SUPPORTING STATEMENT

Part B

Medical Expenditure Panel Survey (MEPS) Household Component and the MEPS
Medical Provider Component through 2012

Version: June 29th, 2009

Agency of Healthcare Research and Quality (AHRQ)

Table of contents

B. Collections of Information Employing Statistical Methods

To fill in major data gaps identified by the Department of Health and Human Services, the Medical Expenditure Panel Survey (MEPS) is specified as a continuous survey. Each year, a new nationally representative MEPS sample will be selected from a subset of households that participated in the prior year=s National Health Interview Survey (NHIS). A preliminary contact with the NHIS responding households selected for the MEPS study will take place to announce the MEPS survey and introduce records keeping activities.

The MEPS Household Component (MEPS-HC) and Medical Provider Component (MEPS-MPC) are two of three components of the MEPS.

$ Household Component (MEPS-HC): A sample of households participating in the National Health Interview Survey (NHIS) in the prior calendar year are interviewed 5 times over a 2 and 2 year period. These 5 interviews yield two years of information on use of and expenditures for health care, sources of payment for that health care, insurance status, employment, health status and health care quality.

$ Medical Provider Component (MEPS-MPC): The MEPS-MPC collects information from medical and financial records maintained by hospitals, physicians, pharmacies and home health agencies named as sources of care by household respondents.

$ Insurance Component (MEPS-IC): The MEPS-IC collects information on establishment characteristics, insurance offerings and premiums from employers. The MEPS-IC is conducted by the Census Bureau for AHRQ and is cleared separately.

This request is for the MEPS-HC and MEPS-MPC only.

1. Respondent Universe and Sampling Methods

1a. Sample Selection and Universe for the Household Component

The initial MEPS Household Component sample consists of households that responded to the prior year's NHIS, in the panels reserved for the MEPS. The basic analysis unit in the MEPS is defined as the person.

A Reporting Unit is a person or group of persons in the sampled dwelling unit that are related by blood, marriage, adoption or other family associations, who are to be interviewed at the same time in MEPS. Each year's MEPS sample will be surveyed to collect annual data for two consecutive years. Each new MEPS sample will include approximately 9,700 dwelling units (yielding approximately 15,000 reporting units and 37,000 persons) and will be selected as a nationally representative subsample from households that responded to the prior year's NHIS. The NHIS is based on a stratified multi-stage cluster sample design. The NHIS sample reflects

an oversample of Hispanics, blacks, and Asians. The oversampling of minorities carries over to the MEPS.

Dwelling Units, Reporting Units and Other Definitions

The definitions for Dwelling Units and Group Quarters in the MEPS Household Component are generally consistent with the definitions employed for the NHIS. A Reporting Unit is a person or group of persons in the sampled dwelling unit that are related by blood, marriage, adoption or other family associations, who are to be interviewed at the same time in MEPS. Examples of discrete reporting units are:

      (1)   a married daughter and her husband living with her parents in the same dwelling are considered one reporting unit.

      (2)   a husband and wife and their unmarried daughter, age 18, who is living away from home at college constitute one family, but two reporting units.

      (3)   three unrelated persons living in the same dwelling unit would be three reporting units.

College students under 24 years of age who usually live in the sampled household, but are currently living away from home and going to school, will be treated as separate Reporting Units for the purpose of data collection.

Analysis is planned at both the individual and the family as units of analysis. Through the reenumeration section of the Round 1 questionnaire, the status of each individual sampled at the time of the NHIS interview is classified as "key or non-key", "in-scope or out-of-scope", and "eligible or ineligible" for MEPS data collection. For an individual to be in-scope and eligible for person level estimates derived from the MEPS Household Component, the person needs to be a member of the civilian non-institutionalized population for some period of time in the calendar year of analytical interest. Because a person's eligibility for the survey may have changed since the NHIS interview, sampling reenumeration takes place in each subsequent reinterview for persons in all households selected into the core survey. Only persons who are "key", "in-scope" and "eligible for data collection" will be considered in the derivation of person level national estimates from the MEPS.

Key Persons: Key survey participants are defined as all civilian non-institutionalized individuals who resided in households that responded to the nationally representative NHIS subsample reserved for the MEPS, with the exception of college students interviewed at dormitories. Members of the armed forces that are on full time active duty and reside in responding NHIS households which include other family members who are civilian non-institutionalized individuals are also to be defined as key persons, but will be considered out of scope for person level estimates derived for the survey.   All other individuals who join NHIS reporting units that did not have an opportunity for selection at the time of the NHIS interview will also be considered key persons.   These include newborn babies, individuals who were in an institution

4

or outside the country moving to the United States, and military personnel previously residing on military bases who join MEPS reporting units to live in the community.

College students under 24 years of age interviewed at dormitories in NHIS will be considered ineligible for the MEPS sample and not included in that sample. Furthermore, any unmarried college students under 24 years of age that responded to the NHIS interview while living away at school (not in a dormitory) will be excluded from the sample if it is determined in the MEPS Round 1 interview that the person is unmarried, under 24 years of age, and a student with parents living elsewhere who resides at her current housing only during the school year. If, on the other hand, the person's status at the time of the MEPS Round 1 interview is no longer that of an unmarried student under 24 years of age living away from home, then the person will be retained in the MEPS sample as a key person.

Alternatively, at the time of the MEPS Round 1 interview with NHIS sample respondents, a determination will be made if there are any related college students under 24 years of age who usually live in the sampled household, but are currently living away from home and going to school. These college students are considered key persons and will be identified and interviewed at their college address, but linked to the sampled household for family analyses. Some of these college students living away from home at the time of the Round 1 interview will have been identified as living in sampled household at the time of the NHIS interview. The remainder will be identified at the time of the MEPS Round 1 interview with the NHIS sampled households.

Non-key Persons: Persons who were not living in the original sampled dwelling unit at the time of the NHIS interview and who had a non-zero probability of selection for that survey will be considered non-key. If such persons happen to be living in sampled households (in Round 1 or later rounds) MEPS data (e.g., utilization and income) will be collected for the period of time they are part of the sampled unit to permit family analyses. Non-key persons who leave any sample household will not be recontacted for subsequent interviews. Non-key individuals are not part of the target sample used to obtain person level national estimates.

In situations where key persons from the NHIS sampled household selected for MEPS move out (in Round 1 or later rounds) and join or create another family, data on all members of this new household who are related by blood, marriage, adoption or foster care to the persons from the NHIS sampled household will be obtained from the point in time that the NHIS sampled person joined that new household. Similarly, data will be collected (in Round 1 and later rounds) on all related persons who join NHIS sampled households selected into the MEPS.

Key persons who subsequently enter an institution and leave the civilian, noninstitutionalized population of the United States will require data collection during their stay in institutions that are nursing homes. Alternatively, key persons who subsequently enter institutions that are not nursing homes or leave the civilian, noninstitutionalized population of the United States do not require any data collection. Upon their return to the U.S. civilian noninstitutionalized population, these persons shall once again be subject to HC data collection.

MEPS Data Collection Eligibility: In order for a MEPS reporting unit to be eligible for data collection, the unit must include at least one individual who is "key" and "in-scope" for some

5

period of time during the reference period for a given round of data collection. If this condition holds, the persons who are "key" and "in-scope" and all other individuals who are members of the reporting unit (living together and related by blood, marriage, adoption or other family associations) are eligible for data collection in a given round of the MEPS.

Sample Size Targets and Precision Requirements for the Household Component

The target sample size for the MEPS HC is approximately 15,000 reporting units (or about 37,000 persons) yielding the complete series of core interviews for producing use and expenditure estimates for each calendar year. The expected response rate at each stage of data collection for each new MEPS sample linked to the NHIS is: (1) a NHIS response rate of approximately 89 percent at the household level; (2) a response rate of about 80 percent among MEPS reporting units at Round 1 (conditioned on a completed NHIS interview); a round-specific response rate of 95 percent among reporting units at Round 2; a round-specific response rate of 96 percent among reporting units at Round 3; and a round-specific response rates of 97 and 98 percent, respectively among reporting units at Rounds 4 and 5. Consequently, the overall targeted response rate for obtaining calendar year data on health care utilization and expenditures from a MEPS panel is 73 percent, conditioned on response to the NHIS (interviews for Rounds 1-3), or 65 percent overall.

The sample size specifications for the MEPS have been set to meet specific precision requirements. For each estimation year, the relative standard error for a population estimate of 20 percent for the overall population at the family level was specified to be no more than 2.3 percent; and the relative standard error for a population estimate of 20 percent for the overall population at the person level was specified to be no more than 1.4 percent. For example, if it was determined that the national population estimate at the person level of the percent of the population ever uninsured was 20 percent, the standard error of the estimate should not exceed 0.28 percent. That translates to a 95 percent confidence interval of (19.45%, 20.55%) for the insurance coverage estimate that characterized the nation at the person level

1b. Sample Selection and Universe for the Medical Provider Component

The sample for the Medical Provider Component is designed to provide data on events for which household respondents are unlikely to know charges and payments, to enrich the sample of events available as donors for imputation, and to provide a basis for methodological analysis of household reported charges and payments for all types of events.

The MPC sample can be split into the following distinct groups:

- Office-based medical doctors (MDs), doctors of osteopathy (DOs), and other medical providers under the supervision of MDs and DOs
- Hospital facilities providing inpatient, outpatient, and emergency room care; for hospital care, the provider was defined so as to include both the hospital facility and all individually identified physicians who treated the patient at the hospital, but who bill separately
- Home health care agencies

- Health care institutions
- Pharmacies

All hospitals and home health care agency providers are "in-scope" for the MPC. Other providers and sites of care are in-scope if the provider is either a doctor of medicine or osteopathy, or if the provider practices under the direction or supervision of a MD or DO. For example, physician assistants and nurse practitioners working in clinics are medical providers considered in-scope for the MPC. Chiropractors and dentists are out of scope (unless practicing in a hospital).

All office based physicians, including those reported as providers of care in households with Medicaid (or Medical Assistance) recipients, are included in the MPC sample.

The MPC sample includes 100 percent of hospitals identified as providers of care by household respondents, including all inpatient stays, emergency room, and outpatient department visits. All physicians identified by hospitals and/or households as providing care to sampled persons during the course of inpatient, outpatient department or emergency room care, but who bill separately from the hospital are included in the MPC sample. All home health agencies that provided care to household sampled persons are also included in the MPC sample. Finally, all pharmacies that have dispensed prescribed medicines to sampled persons are included in the MPC.

Based on sample projections from prior years, the estimated sample size for the MEPS-MPC, measured in terms of participating providers, is approximately 5,402 hospitals, 12,450 separately billing physicians, 464 home health agencies, 13,665 office based physicians, 7,760 pharmacies, and 72 institutions.

2. Information Collection Procedures

Household Component

Preliminary Contact. Households responding to the NHIS and subsampled as part of a MEPS panel will be contacted prior to their first interview. A ADear Friend@ letter with an enclosed MEPS brochure will be mailed to each NHIS household subsampled for MEPS. The MEPS brochure will introduce the study. The Assurance of Confidentiality is covered in both the letter and the brochure and the Reporting Burden statement appears in the brochure. A calendar will be mailed to the MEPS family respondent. The interviewer will call to verify the arrival of the materials, answer any questions the respondent may have and obtain the best times for the round 1 interview.

Main Rounds 1-**5**. Five interviews will be conducted with each sampled household at 4-6 month intervals over a 30 month time period. All interviews will be conducted in person with CAPI as the principal data collection mode. Round 1 will ask about the period since January 1 to the date of the interview. Round 2 will ask about the time since the Round 1 interview through the date of the Round 2 interview. Subsequent interviews will all cover the Ainterview to interview interval@.

Questionnaires for these field periods are largely parallel to those used in prior MEPS interviews. The instruments contain items that are asked once in the life of the study, items that are asked repeatedly in each round, and items that are updated from round to round. Items only asked once include basic sociodemographics. Core questions asked repeatedly include health status, health insurance coverage, employment status, days of restricted activity due to health problems, medical utilization, hospital admissions, and purchase of medicines. For each health encounter identified, data will be obtained on the nature of health conditions, the services provided, the associated charges and sources (and amounts) of payments. Permission forms for medical providers will be collected in the field.

Medical Provider Component

The MPC survey begins with the selection of the sample during the household interview. For those medical events and prescribed medicines reported in a household interview that meet the targeting criteria described above, a permission form is generated for each provider of the sampled person/provider pairs involved. This form describes the purpose of the survey and the information that is being collected, and authorizes the provider to release that information. The form is signed by the patient (or patient or guardian if person is under 18 years of age, or witness or proxy if patient is disabled or deceased). To expedite the identification of providers and assist with the preparation of an unduplicated provider list for the fielding of the MPC, interviewers use a computerized database of medical providers in the applicable PSU, called the provider directory, which has been loaded onto the laptop. Special software contained in the laptops enables interviewers to search the provider directory in the course of the MEPS interview. If a match is found with a provider identified by the household respondent, the matched directory record will be associated with the household event. The provider directory records include, for each provider: a unique provider ID; the provider's name, address, and telephone number; and, for individual office-based physicians, specialty. The MPC is conducted by telephone and record abstraction. The data collection process contains three basic steps:

> 1) an initial telephone screening to confirm provider eligibility and determine the appropriate person to whom the survey materials should be sent;

> 2) the mailing or faxing of an advance package to the provider which describes the survey and the types of information that will be collected; and

> 3) a phone call to actually collect the data. However, many providers prefer to send in records rather than give information over the telephone. The information is abstracted from the records, when applicable; follow-up phone calls are made to the providers to clarify items in the records or to retrieve critical data items not contained in the records. The majority (85 percent) of hospital providers choose to mail records and approximately 50 percent of office based providers mail records (very few hospitals or office based providers fax in medical records). The rest are obtained by telephone. Very few, other than some pharmacy chain providers, submit electronically.

For office-based physicians, home health agencies, clinics, and separately billing doctors the data collection call is directed to the person who handles the billing for the provider. Often this is not someone in the provider's office, but an outside billing organization.

In the case of hospitals, data are collected not only from the billing department but from the medical records department. Previous experience has shown that the names of the separately billing doctors usually can not be obtained from the hospital's billing department. Consequently, there is an additional call to the medical records department to determine the names of all the doctors who treated the patient during a stay or visit. Moreover, in some cases the hospital's administrative office must be contacted to determine whether or not the doctors identified by medical records bill separately from the hospital itself.

Although experience has shown that telephone interviewing tends to be a very efficient method of collecting MPC data and imposes minimal burden on providers, the MPC data collection process has been designed to be as flexible as possible to accommodate the needs of respondents. Procedures for self-administration are available, should respondents prefer that mode of data collection, and in-person interviewing, for a small number of hospitals which may be identified by multiple persons in the household sample.

The pharmacy data collection process -- for individual, non-chain pharmacies -- consists of: (1) an initial phone call to the pharmacy to solicit cooperation and determine how to send the survey materials; (2) materials are faxed or mailed to the pharmacy; (3) pharmacies respond by sending in, by fax or mail, patient profiles. Sometimes the pharmacist is willing to give the information over the phone and the data is collected on a Pharmacy Data Form; (4) pharmacies are followed-up to prompt for response or if data items in submitted profiles are not clear. The process for the larger chains that have requested centralized corporate contacts can vary, depending on the preferences of the chain. All begin with a telephone contact and include a step in which the authorization forms are sent to the company, but then data collection proceeds as desired by the chain: some respond in electronic format (approximately 10-12 percent); some send in (hard copy) profiles (approximately 85 to 88 percent reply by mail or fax; with the split between the two modes fairly evenly divided; and some prefer to provide data over the phone (approximately 2 percent).

3. Methods to Maximize Response Rates

Household Component
Households in the MEPS sample are interviewed in person by trained interviewers using a computer-assisted (CAPI) application to record the respondent's answers to the survey questions. In addition to providing information on family composition, health status, employment, and health insurance, household respondents are asked to report details on health events for all members of the family. The interviews vary substantially in length depending upon the number of persons in the family and the number of health care events the family has to report. Round 1 interviews typically last between one and a half and two hours. Subsequent round interviews are somewhat shorter, but the reporting burden is substantial in each of the interviews.

Over time, MEPS has refined a series of activities and procedures designed to build and maintain HC response rates. These activities begin with a sequence of advance mailings that provide a first introduction to the study and continue through concerted followup efforts to gain the

participation of the households that are difficult to contact or reluctant to participate. These efforts are particularly concentrated in the first round of a new panel's participation, but continue with efforts to maintain cooperation through the full five rounds of interviewing. The standard practices include:

- Pre-interview contacts. Before an interviewer makes the first attempt to contact a sampled household in person, the household receives a series of three mailings and one advance telephone contact. The first mailing notifies the family of its selection for the survey, the second provides additional information, including a short DVD, explaining the study and the nature of participation, and the third is a brief reminder of the coming interview, timed to arrive shortly before the interviewer's first attempt to contact the family in person. Shortly following the second mailing, respondents are contacted by telephone to verify their receipt of the DVD mailing and to answer their questions about the study. These calls serve to provide an early indication of the households that have moved since the NHIS and require tracking and an early assessment of the likelihood of the household's participation when contacted.

- Careful attention to the selection and training of data collection staff. Training sessions are designed to prepare interviewers to be knowledgeable about the study, comfortable in using study materials, and prepared with answers to common respondent questions. In recent years, as the level of effort required to obtain cooperation has increased, more attention has been given to training interviewers in techniques for avoiding refusals. For some segments of the training, bilingual interviewers meet separately to practice introducing and administering the survey in Spanish.

- Attention to the appropriate assignment of cases to interviewers. Information available from the NHIS interview and from the advance contact calls is taken into account by field supervisors when making assignments and by individual interviewers when planning their first contact attempts. When the NHIS information indicates that a case was only "partially completed" it usually indicates that the NHIS household was very reluctant to participate and only willing to complete part of the NHIS interview. These cases are assigned to interviewers who have demonstrated great skill with refusal aversion techniques. Similarly, if the interviewer conducting the advance contact call indicates that the household seems hesitant to participate, the case is also assigned to an interviewer skilled in refusal aversion.

- Close monitoring of the field data collection effort by field supervisors and project managers. Paradata documenting every interviewer attempt to contact a household is made available to supervisors to guide interviewers' timing of contact attempts. In weekly calls, supervisors and interviewers discuss work plans and alternative approaches for contacting and gaining cooperation of individual cases. Weekly calls among the managers of the field operation allow discussion of solutions to common response problems, planning and coordination of efforts to follow-up non-responding households, and efficient allocation of field resources.

  Determining where to place resources to build the response rate requires reliable data on production and response rates, contact efforts, interviewer availability, location of pending work, and dispositions of remaining cases. All of this information is contained within the HC management database and available in reports. Each week of the field period, production and response rates by domain, PSU, and region are carefully examined to make sure the work is progressing toward schedule and response rate goals. The key to the approach is early identification of response rate issues that allows sufficient time to formulate and implement plans for conversion.

10

- Interviewers are provided with a variety of materials to support their efforts to gain cooperation: handouts printed in Spanish and English that explain different aspects of the study and research highlights and news items reporting findings from MEPS data are provided for the interviewers to use as needed to address concerns expressed by respondents.

- In return for the time respondents spend preparing for the MEPS interview, households receive payment of $30 per interview. The $30 payment has been in effect since the start of Panel 12 in 2007. In the prior six years the payment was $25. Following discussions with OMB, the project implemented an experiment for the panel fielded in 2008 in which respondents were randomly assigned one of three different payment amounts: $30, $50, and $70. A report on the results of the experiment after one full year of data collection is expected in the fall, 2009. Preliminary results based on part-year data suggest that the higher incentives do increase response rates.

- The project has developed a number of letters that address areas of concern commonly raised by respondents who do not respond when initially contacted by an interviewer. Supervisors can request mailing of the specific letter (available in English and Spanish) that is most appropriate for a given household.

- For households that are difficult to contact, interviewers make multiple contact attempts, at different times of day and days of the week, using information from the NHIS and their own prior contact attempts to determine the best time for each successive attempt.

- For households that refuse an initial request to participate, the interviewer and supervisor decide on an approach for attempting to convert the refusal, taking into account all information available from the NHIS and prior contact efforts. Depending on the specifics of each case, one of the refusal conversion letters may be sent before another attempt is made in person, points to be made to address the reasons for the refusal are discussed, and frequently, a different interviewer will be assigned to make the next attempt.

- For households that require tracking, the interviewer who determines that the household has moved makes initial, local attempts to obtain new locating information. When those local sources are not successful, the case is referred for additional searching from the home office.

Since resources—time, budget, and staff—are not limitless, selection of the areas and specific cases on which to concentrate effort is critical. To guide these decisions, the project draws on multiple sources of information: information from prior panels on the characteristics of responders and nonresponders, information from the NHIS on the characteristics of the sampled households, paradata from the project management system, and information on the location, experience level, and skill sets of the interviewing field force.

Nonresponse Bias Studies

Response rates calculated for MEPS follow standard practice and are computed as the ratio of completed cases to the number of in scope sample cases. Both unweighted and weighted response rates are calculated, with the weighted response rates based on the probability of

selection. As in prior MEPS Panels nonresponse bias analyses will be developed and implemented.

Nonresponse bias concerns arise to the extent that nonrespondents differ from respondents, particularly on key analytic variables, and how well do the responders represent the target populations of interest. Since the MEPS sample is drawn from NHIS participant households, the NHIS provides the best source for identifying characteristics of responders and nonresponders. The analyses will also include across panel comparisons in MEPS.

Using weighted response rates, the analyses will look at:
- How well do responders represent the target population on key characteristics such as race and ethnicity, urban/rural status, age, household size, income level, etc.
- Do responders and nonresponders differ on key analytic variables such as health insurance status, chronic disease status, health care utilization – all of these items are collected in both the NHIS and MEPS. Comparisons can be made between the NHIS and MEPS as well as across panels in MEPS.
- What are the contact patterns for responders and can they predict a propensity to respond. These analyses will use paradata from both the NHIS and MEPS such as length of the interview, number of contacts, mode of contact, etc. Logistic regression will be employed to determine if contact data correlates with propensity to respond.

A weighting strategy used on earlier MEPS panels will also be employed that includes adjustments for nonresponse to reduce the potential for bias in the estimates. Also, the MEPS weighting process has been developed in such a way as to reduce the potential for bias due to either NHIS household level nonresponse or undercoverage. As part of the weighting process for MEPS, the base weights for NHIS responding households sampled for MEPS are poststratified to national estimates for households. Such poststratification was designed to reduce the potential bias for NHIS nonresponse being incurred by MEPS as well as to calibrate the household level weights to national estimates for households. The control totals used were originally NHIS household level estimates. However, due to recent concerns about undercoverage in the NHIS sample design, AHRQ now poststratifies to household level estimates based on the CPS. Thus, this poststratification now serves to help reduce bias due to NHIS nonresponse at the household level and household level undercoverage.

Medical Provider Component

MEPS MPC staff plan to maintain the high response rates for the MEPS MPC by bringing forward to the current data collection effort the methods that have been successful in maintaining provider cooperation in the past. An initial telephone screening to confirm provider eligibility and determine the appropriate person to whom the survey materials should be sent and the mailing or faxing of an advance package to the provider which describes the survey and the types of information that will be collected helps to maintain the high response rates. Based on past response rates (2005: 88.0%; 2006: 85.9%; 2007:88.9%) AHRQ expects the MEPS MPC response rates for the years covered by this clearance to remain above 80 percent.

Data collection staff who appreciate the difficulty and importance of the task, and are capable of establishing good rapport with providers and placing as little burden on them as possible to accurately collect the data, will be recruited and retained. All data collection staff participate in an in-depth initial training as well as on-going performance improvement activities. MEPS MPC identity and logos will be maintained so that providers who have participated in the past will recognize the study, but data collection materials will be customized to the current year's data collection so providers understand what is currently being requested of them. Data collection protocols and instruments are also customized to the different types of providers to make it as easy as possible for providers to provide data in the manner in which it appears in their records. Providers with a previous history of being reluctant to participate will be assigned to data collection staff specializing in working with such respondents to maximize the possibility that they will participate. Providers with particularly large numbers of study patients will be assigned to staff capable of working out means of obtaining the large number of records with a minimum of burden to the provider. Finally, the introduction and use of an electronic data capture system, which allows real-time checking for the entry of complete and accurate information into the data collection forms while they are being filled out, will help minimize return calls to providers to resolve missing or confusing items and make it more likely that their cooperation will be maintained in future data collection efforts.

4. Tests of Procedures

The HC instrument was recently converted from DOS to Windows and was pretested under AHRQ's generic clearance.

5. Statistical Consultants

The following are responsible for statistical aspects of the MEPS Study:

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