6.1	2.2	0.35	(0.11 – 1.16)
Government, non-Federal	40	85.3	97.9	8.8	2.1	0.12	(0.01 – 1.52)
Proprietary	50	93.3	97.7	4.8	1.6	0.32	(0.04 – 2.73)
Region[2]							
Northeast	78	75.6	83.5	11.3	7.2	0.61	(0.15 – 2.52)
Midwest	66	97.6	97.5	2.0	1.3	1.04	(0.13 – 8.08)
South	80	89.9	96.7	4.5	1.9	0.31	(0.06 – 1.49)
West	37	78.5	97.7	12.2	1.1	0.09	(0.02 – 0.39)
Metropolitan status							
MSA[4]	232	89.1	92.8	3.0	2.2	0.64	(0.27 – 1.51)
Not MSA[4]	29	85.4	97.7	9.7	2.3	0.14	(0.01 – 1.87)

[1]Odds ratio of short form over long form response. Based on Cochran-Mantel-Haenszel chi-square test.

[2]Cochran-Mantel-Haenszel test of association is statistically significant at the α=0.10 level.

[3]Cochran-Mantel-Haenszel test of association is statistically significant at the α=0.05 level.

[4]MSA is metropolitan statistical area.

Table 3. Sample size and weighted hospital outpatient department clinic response rate by form length and selected hospital and clinic characteristics, with standard error of rate, unadjusted odds ratio, and 95% confidence interval of odds ratio: Split-panel study, 2001

Hospital characteristic	Sample size	Outpatient department clinic response rate		Standard error of rate		Unadjusted odds ratio[1]	95% confidence interval of odds ratio
		Short form	Long form	Short form	Long form		
All outpatient department clinics	1,166	85.9	89.7	3.7	2.6	0.70	(0.30 – 1.63)
Clinic type							
General medicine	386	86.6	88.4	4.2	4.3	0.85	(0.28 – 2.54)
Surgery	245	84.7	90.8	6.0	3.3	0.56	(0.16 – 1.95)
Pediatrics	211	78.3	96.4	9.8	1.6	0.14	(0.13 – 0.62)
Obstetrics and gynecology	154	91.5	86.9	3.5	4.8	1.62	(0.48 – 5.51)
Substance abuse	18	93.6	100.0	6.9	. . .	. . .	. . .
Other	152	92.6	80.4	4.3	4.3	3.04	(0.75 – 12.27)
Type of hospital							
General medical and surgical	1,073	86.4	88.4	3.7	3.0	0.84	(0.35 – 1.97)
Specialty hospital	93	82.0	98.2	15.1	1.5	0.08	(0.01 – 1.20)
Hospital size							
Under 100 beds	100	94.9	88.4	4.2	6.1	2.44	(0.30 – 19.59)
100–199 beds	181	98.1	95.3	1.5	1.7	2.59	(0.42 – 16.14)
200 beds or more	885	83.5	87.5	4.7	4.2	0.72	(0.26 – 2.05)
Teaching hospital							
Yes	713	91.1	93.6	3.6	2.0	0.70	(0.22 – 2.18)
No	453	76.9	86.9	6.5	4.3	0.50	(0.17 – 1.44)
Hospital ownership							
Voluntary, nonprofit	749	86.2	91.3	4.7	2.8	0.59	(0.21 – 1.71)
Government, non-Federal	249	90.4	78.1	6.6	9.9	2.64	(0.38 – 18.58)
Proprietary	168	78.1	94.9	10.0	3.8	0.19	(0.03 – 1.34)
Region							
Northeast	417	83.6	92.2	6.4	2.7	0.43	(0.13 – 1.47)
Midwest	297	99.6	93.7	0.4	1.9	17.96	(1.58 –204.10)
South	312	73.8	75.0	6.9	9.2	0.94	(0.26 – 3.31)
West	140	91.2	96.2	5.0	2.8	0.41	(0.06 – 2.97)
Metropolitan status							
MSA[2]	1,107	84.9	90.3	4.1	2.7	0.61	(0.25 – 1.49)
Not MSA[2]	59	100.0	87.7	. . .	7.3	. . .	. . .

. . . Not applicable.

[1]Odds ratio of short form over long form response. Based on Cochran-Mantel-Haenszel chi-square test.

[2]MSA is metropolitan statistical area.

NOTE: No Cochran-Mantel-Haenszel chi-square test was significant in this table.

Table 4. Weighted overall hospital outpatient department response rate with standard error of rate, by form length and selected hospital characteristics: Split-panel study, 2001

Hospital characteristic	Overall response rate[1]		Standard error of overall response rate[2]	
	Short form	Long form	Short form	Long form
Total	75.5	85.4	5.7	4.2
Type of hospital				
General medical and surgical	76.9	84.3	5.1	4.4
Specialty hospital	68.3	85.1	16.6	5.6
Hospital size				
Under 100 beds	79.0	83.8	7.2	8.6
100 – 199 beds[3]	79.4	98.8	6.0	3.1
200 beds or more	84.0	70.3	7.3	4.6
Teaching hospital				
Yes	89.4	85.3	5.8	4.5
No[3]	64.1	83.9	8.2	6.7
Hospital ownership				
Voluntary, nonprofit	73.1	85.9	7.4	4.6
Government, non-Federal	77.1	76.5	11.1	14.7
Proprietary	72.9	92.7	14.2	6.4
Region				
Northeast	63.2	77.0	10.0	6.8
Midwest	97.2	91.4	2.1	3.3
South	66.3	72.6	9.2	13.2
West	71.6	94.0	11.0	4.7
Metropolitan status				
MSA[4]	75.7	83.8	5.9	4.4
Not MSA[4]	85.4	85.7	9.0	11.6

[1]Overall response rate is the product of the response rate for hospital outpatient departments and the response rate for outpatient department clinics divided by 100.

[2]For this analysis, the standard error of the overall response rate was derived from the relvariance formula for two random variables (8), under the assumption of perfect correlation between the department and clinic response rates (since all responding clinics were included within responding departments). This assumption was made because no clinic information was available for outpatient departments that did not participate in the survey.

[3]Difference between short and long form rate is statistically significant at the α=0.05 level.

[4]MSA is metropolitan statistical area.

Table 5. Weighted item nonresponse rates and standard errors of rates by form length and survey: Split-panel study, 2001

Variable	Weighted item nonresponse rate				Standard error of rate			
	NAMCS		NHAMCS — OPDs		NAMCS		NHAMCS — OPDs	
	Short form	Long form	Short form	Long form	Short form	Long form	Short form	Long form
All items located on front of long form	8.0	8.0	9.9	10.5	0.5	0.5	0.7	0.9
Date of birth	1.9	1.3	0.7	1.2	0.5	0.2	0.2	0.5
Zip code	2.3	2.5	3.8	3.4	0.6	0.5	1.1	1.2
Sex[1]	3.7	1.3	3.9	1.6	0.4	0.2	0.6	0.5
Female pregnant?[2]	. . .	14.1	. . .	20.3	. . .	1.3	. . .	3.1
Ethnicity	23.4	28.1	16.7	24.7	3.0	2.6	3.6	5.6
Race	19.7	20.9	15.6	20.1	2.7	2.7	3.1	6.2
Patient uses tobacco[2]	33.1	30.5	50.7	45.1	2.1	2.5	3.1	4.7
Type of insurance plan[2]	. . .	16.4	. . .	30.7	. . .	2.0	. . .	3.5
Primary expected payment source	4.2	3.7	6.1	7.1	0.8	0.4	0.9	1.5
Patient reason for visit	1.4	1.8	1.2	1.3	0.5	0.6	0.5	0.3
Primary care physician	5.2	5.0	13.0	13.9	0.9	0.7	2.9	2.7
Patient referred for this visit	19.8	17.8	29.5	31.4	2.0	1.8	4.3	4.0
Patient seen before	1.5	0.8	1.5	1.9	0.5	0.2	0.4	0.8
Visits last 12 months	6.1	6.7	11.7	13.6	1.0	1.4	2.3	4.0
Major reason for visit	6.5	3.6	4.1	4.6	1.3	0.6	0.8	1.4
Episode of care	10.5	11.3	12.4	13.3	1.2	1.1	2.0	2.3
Other physicians share care	13.9	14.6	24.2	27.2	1.8	1.4	3.1	4.2
Cause of injury	36.9	36.2	31.5	25.7	2.5	2.9	3.7	2.3
Physician diagnosis[3]	3.3	1.1	2.0	1.3	0.7	0.2	0.3	0.4
Condition check list[2]	. . .	14.4	. . .	8.0	. . .	2.1	. . .	1.5
Diagnostic or screening services	1.2	1.7	0.8	1.1	0.4	0.4	0.2	0.2
Diastolic/systolic blood pressure	. . .	3.0	. . .	0.7	. . .	1.4	. . .	0.3
All items located on back of long form	4.6	3.9	2.4	2.0	0.5	0.4	0.5	0.2
Counseling, education, or therapy	3.9	3.1	2.6	1.8	0.7	0.7	0.7	0.4
Surgery check list	. . .	4.3	. . .	0.0	. . .	0.7	. . .	. . .
Surgical procedures	12.0	7.4	9.6	7.6	1.7	1.7	2.4	3.0
Number of medications	4.7	6.7	4.0	5.0	0.9	0.9	0.8	0.7
Medications and injections	5.1	7.2	4.4	5.3	1.0	1.0	0.8	0.7
New medication check boxes[2]	. . .	9.0	. . .	10.6	. . .	1.3	. . .	2.3
Visit disposition	2.2	1.9	3.5	0.9	0.5	0.4	1.9	0.2
Providers seen	1.0	1.3	1.6	1.7	0.5	0.5	0.6	1.0
Time spent with physician	19.3	17.6	. . .	. . .	2.7	2.4	. . .	. . .
Time spent with other providers [2]	. . .	14.2	. . .	. . .	. . .	1.9	. . .	. . .

. . . Category not applicable.

[1]Difference between short and long form rate is statistically significant at the α=0.05 level for both the National Ambulatory Medical Care Survey and the National Hospital Ambulatory Medical Care Survey.

[2]Item included only on long form.

[3]Difference between short and long form rate is statistically significant at the α=0.05 level for the National Ambulatory Medical Care Survey.

NOTE: NAMCS is National Ambulatory Medical Care Survey, NHAMCS is National Hospital Ambulatory Medical Care Survey, and OPD is outpatient department.

Table 6. Percent of visits to ambulatory care settings with standard error of percent by form length, ratio of estimates, and selected diagnostic and screening services: Split-panel study, 2001

Selected diagnostic and screening services	Physician offices			Hospital outpatient departments			Physician offices		Hospital outpatient departments	
	Short form	Long form	Ratio of estimates	Short form	Long form	Ratio of estimates	Short form	Long form	Short form	Long form
	Percent of visits			Percent of visits			Standard error of percent			
None	15.3	16.8	1.1	11.5	16.9	1.5	1.3	1.5	1.7	2.3
One or more services ordered or provided	83.5	81.5	1.0	87.7	82.0	0.9	1.4	1.5	1.7	2.4
Examinations:										
General medical exam[1,2]	50.3	8.9	0.2	52.9	6.1	0.1	2.2	1.5	4.0	1.1
Other exams[1,2]	21.0	36.5	1.7	16.7	37.3	2.2	1.7	2.0	2.2	3.0
Laboratory tests:										
Cholesterol	4.8	5.3	1.1	3.1	2.4	0.8	0.7	0.8	0.4	0.4
PSA (prostate specific antigen)	1.5	1.5	1.0	0.5	0.3	0.6	0.2	0.2	0.1	0.1
Hematocrit/hemoglobin	2.5	2.5	1.0	2.6	1.7	0.7	0.7	0.4	0.5	0.4
CBC (complete blood count)[3]	8.8	7.9	0.9	11.3	7.6	0.7	1.0	0.8	1.4	1.0
PAP test	3.6	3.4	0.9	2.9	3.1	1.1	0.5	0.7	0.4	0.5
Urinalysis	8.1	6.1	0.7	8.8	7.4	0.8	0.8	0.7	0.8	1.0
Imaging:										
X ray	6.4	5.9	0.9	6.3	8.2	1.3	0.7	0.6	0.8	1.4
Mammography	2.0	1.9	1.0	2.3	1.5	0.7	0.3	0.3	0.6	0.3
Other imaging[2]	3.3	2.2	0.7	5.3	2.6	0.5	0.3	0.2	1.1	0.4
Diagnostic tests:										
Blood pressure	49.9	45.1	0.9	52.6	52.7	1.0	2.3	2.7	3.6	3.8
EKG/ECG (electrocardiogram)	2.5	2.9	1.1	2.6	1.9	0.7	0.3	0.4	0.5	0.4
Other diagnostic and screening services	6.2	5.4	0.9	6.6	3.9	0.6	0.6	1.2	1.0	1.0
Blank	1.2	1.7	1.4	0.8	1.1	1.4	0.4	0.4	0.2	0.2

[1]Check box for item included only on the short form. Available data from the long form were mapped to approximate these check boxes.

[2]Difference between short and long form percents is statistically significant at the α=0.05 level for both the National Ambulatory Medical Care Survey and the National Hospital Ambulatory Medical Care Survey.

[3]Difference between short and long form percents is statistically significant at the α=0.05 level for the National Ambulatory Medical Care Survey.

NOTES: Ambulatory care settings are physician offices and hospital outpatient departments. Ratio of estimates is the ratio of the long form estimate to the short form estimate for the same characteristic.

Table 7. Percent of visits to ambulatory care settings with standard error of percent by form length, ratio of estimates, selected diagnostic and screening services, and selected surgical procedures collected by short form write-in responses and long form check boxes: Split-panel study, 2001

Selected diagnostic and screening services and selected surgical procedures	Physician offices			Hospital outpatient departments			Physician offices		Hospital outpatient departments	
	Short form write-in responses	Long form check boxes	Ratio of estimates	Short form write-in responses	Long form check boxes	Ratio of estimates	Short form write-in responses	Long form check boxes	Short form write-in responses	Long form check boxes
	Percent of visits			Percent of visits			Standard error of percent			
Examinations:										
Breast[1]	3.1	7.6	2.5	1.8	5.0	2.8	0.5	1.5	0.3	0.8
Pelvic[1]	3.1	7.7	2.5	2.9	6.4	2.2	0.7	1.5	0.4	1.0
Rectal[2]	1.6	4.4	2.8	0.6	3.3	5.5	0.3	0.8	0.1	0.6
Skin[2]	2.5	20.3	8.1	1.8	19.8	11.0	0.6	2.0	0.5	2.6
Eye[2]	3.8	22.9	6.1	*2.6	17.6	6.5	0.8	2.2	0.9	2.0
Ear[2]	0.7	18.8	27.3	*0.9	17.9	19.9	0.2	2.2	0.3	2.2
Mental status[2]	*0.2	9.4	46.9	*0.1	9.3	93.0	0.1	1.5	0.1	1.7
Neurologic[2]	0.7	10.6	15.6	*0.9	9.2	10.2	0.1	1.4	0.3	1.6
Cultures:										
Cervical/Urethral	0.4	*0.9	2.5	1.0	1.2	1.2	0.1	0.4	0.2	0.3
Stool	*	0.6	. . .	*	0.7	. . .	*	0.2	*	0.2
Throat/Rapid strep test	1.0	1.4	1.3	0.9	1.8	2.0	0.2	0.3	0.2	0.4
Urine	0.5	*2.1	4.1	0.7	2.3	3.3	0.1	0.8	0.2	0.5
Laboratory tests:										
BUN (Blood urea nitrogen)	*	3.4	. . .	*	1.7	. . .	*	0.5	*	0.3
Creatinine	*	3.9	. . .	*	2.2	. . .	*	0.6	*	0.4
Blood glucose level[2]	0.6	4.6	7.2	*0.3	3.7	12.3	0.3	0.6	0.1	0.5
HgbA1C (glycohemoglobin)	*	1.8	. . .	*	1.0	. . .	*	0.4	*	0.2
Other blood chemistry[1]	*	8.5	. . .	0.7	8.5	12.1	*	0.9	0.2	1.3
Pregnancy test	*	*	. . .	*0.2	0.9	4.5	*	*	0.1	0.2
Imaging:										
Ultrasound	1.1	1.5	1.4	1.0	1.6	1.6	0.2	0.4	0.2	0.2
Diagnostic tests:										
Cardiac stress test	0.5	0.6	1.2	*0.3	*0.5	1.7	0.1	0.1	0.1	0.2
Spirometry	*	*	. . .	*	*1.1	. . .	*	*	*	0.5
EEG (electroencephalogram)	*	0.1	. . .	*0.3	*0.3	1.0	*	0.0	0.2	0.1
Fetal monitoring	*0.3	*0.4	1.3	*0.6	*0.7	1.2	0.2	0.2	0.2	0.2
EMG (electromyogram)	*0.3	0.3	0.9	*0.1	*0.3	3.0	0.2	0.1	0.0	0.2
Visual acuity[3]	*0.5	4.9	9.8	0.3	1.4	4.7	0.2	0.9	0.1	0.4
Tonometry	*	2.5	. . .	*	*0.3	. . .	*	0.6	*	0.2
Audiometry	*0.3	0.6	1.8	*0.7	*0.5	0.7	0.1	0.1	0.2	0.2
Typanometry	*	0.2	. . .	*	*	. . .	*	0.1	*	0.2
Sigmoidoscopy/colonoscopy	1.2	0.6	0.5	*1.3	*1.2	0.9	0.3	0.1	0.4	0.4
Endoscopy	1.2	*0.4	0.3	1.0	*0.4	0.4	0.3	0.2	0.2	0.2
Cystoscopy	0.3	0.3	0.8	*0.1	*0.2	2.0	0.1	0.1	0.1	0.1
Surgical procedures:										
No procedures	92.1	92.8	1.0	93.4	94.3	1.0	0.6	0.7	0.9	0.8
One or more procedures[4]	7.9	7.2	0.9	6.6	5.9	0.9	0.6	0.7	0.9	0.8
Biopsy	1.1	1.4	1.3	0.9	*1.6	1.8	0.2	0.2	0.2	0.5
Excision of tissue	2.3	2.7	1.2	1.4	1.5	1.1	0.3	0.4	0.3	0.3
Suture removal[3]	0.3	1.2	3.8	0.5	*0.4	0.8	0.1	0.3	0.1	0.1

. . . Category not applicable. * Figure does not meet standard of reliability or precision. [1]Difference between short and long form percents is statistically significant at the α=0.05 level for the National Hospital Ambulatory Medical Care Survey (NHAMCS).

[2]Difference between short and long form percent is statistically significant at the α=0.05 level for both National Ambulatory Medical Care Survey (NAMCS) and NHAMCS.

[3]Difference between short and long form percent is statistically significant at the α=0.05 level for the NAMCS.

[4]Short form estimate indicates at least one write-in entry, while the long form estimate indicates either a check box or write-in response was made.

NOTES: Ambulatory care settings are physician offices and hospital outpatient departments. Ratio of estimates is the ratio of the long form estimate to the short form estimate for the same characteristic.

Table 8. Percent of visits to ambulatory care settings with standard error of percent by form length, ratio of estimates, and counseling, education, or therapeutic services: Split-panel study, 2001

Counseling, education, or therapeutic services ordered or provided	Physician offices			Hospital outpatient departments			Physician offices		Hospital outpatient departments	
	Short form	Long form	Ratio of estimates	Short form	Long form	Ratio of estimates	Short form	Long form	Short form	Long form
	Percent of visits			Percent of visits			Standard error of percent			
None	56.2	53.5	1.0	58.2	50.3	0.9	2.0	2.6	3.2	3.7
One or more services ordered or provided	39.9	43.4	1.1	39.3	47.9	1.2	2.0	2.5	3.1	3.7
Counseling and education:										
Asthma education[1]	2.0	0.9	0.4	1.3	1.6	1.2	0.4	0.2	0.2	0.4
Breast self-exam[2]	. . .	1.6	. . .	. . .	1.3	. . .	. . .	0.4	. . .	0.3
Diabetes education[2]	. . .	1.7	. . .	. . .	1.8	. . .	. . .	0.4	. . .	0.3
Diet/nutrition	13.7	9.9	0.7	13.7	8.7	0.6	1.1	1.4	1.9	1.1
Domestic violence[2]	. . .	*	. . .	. . .	0.4	. . .	. . .	*	. . .	0.1
Drug or alcohol abuse[2]	. . .	0.6	. . .	. . .	2.5	. . .	. . .	0.1	. . .	0.8
Exercise	8.8	8.0	0.9	5.2	3.9	0.8	0.9	1.4	0.9	0.8
Growth/development	3.7	3.8	1.0	3.8	3.0	0.8	0.6	0.9	0.8	0.6
HIV/STD transmission[2]	. . .	*	. . .	. . .	0.8	. . .	. . .	*	. . .	0.2
Injury prevention[2]	. . .	1.8	. . .	. . .	1.6	. . .	. . .	0.4	. . .	0.3
Mental health/stress management	3.9	3.9	1.0	3.2	5.7	1.8	0.4	0.9	0.9	1.7
Tobacco use/exposure	2.5	1.7	0.7	1.7	2.0	1.2	0.4	0.3	0.2	0.3
Weight reduction	2.5	2.9	1.1	*1.5	1.7	1.1	0.4	0.4	0.6	0.3
Other counseling/education	16.9	20.1	1.2	20.0	25.4	1.3	1.5	1.8	2.2	3.1
Other therapy:										
Complementary or alternative medicine (CAM)[2]	. . .	*	. . .	. . .	0.1	. . .	. . .	*	. . .	0.1
Ear irrigation[2]	. . .	0.4	. . .	. . .	0.2	. . .	. . .	0.1	. . .	0.1
Manipulation[2]	. . .	*0.3	. . .	. . .	0.4	. . .	. . .	0.2	. . .	0.2
Orthopedic care[2]	. . .	*2.9	. . .	. . .	2.3	. . .	. . .	0.9	. . .	0.9
Physiotherapy[1]	2.3	0.7	0.3	1.0	1.1	1.1	0.4	0.2	0.2	0.6
Psychotherapy	2.1	1.8	0.9	4.1	4.0	1.0	0.4	0.5	1.2	1.3
Wound care[2]	. . .	1.9	. . .	. . .	2.6	. . .	. . .	0.4	. . .	0.5
Other nonsurgical therapy[2]	. . .	1.7	. . .	. . .	2.2	. . .	. . .	0.3	. . .	0.5
Blank	3.9	3.1	0.8	2.6	1.8	0.7	0.7	0.7	0.7	0.4

. . . Category not applicable.

* Figure does not meet standard of reliability or precision.

[1]Difference between short and long form percents is statistically significant at the $\alpha = 0.05$ level for the National Ambulatory Medical Care Survey.

[2]Check box for item included only on long form.

NOTES: Ambulatory care settings are physician offices and hospital outpatient departments. Ratio of estimates is the ratio of the long form estimate to the short form estimate for the same characteristic.

Table 9. Percent of visits to ambulatory care settings with standard error of percent by form length, ratio of estimates, and disposition: Split-panel study, 2001

Disposition	Physician offices			Hospital outpatient departments			Physician offices		Hospital outpatient departments	
	Short form	Long form	Ratio of estimates	Short form	Long form	Ratio of estimates	Short form	Long form	Short form	Long form
	Percent of visits			Percent of visits			Standard error of percent			
All visits	100.0	100.0	. . .	100.0	100.0	. . .	. . .	. . .	. . .	. . .
No followup	9.3	11.0	1.2	10.3	7.5	0.7	1.2	1.6	2.3	1.2
Return as needed	24.8	24.7	1.0	23.3	29.2	1.3	1.4	1.6	2.1	3.8
Refer to other physician[1]	5.6	5.8	1.0	12.5	7.4	0.6	0.5	0.6	1.4	0.8
Return at specified time	61.7	59.7	1.0	57.8	59.8	1.0	1.7	2.0	3.0	3.9
Telephone followup	2.0	1.7	0.9	2.3	1.7	0.7	0.3	0.3	0.7	0.4
Return to referring physician[2]	. . .	2.4	. . .	. . .	2.8	. . .	0.4	. . .	. . .	0.6
Admit to hospital	0.4	0.3	0.8	0.7	0.5	0.7	0.1	0.1	0.1	0.1
Refer to PT/OT/speech/respiratory therapist[2,3]	. . .	0.4	. . .	. . .	0.4	. . .	. . .	0.1	. . .	0.1
Refer to registered dietician[2]	. . .	*	. . .	. . .	0.2	. . .	. . .	*	. . .	0.0
Other	1.6	1.7	1.1	3.1	1.2	0.4	0.3	0.5	0.7	0.2
Blank	2.2	1.9	0.9	3.5	0.9	0.3	0.5	0.4	1.9	0.2
Any disposition reported	97.8	98.1	1.0	96.5	99.1	1.0	0.5	0.4	1.9	0.2

. . . Category not applicable.

* Figure does not meet standard of reliability or precision.

[1]Difference between short and long form percents is statistically significant at the $\alpha = 0.05$ level for the National Ambulatory Medical Care Survey.

[2]Check box for item included only on long form.

[3]PT is physical therapist, OT is occupational therapist.

NOTES: Ambulatory care settings are physician offices and hospital outpatient departments. Ratio of estimates is the ratio of the long form estimate to the short form estimate for the same characteristic.

Table 10. Percent of visits to ambulatory care settings with standard error of percent by form length, ratio of estimates, and providers seen: Split-panel study, 2001

Providers seen	Physician offices			Hospital outpatient departments			Physician offices		Hospital outpatient departments	
	Short form	Long form	Ratio of estimates	Short form	Long form	Ratio of estimates	Short form	Long form	Short form	Long form
	Percent of visits			Percent of visits			Standard error of percent			
All visits	100.0	100.0	. . .	100.0	100.0	. . .	. . .	. . .	. . .	. . .
Physician[1]	96.7	95.8	1.0	77.6	80.1	1.0	0.7	0.8	4.2	2.9
Staff physician	. . .	. . .	. . .	65.9	74.4	1.1	. . .	. . .	4.5	3.3
Resident/intern	. . .	. . .	. . .	18.8	9.8	0.5	. . .	. . .	2.7	1.8
Other physician	. . .	. . .	. . .	3.9	3.9	1.0	. . .	. . .	0.8	1.1
Medical student[1,2]	. . .	. . .	. . .	. . .	0.8	. . .	. . .	. . .	. . .	0.3
Registered nurse	16.9	24.7	1.5	38.6	37.1	1.0	2.5	3.0	4.2	5.0
Licensed practical nurse	12.9	9.1	0.7	20.2	11.5	0.6	1.7	1.7	4.3	2.9
Medical/nursing assistant	25.3	16.9	0.7	12.1	13.6	1.1	2.7	2.5	3.1	3.4
Nurse practitioner or midwife	1.0	0.6	0.6	5.3	9.4	1.8	0.4	0.2	1.0	2.5
Nurse practitioner[2]	. . .	0.6	. . .	. . .	9.1	. . .	. . .	0.2	. . .	2.5
Nurse midwife[2]	. . .	*	. . .	. . .	0.2	. . .	. . .	*	. . .	0.1
Physician assistant	2.9	3.1	1.1	6.7	6.4	1.0	1.6	0.9	2.8	1.8
Medical technician/technologist	5.6	5.6	1.0	12.3	5.1	0.4	1.0	1	3.1	1.5
Other	3.3	3.3	1.0	8.4	6.8	0.8	1.0	0.6	1.3	1.5
Blank	1.0	1.3	1.3	1.6	1.7	1.1	0.5	0.5	0.6	1.0
Any provider seen	99.0	98.7	1.0	98.4	98.3	1.0	0.5	0.5	0.6	1.0

. . . Category not applicable.

* Figure does not meet standard of reliability or precision.

[1]Check box for item collected only in hospital OPDs.

[2]Check box for item included only on long form.

NOTES: Ambulatory care settings are physician offices and hospital outpatient departments. Ratio of estimates is the ratio of the long form estimate to the short form estimate for the same characteristic.

Table 11. Percent distribution of visits to ambulatory care settings and average number of medications with standard error of percent by form length, ratio of estimates, medication therapy, and number of medications: Split-panel study, 2001

Medication therapy[1]	Physician offices			Hospital outpatient departments			Physician offices		Hospital outpatient departments	
	Short form	Long form	Ratio of estimates	Short form	Long form	Ratio of estimates	Short form	Long form	Short form	Long form
	Percent distribution			Percent distribution			Standard error of percent			
All visits	100.0	100.0	. . .	100.0	100.0	. . .	. . .	. . .	. . .	. . .
Drug visits[2]	62.5	60.9	1.0	62.4	67.0	1.1	1.6	1.6	2.1	2.6
Visits without mention of medication	37.5	39.1	1.0	37.6	33.0	0.9	1.6	1.6	2.1	2.6
	Average			Average			Standard error of average			
Number of medications[3]	2.4	2.4	1.0	2.3	2.4	1.0	0.1	0.1	0.0	0.1
Number of medications provided or prescribed	Percent distribution			Percent distribution			Standard error of percent			
All visits	100.0	100.0	. . .	100.0	100.0	. . .	. . .	. . .	. . .	. . .
0	37.5	39.1	1.0	37.6	33.0	0.9	1.6	1.6	2.1	2.6
1	25.9	24.8	1.0	23.7	24.3	1.0	0.9	0.9	1.2	1.3
2	15.1	14.4	1.0	16.1	16.2	1.0	0.7	0.6	0.9	1.0
3	8.6	7.7	0.9	8.5	9.7	1.1	0.7	0.5	0.5	1.0
4	4.1	4.7	1.1	4.7	6.1	1.3	0.3	0.4	0.4	0.5
5	2.7	2.4	0.9	3.3	2.9	0.9	0.3	0.3	0.4	0.3
6	6.2	2.1	0.3	6.1	2.1	0.3	1.1	0.3	0.8	0.4
7[4]	. . .	1.3	. . .	. . .	1.8	. . .	. . .	0.2	. . .	0.4
8[4]	. . .	3.4	. . .	. . .	3.8	. . .	. . .	0.6	. . .	0.8
6 or more	6.2	6.8	1.1	6.1	7.7	1.3	1.1	1.0	0.8	1.4

. . . Category not applicable.

[1]Includes prescription drugs, over-the-counter preparations, immunizations, and desensitizing agents.

[2]Visits at which one or more drugs were provided or prescribed.

[3]Includes only drug visits.

[4]A maximum of six medications could be listed on the short form, but eight could be listed on the long form.

NOTES: Ambulatory care settings are physician offices and hospital outpatient departments. Ratio of estimates is the ratio of the long form estimate to the short form estimate for the same characteristic. Numbers may not add to totals because of rounding.

Table 12. Percent of visits to ambulatory care settings with standard error of percent by selected characteristics asked only on the long form: Split-panel study, 2001

Selected characteristic	Physician offices		Hospital outpatient departments	
	Percent of visits	Standard error of percent	Percent of visit	Standard error of percent
Female	100.0	. . .	100.0	. . .
Reported pregnant	5.4	1.1	8.1	1.1
Type of insurance plan				
All types of plans:				
HMO (staff model, e.g., Kaiser)[1]	20.0	2.0	7.6	1.2
Other prepaid HMO (e.g., open model, IPA)	10.8	1.4	6.1	1.2
Preferred provider organization	20.3	1.5	11.3	3.0
Point of service[1]	4.4	0.7	1.5	0.5
Fee for service[1]	10.6	1.2	4.1	1.1
Not insured[1]	2.3	0.3	7.7	1.6
Other[1]	15.2	1.5	31.1	4.0
Unknown or blank[1]	16.4	2.0	30.7	3.4
All conditions:				
Arthritis[1]	10.0	0.9	5.6	0.7
Asthma	3.8	0.4	5.4	0.7
Depression	7.1	0.8	9.6	1.7
Diabetes	7.6	0.6	7.0	0.7
Hyperactivity/ADD	0.9	0.2	1.0	0.2
Hypertension	17.7	1.0	14.8	1.3
Ischemic heart disease	4.3	0.4	2.9	0.6
Obesity	6.7	0.7	5.4	0.7
None of the above	47.9	2.0	56.4	2.8
Visits with blood pressure taken:				
Normal blood pressure reading[2]	66.8	1.6	66.1	1.9
Above normal blood pressure reading[3]	23.3	1.4	21.6	1.8
Below normal blood pressure reading[1,4]	6.9	0.7	11.6	1.2
Unknown[5]	3.0	1.4	0.7	0.3
Drug visits[6]:				
Only new medications	37.4	2.5	39.6	4.0
Both old and new medications	14.6	1.0	15.7	1.4
Only old medications	39.0	2.1	34.1	4.1
Unknown	9.0	1.3	10.6	2.3
Provider other than physician seen[7]:				
0 minutes	26.3	3.1	. . .	. . .
1–10 minutes	49.5	3.1	. . .	. . .
11–15 minutes	5.7	0.9	. . .	. . .
16 minutes or more	4.3	0.6	. . .	. . .
Blank	14.2	1.9		

. . . Category not applicable.

[1]Difference between physician office and hospital outpatient department percents is statistically significant at the $\alpha = 0.05$ level.

[2]Normal blood pressure is defined as 100 – 140 mmHg systolic and 60 – 90 mmHg diastolic.

[3]High blood pressure is defined as either measurement above normal.

[4]Low blood pressure is defined as either measurement below normal.

[5]Unknown is defined as either or both systolic and diastolic measurements are missing.

[6]Visits at which one or more drugs were provided or prescribed.

[7]Check box for item collected only in physician offices.

NOTE: HMO is health maintenance organization, IPA is independent practice association, and ADD is attention deficit disorder.

Appendix I. Patient Record Forms

Form Approved OMB No. 0920-0234 Exp. Date 08/31/2003 CDC 64.148

FORM **NAMCS-30A** (10-17-2000)

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU
ACTING AS DATA COLLECTION AGENT FOR THE
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

A

NATIONAL AMBULATORY MEDICAL CARE SURVEY
2001/2002 PATIENT RECORD

Assurance of confidentiality – All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by persons engaged in and for the purpose of the survey and will not be disclosed or released to other persons or used for any other purpose without consent of the individual or the establishment in accordance with section 308(d) of the Public Health Service Act (42 USC 242m).

1. PATIENT INFORMATION

a. Date of visit
Month | Day | Year

b. ZIP code

c. Date of birth
Month | Day | Year

d. Sex
1 ☐ Female
2 ☐ Male

e. Ethnicity
1 ☐ Hispanic or Latino
2 ☐ Not Hispanic or Latino

f. Race – *Mark (X) one or more.*
1 ☐ White
2 ☐ Black/African American
3 ☐ Asian
4 ☐ Native Hawaiian/ Other Pacific Islander
5 ☐ American Indian/ Alaska Native

g. Does patient use tobacco?
1 ☐ Yes 2 ☐ No 3 ☐ Unknown

h. Primary expected source of payment for this visit – *Mark (X) one.*
1 ☐ Private insurance
2 ☐ Medicare
3 ☐ Medicaid/SCHIP
4 ☐ Worker's Compensation
5 ☐ Self-pay
6 ☐ No charge/Charity
7 ☐ Unknown
8 ☐ Other

2. REASON FOR VISIT

Patient's complaint(s), symptom(s), or other reason(s) for this visit – *Use patient's own words.*

(1) Most important:

(2) Other:

(3) Other:

3. CONTINUITY OF CARE

a. Are you the patient's primary care physician?
1 ☐ Yes
2 ☐ No . . .
3 ☐ Unknown

Was patient referred for this visit?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

b. Have you or anyone in your practice seen this patient before?
1 ☐ Yes, established patient – **How many past visits in the last 12 months?** *Exclude this visit.*
1 ☐ None
2 ☐ 1-2
3 ☐ 3-5
4 ☐ 6+
5 ☐ Unknown
2 ☐ No, new patient

c. Major reason for this visit
1 ☐ Acute Problem (<3 mos. onset)
2 ☐ Chronic problem, routine
3 ☐ Chronic problem, flare-up
4 ☐ Pre-/Post-surgery
5 ☐ Preventive care (e.g., routine prenatal, general exam, well-baby, screening, insurance exam)

Episode of care
1 ☐ Initial visit for problem
2 ☐ Follow-up visit for problem
3 ☐ Unknown

d. Do other physicians share patient's care for this problem or diagnosis?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

4. INJURY/POISONING/ADVERSE EFFECT

a. Is this visit related to an injury, or poisoning, or adverse effect of medical treatment?
1 ☐ Yes
2 ☐ No – *SKIP to item 5.*

b. Cause of injury, poisoning, or adverse effect – *Describe the place, intentionality, and events that preceded the injury, poisoning, or adverse event (e.g., allergy to penicillin, bee sting, pedestrian hit by car driven by drunk driver, wife beaten with fists by husband, heroin overdose, infected shunt, etc.).*

5. PHYSICIAN'S DIAGNOSIS FOR THIS VISIT

As specifically as possible, list diagnoses related to this visit including chronic conditions.

(1) Primary diagnosis:

(2) Other:

(3) Other:

6. DIAGNOSTIC/SCREENING SERVICES

Mark (X) all ***ordered*** *or* ***provided*** *at this visit.*

1 ☐ NONE
2 ☐ General medical exam
3 ☐ Other exam – *Specify site (e.g., breast, rectal)*
4 ☐ Blood pressure
5 ☐ Urinalysis (UA)
6 ☐ PAP test
7 ☐ PSA (prostate specific antigen)
8 ☐ Hematocrit/Hemoglobin
9 ☐ CBC (complete blood count)
10 ☐ Cholesterol
11 ☐ Other blood test
12 ☐ EKG/ECG (electrocardiogram)
13 ☐ Culture (e.g., throat) – *Specify*
14 ☐ X-ray
15 ☐ Mammography
16 ☐ Other imaging
17 ☐ Scope procedure (e.g., endoscopy) – *Specify*
18 ☐ Other service – *Specify*

7. COUNSELING/EDUCATION/THERAPY

Mark (X) all ***ordered*** *or* ***provided*** *at this visit. Exclude medications.*

1 ☐ NONE
2 ☐ Asthma education
3 ☐ Diet/Nutrition
4 ☐ Exercise
5 ☐ Growth/Development
6 ☐ Mental health/Stress management
7 ☐ Physiotherapy
8 ☐ Psychotherapy
9 ☐ Tobacco use/exposure
10 ☐ Weight reduction
11 ☐ Other

8. SURGICAL PROCEDURES

List up to 2 surgical procedures ***ordered, scheduled,*** *or* ***performed*** *at this visit.*

(1) 1 ☐ Ordered/ Scheduled 2 ☐ Performed

(2) 1 ☐ Ordered/ Scheduled 2 ☐ Performed

9. MEDICATIONS & INJECTIONS

a. What is the total number of drugs prescribed or provided at this visit? → Number of drugs

Include Rx and OTC medications, immunizations, allergy shots, anesthetics, and dietary supplements that were ordered, supplied, administered or continued during this visit.

b. List up to six medication/injection names below.

(1) **(2)** **(3)** **(4)** **(5)** **(6)**

10. VISIT DISPOSITION

Mark (X) all that apply.

1 ☐ No follow-up planned
2 ☐ Return if needed, PRN
3 ☐ Refer to other physician
4 ☐ Return at specified time
5 ☐ Telephone follow-up planned
6 ☐ Admit to hospital
7 ☐ Other

11. PROVIDERS SEEN

Mark (X) all that apply.

1 ☐ Physician
2 ☐ RN
3 ☐ LPN
4 ☐ Medical/nursing assistant
5 ☐ Nurse practitioner/midwife
6 ☐ Physician assistant
7 ☐ Medical technician/ technologist
8 ☐ Other

12. TIME SPENT WITH PHYSICIAN

Minutes — *Enter zero if no physician seen*

A

NAMCS 30A (10-17-2000)

Figure I. 2001 National Ambulatory Medical Care Survey Patient Record Form A

Form Approved OMB No. 0920-0278 Exp. Date 07/31/2003 CDC 64.135

FORM **NHAMCS-100B(OPD)** (10-6-2000)

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU
ACTING AS DATA COLLECTION AGENT FOR THE
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

B

NATIONAL HOSPITAL AMBULATORY MEDICAL CARE SURVEY
2001/2002 PATIENT RECORD

Assurance of confidentiality – All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by persons engaged in and for the purpose of the survey and will not be disclosed or released to other persons or used for any other purpose without consent of the individual or the establishment in accordance with section 308(d) of the Public Health Service Act (42 USC 242m).

1. PATIENT INFORMATION

a. Date of visit — Month | Day | Year

b. ZIP code

c. Date of birth — Month | Day | Year

d. Sex
1 ☐ Female – **Is patient pregnant?** 1 ☐ Yes 2 ☐ No 3 ☐ Unknown
2 ☐ Male

e. Ethnicity
1 ☐ Hispanic or Latino
2 ☐ Not Hispanic or Latino

f. Race – *Mark (X) one or more.*
1 ☐ White
2 ☐ Black/African American
3 ☐ Asian
4 ☐ Native Hawaiian/ Other Pacific Islander
5 ☐ American Indian/ Alaska Native

g. Does patient use tobacco?
1 ☐ Yes 2 ☐ No 3 ☐ Unknown

h. Type of insurance plan –
1 ☐ HMO (staff model e.g., Kaiser)
2 ☐ Other prepaid HMO (e.g., open model, IPA)
3 ☐ Preferred Provider Organization (PPO)
4 ☐ Point of Service (POS)
5 ☐ Fee for Service (FFS)
6 ☐ Not insured
7 ☐ None of the above
8 ☐ Unknown

i. Primary expected source of payment for this visit – *Mark (X) one.*
1 ☐ Private insurance
2 ☐ Medicare
3 ☐ Medicaid/SCHIP
4 ☐ Worker's Compensation
5 ☐ Self-pay
6 ☐ No charge/Charity
7 ☐ Unknown
8 ☐ Other

2. REASON FOR VISIT

Patient's complaint(s), symptom(s), or other reason(s) for this visit – *Use patient's own words.*

(1) Most important:

(2) Other:

(3) Other:

3. CONTINUITY OF CARE

a. Are you the patient's primary care physician?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown
→ **Was patient referred for this visit?**
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

b. Has the patient been seen in this clinic before?
1 ☐ Yes, established patient – **How many past visits in the last 12 months?** *Exclude this visit.*
1 ☐ None
2 ☐ 1-2
3 ☐ 3-5
4 ☐ 6+
5 ☐ Unknown
2 ☐ No, new patient

c. Major reason for this visit
1 ☐ Acute Problem (<3 mos. onset)
2 ☐ Chronic problem, routine
3 ☐ Chronic problem, flare-up
4 ☐ Pre-/Post-surgery
Episode of care
1 ☐ Initial visit for problem
2 ☐ Follow-up visit for problem
3 ☐ Unknown
5 ☐ Preventive care (e.g., routine prenatal, general exam, well-baby, screening, insurance exam)

d. Do other physicians share patient's care for this problem or diagnosis?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

4. INJURY/POISONING/ADVERSE EFFECT

a. Is this visit related to an injury, or poisoning, or adverse effect of medical treatment?
1 ☐ Yes
2 ☐ No – *SKIP to item 5.*

b. Cause of injury, poisoning, or adverse effect – *Describe the place, intentionality, and events that preceded the injury, poisoning, or adverse event (e.g., allergy to penicillin, bee sting, pedestrian hit by car driven by drunk driver, wife beaten with fists by husband, heroin overdose, infected shunt, etc.).*

5. PHYSICIAN'S DIAGNOSIS FOR THIS VISIT

a. *As specifically as possible, list diagnoses related to this visit including chronic conditions.*

(1) Primary diagnosis:

(2) Other:

(3) Other:

b. Regardless of the diagnoses written in item 5a, does patient now have – *Mark (X) all that apply.*
1 ☐ Arthritis
2 ☐ Asthma
3 ☐ Depression
4 ☐ Diabetes
5 ☐ Hyperactivity/ADD
6 ☐ Hypertension
7 ☐ Ischemic heart disease
8 ☐ Obesity
9 ☐ None of the above

6. DIAGNOSTIC/SCREENING SERVICES

Mark (X) all ***ordered*** *or* ***provided*** *at this visit.*

1 ☐ NONE

Examinations:
2 ☐ Breast
3 ☐ Pelvic
4 ☐ Rectal
5 ☐ Skin
6 ☐ Eye
7 ☐ Ear
8 ☐ Mental status
9 ☐ Neurologic

Cultures:
10 ☐ Cervical/Urethral
11 ☐ Stool
12 ☐ Throat/Rapid strep test
13 ☐ Urine

Laboratory tests:
14 ☐ BUN (blood urea nitrogen)
15 ☐ Cholesterol
16 ☐ Creatinine
17 ☐ Blood glucose level
18 ☐ HgbA1C (glycohemoglobin)
19 ☐ Other blood chemistry
20 ☐ PSA (prostate specific antigen)
21 ☐ Hematocrit/Hemoglobin
22 ☐ CBC (complete blood count)
23 ☐ PAP test
24 ☐ Pregnancy test
25 ☐ Urinalysis (UA)

Imaging:
26 ☐ X-ray
27 ☐ Mammography
28 ☐ Ultrasound
29 ☐ Other imaging

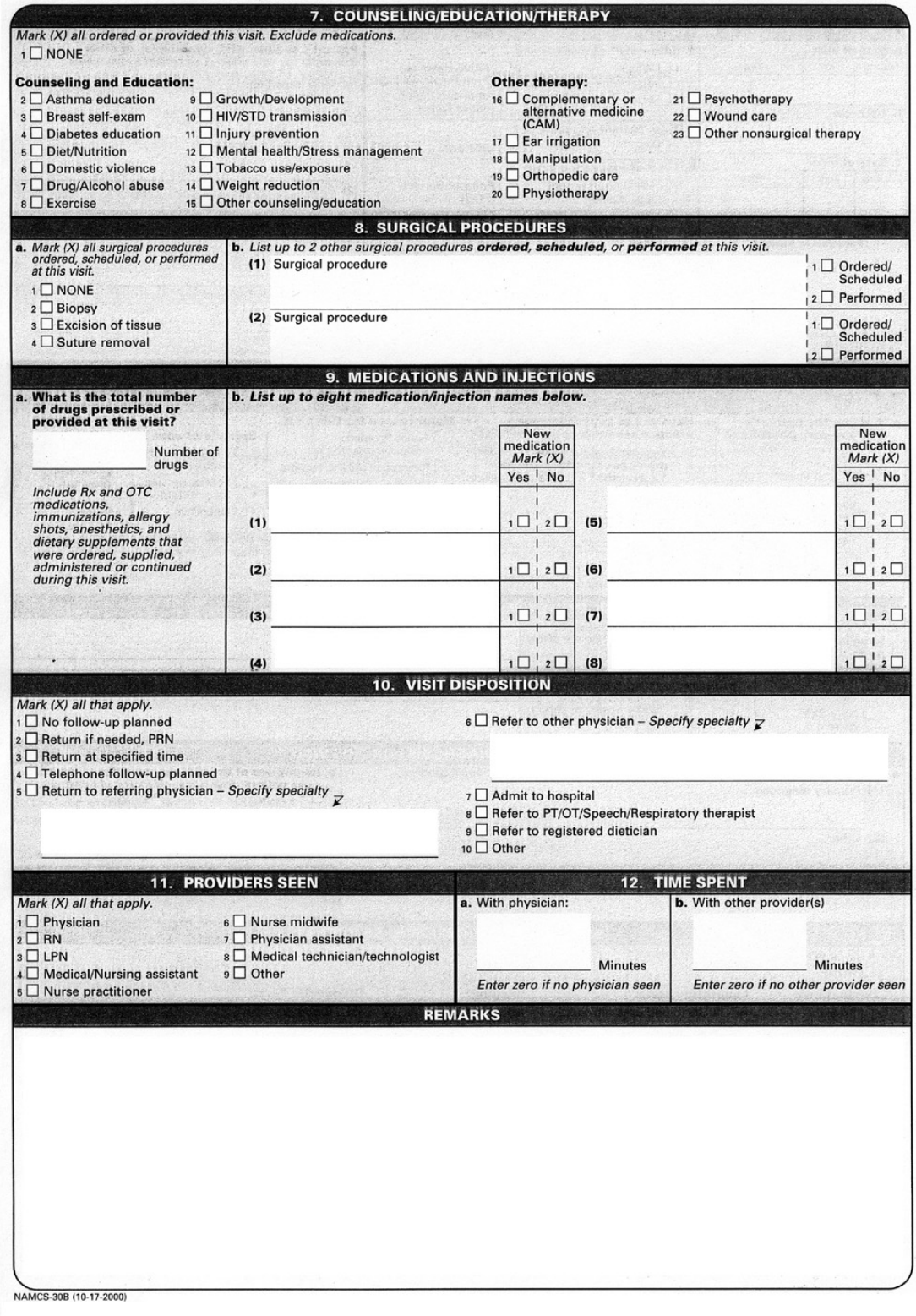
Diagnostic Tests:
30 ☐ Blood pressure _____ /_____
31 ☐ EKG/ECG (electrocardiogram)
32 ☐ Cardiac stress test
33 ☐ Spirometry
34 ☐ EEG (electroencephalogram)
35 ☐ Fetal monitoring
36 ☐ EMG (electromyogram)
37 ☐ Visual acuity
38 ☐ Tonometry
39 ☐ Audiometry
40 ☐ Tympanometry
41 ☐ Sigmoidoscopy/ Colonoscopy
42 ☐ Endoscopy
43 ☐ Cystoscopy
44 ☐ Other diagnostic/ screening service

PLEASE CONTINUE WITH ITEM 7 ON REVERSE SIDE.

B

NHAMCS-100B(OPD) (10-6-2000)

Figure II. 2001 National Ambulatory Medical Care Survey Patient Record Form B (page 1 of 2)



7. COUNSELING/EDUCATION/THERAPY

Mark (X) all ordered or provided this visit. Exclude medications.

1 ☐ NONE

Counseling and Education:

2 ☐ Asthma education
3 ☐ Breast self-exam
4 ☐ Diabetes education
5 ☐ Diet/Nutrition
6 ☐ Domestic violence
7 ☐ Drug/Alcohol abuse
8 ☐ Exercise
9 ☐ Growth/Development
10 ☐ HIV/STD transmission
11 ☐ Injury prevention
12 ☐ Mental health/Stress management
13 ☐ Tobacco use/exposure
14 ☐ Weight reduction
15 ☐ Other counseling/education

Other therapy:

16 ☐ Complementary or alternative medicine (CAM)
17 ☐ Ear irrigation
18 ☐ Manipulation
19 ☐ Orthopedic care
20 ☐ Physiotherapy
21 ☐ Psychotherapy
22 ☐ Wound care
23 ☐ Other nonsurgical therapy

8. SURGICAL PROCEDURES

a. *Mark (X) all surgical procedures ordered, scheduled, or performed at this visit.*

1 ☐ NONE
2 ☐ Biopsy
3 ☐ Excision of tissue
4 ☐ Suture removal

b. *List up to 2 other surgical procedures* ***ordered, scheduled,*** *or* ***performed*** *at this visit.*

(1) Surgical procedure — 1 ☐ Ordered/Scheduled 2 ☐ Performed

(2) Surgical procedure — 1 ☐ Ordered/Scheduled 2 ☐ Performed

9. MEDICATIONS AND INJECTIONS

a. What is the total number of drugs prescribed or provided at this visit?

_____ Number of drugs

Include Rx and OTC medications, immunizations, allergy shots, anesthetics, and dietary supplements that were ordered, supplied, administered or continued during this visit.

b. ***List up to eight medication/injection names below.***

		New medication *Mark (X)* Yes	No			New medication *Mark (X)* Yes	No
(1)		1 ☐	2 ☐	(5)		1 ☐	2 ☐
(2)		1 ☐	2 ☐	(6)		1 ☐	2 ☐
(3)		1 ☐	2 ☐	(7)		1 ☐	2 ☐
(4)		1 ☐	2 ☐	(8)		1 ☐	2 ☐

10. VISIT DISPOSITION

Mark (X) all that apply.

1 ☐ No follow-up planned
2 ☐ Return if needed, PRN
3 ☐ Return at specified time
4 ☐ Telephone follow-up planned
5 ☐ Return to referring physician – *Specify specialty*
6 ☐ Refer to other physician – *Specify specialty*
7 ☐ Admit to hospital
8 ☐ Refer to PT/OT/Speech/Respiratory therapist
9 ☐ Refer to registered dietician
10 ☐ Other

11. PROVIDERS SEEN

Mark (X) all that apply.

1 ☐ Physician
2 ☐ RN
3 ☐ LPN
4 ☐ Medical/Nursing assistant
5 ☐ Nurse practitioner
6 ☐ Nurse midwife
7 ☐ Physician assistant
8 ☐ Medical technician/technologist
9 ☐ Other

12. TIME SPENT

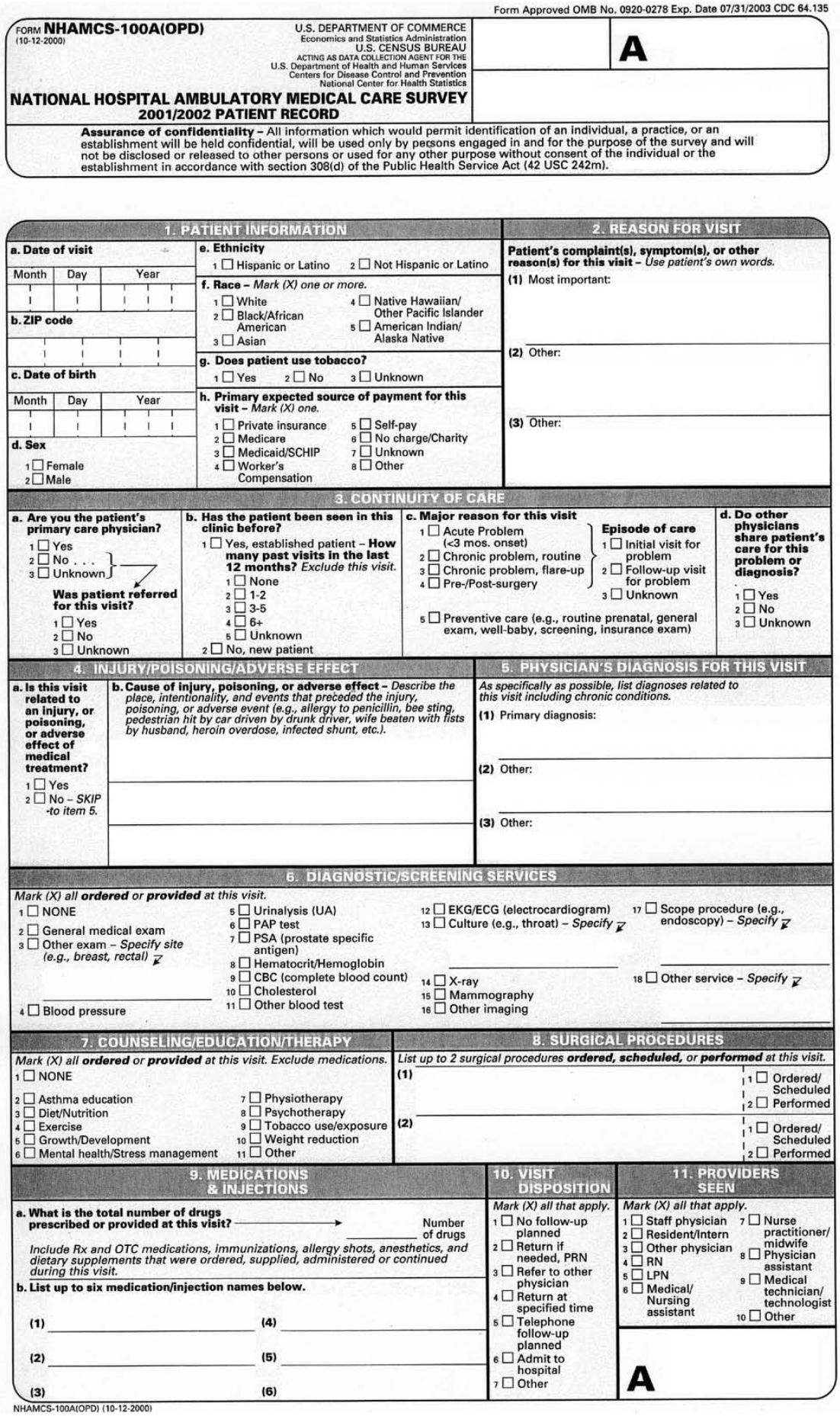
a. With physician: _____ Minutes
Enter zero if no physician seen

b. With other provider(s) _____ Minutes
Enter zero if no other provider seen

REMARKS

NAMCS-30B (10-17-2000)

Figure II. 2001 National Ambulatory Medical Care Survey Patient Record Form B (page 2 of 2)



Form Approved OMB No. 0920-0278 Exp. Date 07/31/2003 CDC 64.135

FORM **NHAMCS-100A(OPD)** (10-12-2000)

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU
ACTING AS DATA COLLECTION AGENT FOR THE
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

A

NATIONAL HOSPITAL AMBULATORY MEDICAL CARE SURVEY
2001/2002 PATIENT RECORD

Assurance of confidentiality – All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by persons engaged in and for the purpose of the survey and will not be disclosed or released to other persons or used for any other purpose without consent of the individual or the establishment in accordance with section 308(d) of the Public Health Service Act (42 USC 242m).

1. PATIENT INFORMATION

a. Date of visit — Month | Day | Year

b. ZIP code

c. Date of birth — Month | Day | Year

d. Sex
1 ☐ Female
2 ☐ Male

e. Ethnicity
1 ☐ Hispanic or Latino
2 ☐ Not Hispanic or Latino

f. Race – *Mark (X) one or more.*
1 ☐ White
2 ☐ Black/African American
3 ☐ Asian
4 ☐ Native Hawaiian/ Other Pacific Islander
5 ☐ American Indian/ Alaska Native

g. Does patient use tobacco?
1 ☐ Yes 2 ☐ No 3 ☐ Unknown

h. Primary expected source of payment for this visit – *Mark (X) one.*
1 ☐ Private insurance
2 ☐ Medicare
3 ☐ Medicaid/SCHIP
4 ☐ Worker's Compensation
5 ☐ Self-pay
6 ☐ No charge/Charity
7 ☐ Unknown
8 ☐ Other

2. REASON FOR VISIT

Patient's complaint(s), symptom(s), or other reason(s) for this visit – *Use patient's own words.*

(1) Most important:

(2) Other:

(3) Other:

3. CONTINUITY OF CARE

a. Are you the patient's primary care physician?
1 ☐ Yes
2 ☐ No . . .
3 ☐ Unknown

Was patient referred for this visit?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

b. Has the patient been seen in this clinic before?
1 ☐ Yes, established patient – **How many past visits in the last 12 months?** *Exclude this visit.*
1 ☐ None
2 ☐ 1-2
3 ☐ 3-5
4 ☐ 6+
5 ☐ Unknown
2 ☐ No, new patient

c. Major reason for this visit
1 ☐ Acute Problem (<3 mos. onset)
2 ☐ Chronic problem, routine
3 ☐ Chronic problem, flare-up
4 ☐ Pre-/Post-surgery
5 ☐ Preventive care (e.g., routine prenatal, general exam, well-baby, screening, insurance exam)

Episode of care
1 ☐ Initial visit for problem
2 ☐ Follow-up visit for problem
3 ☐ Unknown

d. Do other physicians share patient's care for this problem or diagnosis?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

4. INJURY/POISONING/ADVERSE EFFECT

a. Is this visit related to an injury, or poisoning, or adverse effect of medical treatment?
1 ☐ Yes
2 ☐ No – *SKIP to item 5.*

b. Cause of injury, poisoning, or adverse effect – *Describe the place, intentionality, and events that preceded the injury, poisoning, or adverse event (e.g., allergy to penicillin, bee sting, pedestrian hit by car driven by drunk driver, wife beaten with fists by husband, heroin overdose, infected shunt, etc.).*

5. PHYSICIAN'S DIAGNOSIS FOR THIS VISIT

As specifically as possible, list diagnoses related to this visit including chronic conditions.

(1) Primary diagnosis:

(2) Other:

(3) Other:

6. DIAGNOSTIC/SCREENING SERVICES

Mark (X) all ***ordered*** *or* ***provided*** *at this visit.*

1 ☐ NONE
2 ☐ General medical exam
3 ☐ Other exam – *Specify site (e.g., breast, rectal)*
4 ☐ Blood pressure
5 ☐ Urinalysis (UA)
6 ☐ PAP test
7 ☐ PSA (prostate specific antigen)
8 ☐ Hematocrit/Hemoglobin
9 ☐ CBC (complete blood count)
10 ☐ Cholesterol
11 ☐ Other blood test
12 ☐ EKG/ECG (electrocardiogram)
13 ☐ Culture (e.g., throat) – *Specify*
14 ☐ X-ray
15 ☐ Mammography
16 ☐ Other imaging
17 ☐ Scope procedure (e.g., endoscopy) – *Specify*
18 ☐ Other service – *Specify*

7. COUNSELING/EDUCATION/THERAPY

Mark (X) all ***ordered*** *or* ***provided*** *at this visit. Exclude medications.*

1 ☐ NONE
2 ☐ Asthma education
3 ☐ Diet/Nutrition
4 ☐ Exercise
5 ☐ Growth/Development
6 ☐ Mental health/Stress management
7 ☐ Physiotherapy
8 ☐ Psychotherapy
9 ☐ Tobacco use/exposure
10 ☐ Weight reduction
11 ☐ Other

8. SURGICAL PROCEDURES

List up to 2 surgical procedures ***ordered, scheduled,*** *or* ***performed*** *at this visit.*

(1) 1 ☐ Ordered/ Scheduled 2 ☐ Performed

(2) 1 ☐ Ordered/ Scheduled 2 ☐ Performed

9. MEDICATIONS & INJECTIONS

a. What is the total number of drugs prescribed or provided at this visit? → Number of drugs

Include Rx and OTC medications, immunizations, allergy shots, anesthetics, and dietary supplements that were ordered, supplied, administered or continued during this visit.

b. List up to six medication/injection names below.

(1) **(2)** **(3)** **(4)** **(5)** **(6)**

10. VISIT DISPOSITION

Mark (X) all that apply.

1 ☐ No follow-up planned
2 ☐ Return if needed, PRN
3 ☐ Refer to other physician
4 ☐ Return at specified time
5 ☐ Telephone follow-up planned
6 ☐ Admit to hospital
7 ☐ Other

11. PROVIDERS SEEN

Mark (X) all that apply.

1 ☐ Staff physician
2 ☐ Resident/Intern
3 ☐ Other physician
4 ☐ RN
5 ☐ LPN
6 ☐ Medical/ Nursing assistant
7 ☐ Nurse practitioner/ midwife
8 ☐ Physician assistant
9 ☐ Medical technician/ technologist
10 ☐ Other

A

NHAMCS-100A(OPD) (10-12-2000)

Figure III. 2001 National Hospital Ambulatory Medical Care Survey Outpatient Department Patient Record Form A

Form Approved OMB No. 0920-0278 Exp. Date 07/31/2003 CDC 64.135

FORM **NHAMCS-100B(OPD)** (10-6-2000)

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU
ACTING AS DATA COLLECTION AGENT FOR THE
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics

B

NATIONAL HOSPITAL AMBULATORY MEDICAL CARE SURVEY
2001/2002 PATIENT RECORD

Assurance of confidentiality – All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by persons engaged in and for the purpose of the survey and will not be disclosed or released to other persons or used for any other purpose without consent of the individual or the establishment in accordance with section 308(d) of the Public Health Service Act (42 USC 242m).

1. PATIENT INFORMATION

a. Date of visit
Month | Day | Year

b. ZIP code

c. Date of birth
Month | Day | Year

d. Sex
1 ☐ Female – **Is patient pregnant?**
1 ☐ Yes
2 ☐ No
3 ☐ Unknown
2 ☐ Male

e. Ethnicity
1 ☐ Hispanic or Latino
2 ☐ Not Hispanic or Latino

f. Race – *Mark (X) one or more.*
1 ☐ White
2 ☐ Black/African American
3 ☐ Asian
4 ☐ Native Hawaiian/ Other Pacific Islander
5 ☐ American Indian/ Alaska Native

g. Does patient use tobacco?
1 ☐ Yes 2 ☐ No 3 ☐ Unknown

h. Type of insurance plan –
1 ☐ HMO (staff model e.g., Kaiser)
2 ☐ Other prepaid HMO (e.g., open model, IPA)
3 ☐ Preferred Provider Organization (PPO)
4 ☐ Point of Service (POS)
5 ☐ Fee for Service (FFS)
6 ☐ Not insured
7 ☐ None of the above
8 ☐ Unknown

i. Primary expected source of payment for this visit – *Mark (X) one.*
1 ☐ Private insurance
2 ☐ Medicare
3 ☐ Medicaid/SCHIP
4 ☐ Worker's Compensation
5 ☐ Self-pay
6 ☐ No charge/Charity
7 ☐ Unknown
8 ☐ Other

2. REASON FOR VISIT

Patient's complaint(s), symptom(s), or other reason(s) for this visit – *Use patient's own words.*

(1) Most important:

(2) Other:

(3) Other:

3. CONTINUITY OF CARE

a. Are you the patient's primary care physician?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown
Was patient referred for this visit?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

b. Has the patient been seen in this clinic before?
1 ☐ Yes, established patient – **How many past visits in the last 12 months?** *Exclude this visit.*
1 ☐ None
2 ☐ 1-2
3 ☐ 3-5
4 ☐ 6+
5 ☐ Unknown
2 ☐ No, new patient

c. Major reason for this visit
1 ☐ Acute Problem (<3 mos. onset)
2 ☐ Chronic problem, routine
3 ☐ Chronic problem, flare-up
4 ☐ Pre-/Post-surgery
Episode of care
1 ☐ Initial visit for problem
2 ☐ Follow-up visit for problem
3 ☐ Unknown
5 ☐ Preventive care (e.g., routine prenatal, general exam, well-baby, screening, insurance exam)

d. Do other physicians share patient's care for this problem or diagnosis?
1 ☐ Yes
2 ☐ No
3 ☐ Unknown

4. INJURY/POISONING/ADVERSE EFFECT

a. Is this visit related to an injury, or poisoning, or adverse effect of medical treatment?
1 ☐ Yes
2 ☐ No – *SKIP to item 5.*

b. Cause of injury, poisoning, or adverse effect – *Describe the place, intentionality, and events that preceded the injury, poisoning, or adverse event (e.g., allergy to penicillin, bee sting, pedestrian hit by car driven by drunk driver, wife beaten with fists by husband, heroin overdose, infected shunt, etc.).*

5. PHYSICIAN'S DIAGNOSIS FOR THIS VISIT

a. *As specifically as possible, list diagnoses related to this visit including chronic conditions.*

(1) Primary diagnosis:

(2) Other:

(3) Other:

b. Regardless of the diagnoses written in item 5a, does patient now have – *Mark (X) all that apply.*
1 ☐ Arthritis
2 ☐ Asthma
3 ☐ Depression
4 ☐ Diabetes
5 ☐ Hyperactivity/ADD
6 ☐ Hypertension
7 ☐ Ischemic heart disease
8 ☐ Obesity
9 ☐ None of the above

6. DIAGNOSTIC/SCREENING SERVICES

*Mark (X) all **ordered** or **provided** at this visit.*

1 ☐ NONE

Examinations:
2 ☐ Breast
3 ☐ Pelvic
4 ☐ Rectal
5 ☐ Skin
6 ☐ Eye
7 ☐ Ear
8 ☐ Mental status
9 ☐ Neurologic

Cultures:
10 ☐ Cervical/Urethral
11 ☐ Stool
12 ☐ Throat/Rapid strep test
13 ☐ Urine

Laboratory tests:
14 ☐ BUN (blood urea nitrogen)
15 ☐ Cholesterol
16 ☐ Creatinine
17 ☐ Blood glucose level
18 ☐ HgbA1C (glycohemoglobin)
19 ☐ Other blood chemistry
20 ☐ PSA (prostate specific antigen)
21 ☐ Hematocrit/Hemoglobin
22 ☐ CBC (complete blood count)
23 ☐ PAP test
24 ☐ Pregnancy test
25 ☐ Urinalysis (UA)

Imaging:
26 ☐ X-ray
27 ☐ Mammography
28 ☐ Ultrasound
29 ☐ Other imaging

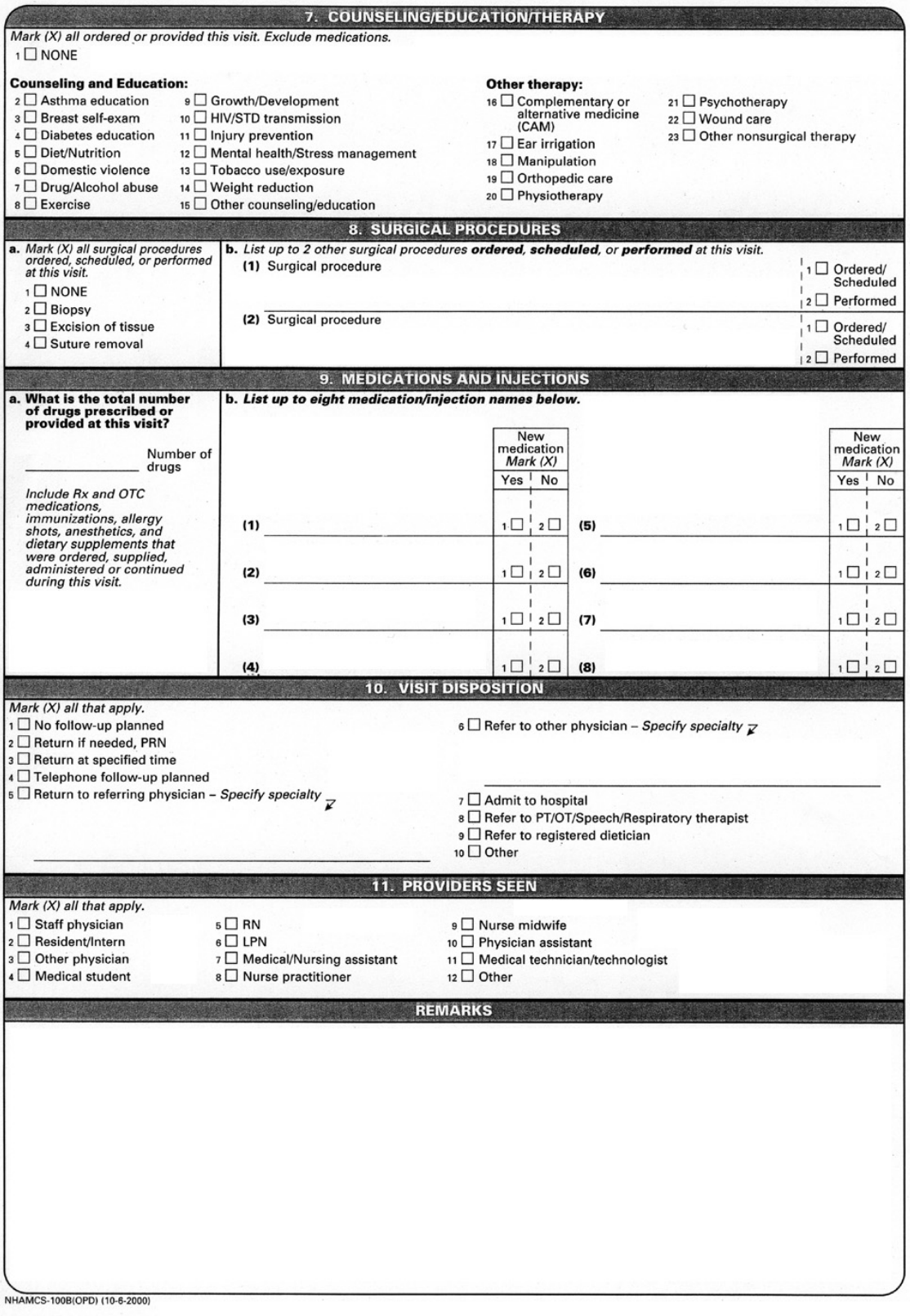
Diagnostic Tests:
30 ☐ Blood pressure
_____ /_____
31 ☐ EKG/ECG (electrocardiogram)
32 ☐ Cardiac stress test
33 ☐ Spirometry
34 ☐ EEG (electroencephalogram)
35 ☐ Fetal monitoring
36 ☐ EMG (electromyogram)
37 ☐ Visual acuity
38 ☐ Tonometry
39 ☐ Audiometry
40 ☐ Tympanometry
41 ☐ Sigmoidoscopy/ Colonoscopy
42 ☐ Endoscopy
43 ☐ Cystoscopy
44 ☐ Other diagnostic/ screening service

PLEASE CONTINUE WITH ITEM 7 ON REVERSE SIDE.

B

NHAMCS-100B(OPD) (10-6-2000)

Figure IV. 2001 National Hospital Ambulatory Medical Care Survey Outpatient Department Patient Record Form B (page 1 of 2)



7. COUNSELING/EDUCATION/THERAPY

Mark (X) all ordered or provided this visit. Exclude medications.

1 ☐ NONE

Counseling and Education:

2 ☐ Asthma education
3 ☐ Breast self-exam
4 ☐ Diabetes education
5 ☐ Diet/Nutrition
6 ☐ Domestic violence
7 ☐ Drug/Alcohol abuse
8 ☐ Exercise
9 ☐ Growth/Development
10 ☐ HIV/STD transmission
11 ☐ Injury prevention
12 ☐ Mental health/Stress management
13 ☐ Tobacco use/exposure
14 ☐ Weight reduction
15 ☐ Other counseling/education

Other therapy:

16 ☐ Complementary or alternative medicine (CAM)
17 ☐ Ear irrigation
18 ☐ Manipulation
19 ☐ Orthopedic care
20 ☐ Physiotherapy
21 ☐ Psychotherapy
22 ☐ Wound care
23 ☐ Other nonsurgical therapy

8. SURGICAL PROCEDURES

a. *Mark (X) all surgical procedures ordered, scheduled, or performed at this visit.*

1 ☐ NONE
2 ☐ Biopsy
3 ☐ Excision of tissue
4 ☐ Suture removal

b. *List up to 2 other surgical procedures* ***ordered, scheduled,*** *or* ***performed*** *at this visit.*

(1) Surgical procedure _____ 1 ☐ Ordered/Scheduled 2 ☐ Performed

(2) Surgical procedure _____ 1 ☐ Ordered/Scheduled 2 ☐ Performed

9. MEDICATIONS AND INJECTIONS

a. What is the total number of drugs prescribed or provided at this visit?

_____ Number of drugs

Include Rx and OTC medications, immunizations, allergy shots, anesthetics, and dietary supplements that were ordered, supplied, administered or continued during this visit.

b. ***List up to eight medication/injection names below.***

		New medication *Mark (X)* Yes	No			New medication *Mark (X)* Yes	No
(1)	_____	1 ☐	2 ☐	**(5)**	_____	1 ☐	2 ☐
(2)	_____	1 ☐	2 ☐	**(6)**	_____	1 ☐	2 ☐
(3)	_____	1 ☐	2 ☐	**(7)**	_____	1 ☐	2 ☐
(4)	_____	1 ☐	2 ☐	**(8)**	_____	1 ☐	2 ☐

10. VISIT DISPOSITION

Mark (X) all that apply.

1 ☐ No follow-up planned
2 ☐ Return if needed, PRN
3 ☐ Return at specified time
4 ☐ Telephone follow-up planned
5 ☐ Return to referring physician – *Specify specialty* ↙ _____
6 ☐ Refer to other physician – *Specify specialty* ↙ _____
7 ☐ Admit to hospital
8 ☐ Refer to PT/OT/Speech/Respiratory therapist
9 ☐ Refer to registered dietician
10 ☐ Other

11. PROVIDERS SEEN

Mark (X) all that apply.

1 ☐ Staff physician
2 ☐ Resident/Intern
3 ☐ Other physician
4 ☐ Medical student
5 ☐ RN
6 ☐ LPN
7 ☐ Medical/Nursing assistant
8 ☐ Nurse practitioner
9 ☐ Nurse midwife
10 ☐ Physician assistant
11 ☐ Medical technician/technologist
12 ☐ Other

REMARKS

NHAMCS-100B(OPD) (10-6-2000)

Figure IV. 2001 National Hospital Ambulatory Medical Care Survey Outpatient Department Patient Record Form B (page 2 of 2)

Appendix II

Definitions of Terms

Clinic—A clinic is an administrative unit of the outpatient department where ambulatory medical care is provided under the supervision of a physician. The following are examples of the types of clinics included in the NHAMCS: general medicine, surgery, pediatrics, obstetrics and gynecology, substance abuse, and others (e.g., psychiatry and neurology). Clinics excluded from the NHAMCS include ambulatory surgery centers, chemotherapy, employee health service, renal dialysis, methadone maintenance, and radiology.

Drug mention—A drug mention is the health care provider's entry on the Patient Record form of a pharmaceutical agent—by any route of administration—for prevention, diagnosis, or treatment. Generic as well as brand name drugs are included, as are nonprescription and prescription drugs. Along with all new drugs, the physician also records continued medications if the patient was specifically instructed during the visit to continue the medication. Health care providers could report up to six medications per visit on the short form and up to eight medications per visit on the long form.

Drug visit—A drug visit is a visit at which medication was prescribed or provided by the physician.

Hospital—To be in scope for the NHAMCS, a hospital must have an average length of stay for all patients of less than 30 days (short-stay) or be a hospital whose specialty is general (medical or surgical) or children's general, except Federal hospitals, hospital units of institutions, and hospitals with less than six beds staffed for patient use.

Hospital size—Hospital size was designated by the number of inpatient beds in the hospital's medical or surgical units based on the SMG Hospital Database.

In-scope physician—An in-scope physician is a duly licensed doctor of medicine (M.D.) or doctor of osteopathy (D.O.) who is currently in office-based practice and who spends some time caring for ambulatory patients. Excluded from NAMCS are physicians who are hospital-based; who specialize in anesthesiology, pathology, or radiology; who are federally employed; who treat only institutionalized patients; or who are employed full-time by an institution and spend no time seeing their own ambulatory patients.

Office—An office is the space identified by a physician as a location for his or her ambulatory practice. Offices customarily include consultation, examination, or treatment spaces that patients associate with the particular physician.

Outpatient department—An outpatient department is a hospital facility where nonurgent ambulatory medical care is provided under the supervision of a physician.

Ownership—Hospitals are designated according to the primary owner of the hospital based on the SMG Hospital Database.

Voluntary nonprofit—Hospitals that are church-related or are a nonprofit corporation or have other nonprofit ownership.

Government, non-Federal—Hospitals that are operated by State, county, city, city-county, or hospital district or authority.

Proprietary—Hospitals that are individually owned or are partnerships or corporations.

Patient—An ambulatory patient is an individual seeking personal health services who is not currently admitted to any health care institution on the premises.

Physician's diagnosis—Up to three diagnoses could be recorded. The first-listed diagnosis should be the physician's or other health care provider's best assessment of a diagnosis of the patient's most important problem, complaint, or symptom. In the event of multiple diagnoses, the physician was instructed to list them in order of decreasing importance. The term ''primary'' refers to the first-listed diagnosis. The diagnosis represents the provider's best judgment at the time of the visit and may be tentative, provisional, or definitive. On the long form only, physicians or other health care staff were asked to list conditions known to exist for the patient at this time, regardless of their relationship to the physician's diagnoses.

Geographic region of residence—The four geographic regions of the United States that correspond to those used by the U.S. Census Bureau are:

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

Specialty hospital—A hospital was considered a specialty hospital if the primary type of care offered was not ''general medical and surgical'' according to the SMG Hospital Database.

Teaching hospital—A hospital is designated a teaching hospital if, according to the SMG Hospital Database, it is a member of the council of teaching hospitals.

Visit—A visit is a direct, personal exchange between an ambulatory patient seeking care and a physician or a hospital staff member working under the physician's supervision for the purpose of rendering personal health services. Excluded from the NAMCS and NHAMCS are visits where medical care was not provided, such as visits made to drop off specimens, pay bills, and make appointments.

Vital and Health Statistics series descriptions

SERIES 1. **Programs and Collection Procedures**—These reports describe the data collection programs of the National Center for Health Statistics. They include descriptions of the methods used to collect and process the data, definitions, and other material necessary for understanding the data.

SERIES 2. **Data Evaluation and Methods Research**—These reports are studies of new statistical methods and include analytical techniques, objective evaluations of reliability of collected data, and contributions to statistical theory. These studies also include experimental tests of new survey methods and comparisons of U.S. methodology with those of other countries.

SERIES 3. **Analytical and Epidemiological Studies**—These reports present analytical or interpretive studies based on vital and health statistics. These reports carry the analyses further than the expository types of reports in the other series.

SERIES 4. **Documents and Committee Reports**—These are final reports of major committees concerned with vital and health statistics and documents such as recommended model vital registration laws and revised birth and death certificates.

SERIES 5. **International Vital and Health Statistics Reports**—These reports are analytical or descriptive reports that compare U.S. vital and health statistics with those of other countries or present other international data of relevance to the health statistics system of the United States.

SERIES 6. **Cognition and Survey Measurement**—These reports are from the National Laboratory for Collaborative Research in Cognition and Survey Measurement. They use methods of cognitive science to design, evaluate, and test survey instruments.

SERIES 10. **Data From the National Health Interview Survey**—These reports contain statistics on illness; unintentional injuries; disability; use of hospital, medical, and other health services; and a wide range of special current health topics covering many aspects of health behaviors, health status, and health care utilization. They are based on data collected in a continuing national household interview survey.

SERIES 11. **Data From the National Health Examination Survey, the National Health and Nutrition Examination Surveys, and the Hispanic Health and Nutrition Examination Survey**—Data from direct examination, testing, and measurement on representative samples of the civilian noninstitutionalized population provide the basis for (1) medically defined total prevalence of specific diseases or conditions in the United States and the distributions of the population with respect to physical, physiological, and psychological characteristics, and (2) analyses of trends and relationships among various measurements and between survey periods.

SERIES 12. **Data From the Institutionalized Population Surveys**—Discontinued in 1975. Reports from these surveys are included in Series 13.

SERIES 13. **Data From the National Health Care Survey**—These reports contain statistics on health resources and the public's use of health care resources including ambulatory, hospital, and long-term care services based on data collected directly from health care providers and provider records.

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SERIES 15. **Data From Special Surveys**—These reports contain statistics on health and health-related topics collected in special surveys that are not part of the continuing data systems of the National Center for Health Statistics.

SERIES 16. **Compilations of Advance Data From Vital and Health Statistics**—Advance Data Reports provide early release of information from the National Center for Health Statistics' health and demographic surveys. They are compiled in the order in which they are published. Some of these releases may be followed by detailed reports in Series 10–13.

SERIES 20. **Data on Mortality**—These reports contain statistics on mortality that are not included in regular, annual, or monthly reports. Special analyses by cause of death, age, other demographic variables, and geographic and trend analyses are included.

SERIES 21. **Data on Natality, Marriage, and Divorce**—These reports contain statistics on natality, marriage, and divorce that are not included in regular, annual, or monthly reports. Special analyses by health and demographic variables and geographic and trend analyses are included.

SERIES 22. **Data From the National Mortality and Natality Surveys**—Discontinued in 1975. Reports from these sample surveys, based on vital records, are now published in Series 20 or 21.

SERIES 23. **Data From the National Survey of Family Growth**—These reports contain statistics on factors that affect birth rates, including contraception, infertility, cohabitation, marriage, divorce, and remarriage; adoption; use of medical care for family planning and infertility; and related maternal and infant health topics. These statistics are based on national surveys of women of childbearing age.

SERIES 24. **Compilations of Data on Natality, Mortality, Marriage, and Divorce**—These include advance reports of births, deaths, marriages, and divorces based on final data from the National Vital Statistics System that were published as *National Vital Statistics Reports* (NVSR), formerly *Monthly Vital Statistics Report*. These reports provide highlights and summaries of detailed data subsequently published in *Vital Statistics of the United States*. Other special reports published here provide selected findings based on final data from the National Vital Statistics System and may be followed by detailed reports in Series 20 or 21.

For answers to questions about this report or for a list of reports published in these series, contact:

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