The Home Health Care CAHPS Survey

Part A

Justification and Supporting Statement

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A. JUSTIFICATION

A.1 Circumstances Making the Collection of Information Necessary

In the Home Health Prospective Payment System (HH PPS)~~H PPS~~ Rate Update for calendar year (CY)~~CY~~ 2010 Final Rule (74 FR 58078), CMS expanded the home health~~HH~~ quality measure reporting requirements for Medicare-certified agencies to include the CAHPS® Home Health Survey, also known as the Home Health Care CAHPS (HHCAHPS) Survey, for the CY 2012 annual payment update (APU). CMS maintained this policy in the HH PPS Rate Update in the CY 2011 Final Rule (75 FR 70404), and moved forward with plans to have HHCAHPS linkage to the pay-for-reporting (P4R) requirements affecting the HH PPS rate update for CY 2012.

As part of the U.S. Department of Health and Human Services' (DHHS) Transparency Initiative, CMS has implemented a process to measure and publicly report patient experiences with home health~~HH~~ care using a survey developed by the Agency for Healthcare Research and Quality's (AHRQ's) Consumer Assessment of Healthcare Providers and Systems (CAHPS®) program. The HHCAHPS survey is part of a family of CAHPS® surveys that asks patients to report on and rate their experiences with health care. The HHCAHPS survey presents home health~~HH~~ patients with a set of standardized questions about their HH care providers and about the quality of their home health~~HH~~ care. Prior to this survey, there was no national standard for collecting information about patient experiences that would enable valid comparisons across all home health agencies (HHAs).

AHRQ, in collaboration with its CAHPS grantees, developed the ~~CAHPS~~ Home Health Care CAHPS Survey with the assistance of many entities (for example, government agencies, professional stakeholders, consumer groups and other key individuals and organizations involved in home health~~HH~~ care). The HHCAHPS survey was designed to measure and assess the experiences of those persons receiving ~~HH~~home health care with the following three goals in mind:

- To produce comparable data on patients' perspectives of care that allow objective and meaningful comparisons between HHAs on domains that are important to consumers;

- To create incentives for agencies to improve their quality of care through public reporting of survey results; and

- To hold health care providers accountable by informing the public about the providers' quality of care.

The development process for the survey began in 2006 and included a public call for measures, review of the existing literature, consumer input, stakeholder input, public response to **Federal Register** notices, and a field test conducted by AHRQ. AHRQ conducted this field test to validate the length and content of the CAHPS Home Healthcare Survey. CMS submitted the survey to the NQF (National Quality Forum) for consideration and endorsement via their consensus process~~ves~~. NQF endorsement represents the consensus opinion of many healthcare providers, consumer groups~~.~~ ~~–~~professional organizations, healthcare purchasers, Federal agencies, and research and quality organizations. The survey received NQF endorsement on March 31, 2009. The HHCAHPS survey received clearance from OMB on July 18, 2009~~; and~~ the OMB number is 0938-1066~~.~~

The HHCAHPS Questionnaire

The currently approved HHCAHPS survey is 34 questions long. Questions 1-25 on the instrument are the core survey items, and questions 26-36 are the "About You" questions. Five measures from this survey will be used for public reporting – 3 composite measures and 2 global ratings. The 3 composites cover "Care of Patients," "Communication between Providers and Patients" and "Specific Care Issues." The global items include the overall rating of agency care, and would you recommend this agency to friends and family.

Initially, confirmatory factor analysis (CFA) based on structural equation modeling (SEM) was conducted to see whether the field test data were consistent with the hypothesized composite structure. The CFA of the field test questionnaire revealed that the observed data did not fit this model. Following the poor CFA results, exploratory analyses were conducted to identify the structure underlying the observed responses. Analyses were conducted upon a random sample of 50% of the single-imputation data set. This enabled AHRQ ~~us~~ to evaluate the

generalizability -of the final model in the other 50% of the data, as well as the data sets comprised of each of the other four imputations. An exploratory factor analysis (EFA) was conducted on the correlation matrix using the principle factor method with squared multiple correlations as initial communality estimates and oblique rotation (promax) with Kaiser normalization. The number of factors was determined by the eigen values, and the interpretability of the rotated factor pattern matrix.

The internal consistency reliability (alpha) (a measure of how well the items in a composite hang together) was .75 for Care of Patients, .73 for Communication between Providers and Patients and .84 for Specific Care Issues. The scaling success (a measure that summarizes the discriminate validity of the composites, that is, the degree to which each item correlates more highly with its own scale than it does with competing scales) is 88% for Care of Patients, 90% for Communication between Providers and Patients and 100% for Specific Care Issues.

The Care of Patients composite is produced by combining responses to four questions that ask:

- "In the last 2 months of care, how often did home health providers from the agency seem informed and up-to-date about all the care or treatment you got at home?"
- "In the last 2 months of care, how often did home health providers from this agency treat you as gently as possible?"
- "In the last 2 months of care, how often did home health providers from this agency treat you with courtesy and respect?"
- "In the last 2 months of care, did you have any problems with the care you got through this agency?"

The Communication between Providers and Patients composite is produced by combining responses to six questions that ask:

- "When you first started getting home health care from this agency, did someone from the agency tell you what care and services you would get? "
- "In the last 2 months of care, how often did home health providers from this agency keep you informed about when they would arrive at your home?"
- "In the last 2 months of care, how often did home health providers from this agency explain things in a way that was easy to understand? "

- "In the last 2 months of care, how often did home health providers from this agency listen carefully to you?"
- "In the last 2 months of care, when you contacted this agency's office did you get the help or advice you needed?"
- "When you contacted this agency's office, how long did it take for you to get the help or advice you needed?" {It is converted into a measure of whether the patient got help on the same day – yes/no}

The Specific Care Issues composite is produced by combining responses to seven questions that ask:

- "When you first started getting home health care from this agency, did someone from the agency talk with you about how to set up your home so you can move around safely?"
- "When you started getting home health care from this agency, did someone from the agency ask to see all the prescription and over-the-counter medicines you were taking?"
- "When you started getting home health care from this agency, did someone from the agency ask to see all the prescription and over-the-counter medicines you were taking?"
- "In the last 2 months of care, did you and a home health provider from this agency talk about pain?"
- "In the last 2 months of care, did home health providers from this agency talk with you about the purpose for taking your new or changed prescription medicines?"
- "In the last 2 months of care, did home health providers from the agency talk with you about when to take these medicines?"
- "In the last 2 months of care, did home health providers from this agency talk with you about the side effects of these medicines?"

CMS has started its national implementation of the Home Health Care CAHPS survey, which is conducted by multiple independent survey vendors working under contract with home health agencies. In 2008, CMS, with assistance from its contractor RTI International, developed standardized data collection and data submission tools and procedures for survey vendors when implementing Home Health Care CAHPS on behalf of their home health agency clients. As part of this Home Health Care CAHPS coordination and implementation strategy, RTI conducted a randomized mode experiment to test three modes of data collection that are used on the Home Health Care CAHPS Survey: mail only mode, telephone only mode , and mixed mode (mail with

telephone follow-up of non-respondents). The data collection of the mode experiment concluded in early 2010.

Recruitment and training of survey vendors that apply to become approved Home Health Care CAHPS vendors began in spring 2009. From October 2009 through September 2010, home health agencies could voluntarily conduct ~~(collect monthly data)~~ the Home Health Care CAHPS Survey using an approved HHCAHPS ~~ome Health Care CAHPS~~ survey vendor. Data collection for the national survey of the Home Health Care CAHPS Survey is conducted on an ongoing basis with the intention of publicly reporting the data analyses on Home Health Compare on www.medicare.gov. The only data that will not be publicly reported are~~is~~ the dry run data, collected in the third quarter 2010 (July, August and September 2010).

A.2 Purpose and Use of Information

The national implementation of the Home Health Care CAHPS Survey is designed to collect ongoing data from samples of home health care patients who receive skilled services from Medicare-certified home health agencies. The data collected from the national implementation of the Home Health Care CAHPS Survey will be used for the following purposes:

- to produce comparable data on the patients' perspectives of the care they receive from home health agencies,
- to create incentives for agencies to improve the quality of care they provide through public reporting of survey results, and
- to enhance public accountability in health care by increasing the transparency of the quality of care provided in return for the public investment.

Sampling and data collection is conducted on a monthly basis. Survey results will be analyzed and reported on a quarterly basis, with publicly reported results based on one year's worth of data.

A.3 Use of Improved Information Technology

The national implementation is designed to allow independent survey vendors to administer the Home Health Care CAHPS Survey using mail-only, telephone-only, or mixed (mail with telephone follow-up) modes of survey administration. Experience with previous CAHPS surveys, including the field test of the Home Health Care CAHPS instrument, shows that mail, telephone, and mail with telephone follow-up data collection modes work well for

respondents, vendors, and health care organizations. Any additional forms of information technology, such as web surveys, would not be feasible with this population, many of whom are expected to be ill, elderly, and lack access to the Internet.

A.4 Efforts to Identify Duplication

Some home health agencies already carry out their own patient experience of care surveys. These diverse surveys do not allow for comparisons across home health care agencies. Making comparative performance information available to the public can help consumers make more informed choices when selecting a home health care agency and can create incentives for home health care agencies to improve the care they provide. ~~Vendors/~~Hh~~ome Health Care CAHPS~~ agencies will have the option to add their own questions to the HHCAHPS Survey instrument. core questionnaire. If a home health agency~~/vendor~~ plans to add their own questions, they need to add place them to appear~~them~~ after the core questions (questions 1 - 25). The "About You" section can be placed after the core items or following the home health agency-specific items. CMS has provided guidance to HHAs for adding questions to the HHCAHPS Survey and reminded them to pay ~~If a home health agency/vendor decides to add their own questions, they should pay attention~~ be mindful of ~~to~~ the length of the questionnaire. The longer the questionnaire, the greater the burden is on respondents.

A.5 Involvement of Small Entities

A.5.1 National Implementation

All Medicare-certified home health agencies (HHAs) can voluntarily sponsor a Home Health Care CAHPS Survey, including the many small home health care agencies. However, if they choose to participate in the CMS national implementation, agencies must contract with a survey vendor that has been approved by CMS. These approved survey vendors may include small survey firms. Survey respondents will be adult home health care patients who receive skilled home health care from Medicare and/or Medicaid~~regardless of payer (i.e., including Medicare, Medicaid, and private payers)~~. Each month, each HHA sponsoring a Home Health Care CAHPS Survey must prepare and submit to its survey vendor a file containing patient data on patients served the preceding month that will be used by the survey vendor to select the sample and field the survey. This file (essentially the sampling frame) for most home health

agencies can be generated from existing databases with minimal effort. ~~For some small HHAs, preparation of a monthly sample frame may require more time.~~ Data~~However, data~~ elements needed on the sample frame are ~~will be~~ kept at a minimum to reduce the burden on all home health agencies.

The survey instrument and procedures for completing the instrument are designed to minimize burden on all respondents. No significant burden is expected for small agencies beyond providing their contracted vendor with a monthly file of patients served.

A.6 Consequences If Information is Collected Less Frequently

So that home health patients can assess the home health care they receive as soon as possible after a home health care visit, CMS requires that participating home health agencies provide a sample frame consisting of patients who received at least one home health visit during the sample month to their survey vendor on a monthly basis. Vendors in turn, are required to initiate the data collection from patients within 3 weeks after the sample month closes. Respondent burden is increased and the recall factor becomes a problem if patients are asked to recall their care experiences after longer lapses of time. Monthly sampling and continuous data collection (beginning ~~to~~ survey data collection ~~surveying~~ ~~the sample~~ within 3 weeks after the sample window closes) reduces the amount of time between when patients receive home health care and when they are surveyed. Respondent recall, especially with home health patients, will be enhanced, thus improving the quality of survey data and results. For this reason, CMS does not believe that a less frequent data collection period will result in the most accurate and complete data for public reporting and quality monitoring purposes. While data collection is completed by vendors on a monthly basis, data are~~is~~ submitted on a quarterly basis.

A.7 Special Circumstances

Some home health patients have chronic conditions which require long-term home health care. To reduce respondent burden, CMS proposes that home health care patients not be eligible for the survey more than once during a 6-month period.

A.8 Federal Register Notice and Outside Consultations

A.8.1 Federal Register Notice

~~***Appendix B*** includes the text of the notice of this implementation in the Federal Register published for 60-day comment on January 9, 2009. Twenty three comments were received. The Home Health Care CAHPS Survey was initially discussed in the May 4, 2007, Federal Register (72 Fed.Reg. 25356, 25452). A copy of that notice is included as ***Appendix C***.~~

In the Home Health Prospective Payment System Rate Update for Calendar Year 2011; Changes in Certification Requirements for Home Health Agencies and Hospices; Final Rule, November 17, 2010, CMS maintained the existing policy stated in the CY 2010 Final Rule, that the HHCAHPS is linked to the pay-for-reporting requirements affecting the home health annual payment update in CY 2012. The mandatory period of data collection for the CY 2012 PU includes the dry run data in the third quarter 2010, data from the fourth quarter 2010, and data from the first quarter 2011. These periods (a dry run in third quarter 2010, and 6 months of data from October 2010 through March 2011) have been deliberately chosen to comprise the HHCAHPS reporting requirements for the CY 2012 APU because they coincide with the OASIS-C reporting requirements that are due by June 30, 2011 for the CY 2012 APU.

For the CY 2013 APU, CMS~~we will begin to~~ will require that four quarters of data for HHCAHPS be collected and reported. The data collection period would include second quarter 2011 through first quarter 2012. We will exempt home health agencies from HHCAHPS if they served 59 or fewer HHCAHPS patients between April 1, 2010 and March 31, 2011. Beginning with the CY 2013 APU, we will be requiring that all HHCAHPS approved survey vendors affirm at their oversight review, that they do not provide direct home health care services to the patients of the home health agencies to which they are or will be contracting to conduct HHCAHPS on behalf of these agencies. If an approved HHCAHPS survey vendor is found to have falsified its affirmation, then that vendor will be removed from the approved list of HHAPS vendors. For those agencies contracting with a vendor that is removed from the approved list, we will allow affected agencies to transfer to another approved HHCAHPS vendor. We codified the HHCAHPS vendor requirements in §484.250 (c).

A.8.2—Outside Consultations

AHRQ was responsible for the development and testing of the Home Health Care CAHPS Survey. As the lead agency, AHRQ worked with three grantee organizations to develop and test the survey instrument: the American Institutes for Research, the Yale/Harvard team, and RAND. An additional contractor, Westat, also participated in a supporting role. During the survey instrument development phase, AHRQ also consulted with a range of outside organizations and individuals representing state and federal government agencies and non-profit and private sector organizations. AHRQ convened technical expert panels on February 8, 2007, and July 15, 2008. Panel members for the instrument development included representatives from the following organizations:

- AARP (American Association of Retired Persons)
- Abt Associates Inc.
- American Academy of Home Health Care Physicians
- American Association for Homecare
- American Association of Homes and Services for the Aging
- American Hospital Association
- American Occupational Therapy Association
- American Physical Therapy Association
- American Speech-Language-Hearing Association
- Maryland Health Care Commission
- National Association for Home Care & Hospice
- National Center for Health Statistics, Centers for Disease Control and Prevention (CDC)
- National Quality Forum
- Paraprofessional Healthcare Institute
- Professional Healthcare Resources, Inc.
- Quality Insights of Pennsylvania
- Quality Partners of Rhode Island
- Veterans Health Administration
- Visiting Nurse Associations of America (VNAA)

For the national implementation, CMS has worked with RTI International, a contractor operating in the role of implementation coordinator. RTI is responsible for developing the

protocols required to ensure standardized administration of the Home Health Care CAHPS Survey, recruiting survey vendors, and working with CMS to train multiple independent survey vendors, providing oversight of the approved vendors, and receiving and processing Home Health Care CAHPS Survey data collected and submitted by survey vendors. On the official website (https://homehealthcahps.org), all of the information about HHCAHPS is posted and updated on a daily basis. There are currently about 40 approved HHCAHPS survey vendors. RTI analyzed the data from the mode experiment to determine the mode adjustment and the patient-mix adjustment model. During the national implementation, RTI adjusts the data for mode of survey administration, patient mix and non-response and provide comparative results for public reporting.

In addition, RTI ~~has~~ convened a technical expert panel composed of representatives from the home health industry, consumer advocacy organizations, the government, and research organizations. Members of the committee ~~have~~ provided guidance to RTI on the development of the design for the mode experiment and plans for the national implementation. RTI, CMS, and members of the technical expert panel met on February 21, April 15, and June 19, 2008.

The technical expert panel members who provided input and guidance to RTI for the national implementation represent the following organizations:

- AARP (American Association of Retired Persons)
- American Association of Homes and Services for the Aged
- Center for Medicare Advocacy, Inc.
- Consumer Coalition for Quality Health Care
- Health Services Advisory Group
- Independent Consultant, formerly of AHRQ
- National Association for Home Health Care and Hospice
- RAND
- Service Employees International Union
- Visiting Nurse Service of New York

A.9 Payments/Gifts to Respondents

No payments or gifts will be provided to respondents.

A.10 Assurance of Confidentiality

Individuals and organizations will be assured of the confidentiality of their replies under Section 934(c) of the Public Health Service Act, 42 USC 299c-3(c). They will be told the purposes for which the information is collected and that, in accordance with this statute, any identifiable information about them will not be used or disclosed for any other purpose.

Individuals and organizations contacted will be further assured of the confidentiality of their replies under 42 U.S.C. 1306, 20 CFR 401 and 4225 U.S.C.552a (Privacy Act of 1974), and OMB Circular No.A-130. In instances where respondent identity is needed, the information collection will fully comply with all respects of the Privacy Act.

~~For the mode experiment, RTI will include an assurance of confidentiality of the data in the mail survey cover letters and in the interview introductory script that will be used in interviews with sampled patients included in the phone-only data collection mode and in the telephone follow-up with sample patients in the mixed-mode sample (the mail survey cover letters and the telephone interview introductory script are included in ***Appendices D*** and ***E***, respectively).~~

~~RTI understands the privacy and confidentiality concerns regarding access to Home Health Care CAHPS Survey data. All RTI staff members who will have access to patient information will be required to sign and abide by the terms of a nondisclosure agreement, where they agree to protect the identity of patients included in the mode experiment and the data they provide. RTI has redundant security protocols to protect data and computer systems. Servers are maintained in climate-controlled environments, with restricted access. A firewall stands between the internal systems and the Internet, requiring authentication of all users requesting access. User identification and passwords are unique and changed on a regular basis. Full backups are conducted on a weekly basis, with incremental backups performed nightly. Copies of backup materials are stored offsite in a secure location in case of system failure.~~

~~RTI received a Defense Security Service rating of "Superior" for the physical security of its research center. As data are collected and assembled into databases for analysis and interpretation, RTI incorporates a number of database security safeguards to protect data from~~

~~accidental or intentional access and disclosure threats. RTI's data collection and storage security measures include the following:~~

- ~~Maintenance of all servers in RTI's environmentally controlled Computer Center, where computers are located in a center constructed of masonry with an automatically locking steel door that is locked at all times; fire protection is provided by a halon system with all servers having an Uninterruptible Power Supply.~~
- ~~User ID and password authentication to access all systems. Where appropriate, systems are configured to support the use of Digital Security Certificates for additional user authentication.~~
- ~~Encrypted transmission of data.~~
- ~~Use of Transport Layer Security, the successor technology to Secure Socket Layer for encryption of data across the Internet.~~
- ~~Connection to the Internet by an Internet firewall via a high-speed T2 (6.2 MBs) line. In the event of a failure, a T1 (1.544 MBs) backup will automatically provide uninterrupted Internet connectivity. Subscription to virus-protection services from McAfee VirusScan with automated update of virus signature files on all computers.~~
- ~~Redundant servers with automatic switchover to ensure 24/7 availability.~~
- ~~Daily incremental backups of all data files, with full backups created weekly.~~
- ~~Offsite storage of data backups.~~

For the national implementation, survey vendors ~~will~~ submit only de-identified survey data to RTI for analysis.

Survey vendors approved to conduct a Home Health Care CAHPS survey for HHAs participating in the national implementation are~~will be~~ required to have systems and methods in place to protect the identity of sampled patients and the confidential nature of the data that they provide. CMS and its contractor (RTI) have plans to review ~~will review~~ each approved Home Health Care CAHPS Survey vendor's data security systems in person during periodic site visits during the national implementation.

A.11 Questions of a Sensitive Nature

There are no questions of a sensitive nature in this survey.

A.12 Estimates of Annualized Burden Hours and Costs

The estimated annual hour burden is as follows:

The length of the survey estimate of .20 hours (12 minutes) is based on the written length of the survey and AHRQ's experience conducting the field test with a sample of home health patients. It is also based on RTI's experience conducting other surveys of similar length and complexity.

Estimated annualized burden hours and costs for the national implementation of the Home Health Care CAHPS Survey are shown in Exhibits 1 and 2. These estimates assume that 9,000 home health agencies (the universe of Medicare-certified agencies) will sponsor a Home Health Care CAHPS Survey and that 300 patients sampled from each agency will complete the survey. Not all agencies will participate in national implementation so we have estimated the maximum burden possible.

The Bureau of Labor Statistics reported the average hourly wage for civilian workers in the United States was $19.29 in June 2006. An estimate of $20 per hours allows for inflation and represents a conservative estimate of the wages of respondents.

Estimated annualized burden hours and costs for the Home Health Care CAHPS mode experiment are shown in Exhibits 3 and 4.

EXHIBIT 1. ESTIMATED ANNUALIZED BURDEN HOURS: NATIONAL IMPLEMENTATION OF THE HOME HEALTH CARE CAHPS SURVEY

Form name	Number of respondents	Number of responses per respondent	Hours per response	Total burden hours
Home Health Care CAHPS Survey (mail only, telephone only and mail with telephone follow-up data collection modes)	2,700,000	1	.20	540,000
Total	2,700,000	1	.20	540,000

EXHIBIT 2. ESTIMATED ANNUALIZED COST BURDEN: NATIONAL IMPLEMENTATION

Form name	Number of respondents	Total burden hours	Average hourly wage rate*	Total cost burden
Home Health Care CAHPS Survey (mail only, telephone only and mail with telephone follow-up data collection modes)	2,700,000	540,000	$20.00	$10,800,000
Total	2,700,000	540,000	$20.00	$10,800,000

*Based on average wages, "National Compensation Survey: Occupational Wages in the United States, June 2006," U.S. Department of Labor, Bureau of Labor Statistics (http://www.bls.gov/ncs/home.htm; last viewed August 27, 2007).

A.13 Estimates of Annualized Respondent Capital and Maintenance Costs

Capital and maintenance costs include the purchase of equipment, computers or computer software or services, or storage facilities for records, as a result of complying with this data collection.

There are no direct costs to respondents other than their time to participate in the survey.

In the Home Health Prospective Payment System (HH PPS) Rate Update for CY 2010 Final Rule (74 FR 58078), CMS expanded the home health quality measure reporting requirements for Medicare-certified agencies to include the CAHPS® Home Health CAHPS (HHCAHPS) Survey for the CY 2012 annual payment update (APU). CMS maintained this policy in the HH PPS Rate Update in the CY 2011 Final Rule (75 FR 70404) published on November 17, 2010, and moved forward with plans to have HHCAHPS linkage to the pay-for-reporting (P4R) requirements affecting the HH PPS rate update for CY 2012. The precedence for this was in ~~In~~ the 2011 Home Health Prospective Payment System Rule, Section 484.250, Patient Assessment Data, it is ~~will~~ required that an HHA ~~to~~ submit to CMS~~,~~ HHCAHPS data in order for CMS to administer the payment rate methodologies described in §§ 484.215, 484.230, and 484.235. The burden associated with this is the time and effort put forth by the HHA to submit the HHCAHPS patient files to their approved HHCAHPS survey vendor. Section 484.255(i) requires the submission of quality measures as specified by the Secretary. As part of this requirement, each HHA sponsoring a Home Health Care CAHPS (HHCAHPS) Survey must prepare and submit to its survey vendor a file containing patient data on patients served the

preceding month that will be used by the survey vendor to select the sample and field the survey. This file (essentially the sampling frame) for most home health agencies can be generated from existing databases with minimal effort. For some small HHAs, preparation of a monthly sample frame may require more time. However, data elements needed on the sample frame will be kept at a minimum to reduce the burden on all HHAs. The burden associated with this requirement is the time and effort put forth by the HHA to prepare and submit the file containing patient data on patients. The survey instrument and procedures for completing the instrument are designed to minimize burden on all respondents. No significant burden is anticipated for small agencies beyond providing their contracted vendor with a monthly file of patients served. V~~For v~~ery small HHAs serving less than 60 eligible patients in an annual period are not required to do HHCAHPS.~~, these agencies have been informed to file an exemption form on the website (www.hhcahpsonline.org).~~

We have determined that the provision of the monthly file will take 16.0 hours for each HHA. It is noted that about 88% of all HHAs (9,890 HHAs of a total of about 11,300 Medicare-certified HHAs) could potentially be conducting HHCAHPS, since about 12% of HHAs will be exempt from conducting HHCAHPS because they have less than 60 eligible patients in the year, or they elect not to do the survey. Therefore, if every eligible HHA (9,890) conducted HHCAHPS, the burden would be 9,8998~~8~~0 times 16 hours, equaling a total of 158,240 hours. The average cost to contract with an approved HHCAHPS survey vendor annually is $4,000. Therefore, if all 9,8998~~8~~0 HHAs contracted with a survey vendor for HHCAHPS, it would be 9,8998~~8~~0 times $4,000 equals a total of $39,920,000 if all of the 9,890 HHAs participated in HHCAHPS.

A.14 Estimates of Annualized Cost to the Government

The total cost for the contracted service will be $1,836,155~~665,634~~ for period of September 15, 2010 through September 14, 2011, for~~the upcoming survey for~~ labor hours, materials and supplies, overhead, and general and administrative costs and fees. The cost for CMS staff to oversee the project is $100,000, including benefits, for a total 1-year project cost of $1,765,634. The contracted service costs include the funding of work to accomplish ~~approximately $942,869 for~~ the development of systems, protocols, and materials to manage the HHCAHPS national implementation, as well as funding the~~and $1,665,634 for~~ training, technical

assistance, oversight of HHCAHPS vendors participating in the ~~first year of~~ data collection and data analysis.

A.15 Changes in Hour Burden

None.

A.16 Time Schedule, Publication, and Analysis Plans

A.16.1 National Implementation of Home Health Care CAHPS

Data collection for the national implementation of Home Health Care CAHPS survey began in fall~~summer~~ 2009 for agencies that ~~by vendors sponsored by home health agencies that~~ wished to voluntarily participate in the survey. Sampling and data collection is conducted on an ongoing basis by survey vendors working under contract with the sponsoring home health agencies. CMS will begin publishing results from the national implementation of Home Health Care CAHPS survey on Home Health Compare located on www.medicare.gov ~~the Medicare.gov website~~ when HHAs have four quarters of data available for reporting. Currently, Home Health Compare ~~has~~currently posts measures derived from OASIS data ~~posted there~~. ~~When~~CMS will post measures derived from HHCAHPS data ~~is available to be posted, then it will join OASIS data as the~~ to provide additional quality data for use~~all to use~~. The HHCAHPS s~~S~~urvey vendors will submit data to CMS' Home Health Care CAHPS Data Center (maintained and operated by RTI) on a monthly or quarterly basis; however, results that will be posted on www.medicare.gov (Home Health Compare) will reflect one year's worth of data. For ~~In~~ each quarter of HHCAHPS data, RTI will adjust the data for mode of survey administration, patient mix, and non-response~~,~~ ~~if~~ as necessary. The results posted on Home Health Compare, on www.medicare.gov, will reflect data collected in the four most recent quarters (with data from the earliest quarter replaced by the current quarter).

A.16.1a National Implementation Analysis

Analysis for the national implementation will focus on making appropriate adjustments for ~~mode and/or~~ patient mix~~;~~. ~~as mode has been determined to not be a significant factor in influencing scores on HHCAHPS.~~ To analyze the mode experiment data, RTI project staff performed a total of 19 patient-level regression models, accounting for mode assignment, demographic, health, and health system characteristics. ~~b~~After examining findings across all

regression analyses, project staff developed decision rules to guide selection of potential candidate adjusters for use in impact analyses. ~~b~~After considering the results from the impact analyses, specific patient characteristics, including age, education, self-reported mental/emotional health status, proxy status, primary language spoken at home, whether a patient lived alone, the number of deficits in activities of daily living, and two mental health-related diagnoses were considered to have the strongest evidence for use as patient mix adjusters. Differences according to mode have not been statistically significant in analyses on HHCAHPS scores to date. Also, ~~I~~insufficient evidence was found by RTI for making adjustments based on response mode.

~~needed depending on the outcomes of the mode experiment.~~

The data collected each month during the national implementation phase will be transmitted quarterly to the HHCAHPS Data Center at RTI~~to RTI~~. Four quarters of data will be aggregated and analyzed for ~~these~~ adjustment purposes. Each quarter, the oldest quarter of data~~t~~~~data~~ will be dropped and the newest quarter of data will be added. For each item to be reported, a mean or percentage of patients choosing a particular response will be computed. The following paragraphs describe~~s~~ how the results will be computed~~of the model that will be developed as part of the mode experiment, which is described in Section A.16.2, will be applied in adjusting the raw observed national survey data to remove the influences of factors not related to the care provided (and, hence, need to be adjusted prior to public reporting of comparative results from individual home health agencies).~~

A model, estimated using a linear or linear probability approach, can be conceptualized as having the predictive form for a specific HHA_i, as shown in Equation~~s~~ 1~~a and 1b~~ below.

~~Equation 1a~~

~~$Mean\ response_i = a*patient\ characteristics_i + b*mode_i + bc*HHA_i$~~

~~or~~

Equation 1~~b~~

*% with response of interest$_i$ = a*patient characteristics$_i$ ~~+ b*mode$_i$~~ + bc*HHA$_i$*

~~Although the model will be estimated on individuals, it will be applied at the HHA level,~~ where *a*patient characteristics$_i$* represents the list of estimated coefficients multiplied by ~~the percentage of~~each patient's~~ value on the given characteristic in *HHA$_i$* with each of the characteristics or the mean of each characteristic~~; ~~*b*mode$_i$* is the list of coefficients for each mode multiplied by the percentage of patients with that mode;~~ and ~~*c*~~*b*HHA$_i$* is list of coefficients multiplied by ~~the percentage of patients in that~~ dummy variables for each respective HHA ~~(~~i.e., agency fixed effects) with one HHA omitted to serve as a reference group. The model will be estimated at the individual level.

~~In the national implementation, a home health agency can choose to use one of three data collection modes—mail, telephone, or mixed mode (i.e., mail with telephone follow-up). During any one quarter, one mode will have a value of 100% and the others 0%. It is possible that modeling will indicate that, in the case of the mixed mode, the actual response mode should be indicated. In this case, such an HHA could have a percentage in each mode. To transform the estimation equation to an~~After estimation of patient mix effects using regression analysis, adjustment factors for use in adjusting the raw score of *HHA$_i$* on the CAHPS measure of interest are the oppositely signed regression coefficients for each patient mix characteristic in Equation 1. The value of the coefficients for the patient characteristics will be determined quarterly using all of the data collected for the particular reporting period with quarterly adjustment factors derived from the latest estimated coefficients.

The total patient mix adjustment for a given CAHPS measure for *HHA$_i$* is the sum of a series of products in Equation 2 below, where each product multiplies the adjustment factor by the deviation of the agency's mean on a given patient mix characteristic from the national mean on that characteristic:

~~adjustment equation, all the HHA fixed-effects terms will be dropped. For each HHA, Equation 1b, for example, becomes~~

Equation 2

$$y' = y + a1(h1-m1) + a2(h2-m2) + a3(h3-m3) + \ldots + a16(h16-m16)$$

where

y′ is the agency's adjusted score for the respective CAHPS measure

y is the agency mean on the respective unadjusted CAHPS measure

a1 to a16 are the individual-level patient mix adjustment factors

h1to h16 are the agency's mean proportions of patients having each of the patient characteristics

m1 to m16 are the national mean proportions for each of the patient characteristics across the agencies participating in HHCAHPS.

~~*Adjustment for % with response of interest$_i$ = – a*patient characteristics$_i$ – b*mode$_i$*~~

~~The estimated coefficients in the *a* and *b* lists may be positive or negative in the estimation; positive coefficients become negative adjustments and negative coefficients become positive adjustments.~~

~~The value of the coefficients for the patient characteristics will be determined quarterly using all of the data collected for the particular reporting period. The regression equation for the adjustment model will have the mode coefficients fixed and the patient-mix coefficients estimated.~~

~~In the next step, the adjustment in Equation 2 will be normalized so that it is relative to a patient whose characteristics are at the means of those characteristics in the national implementation using one year of data. When the equations are estimated, each patient characteristic factor with a 1/0 value has a coefficient magnitude representing an impact of having the characteristic (variable = 1) compared to a reference group indicated by a variable that has been intentionally omitted from the equation during estimation. The omitted group is one of convenience for interpretation. In normalization, the adjustments are converted so that they are relative to the mean of the patient characteristics of the sample. To do this, the percentages (or means) for each characteristic for the entire Home Health Care CAHPS Survey are subtracted from the percentages or means for each of the patient characteristics specific to~~

~~each HHA; the normalized patient characteristic in Equation 3 is the difference: HHA mean (or percentage) of the characteristic minus the national mean (or percentage) of the characteristic.~~

~~Equation 3~~

~~*Normalized Adjustment for % with response of interest$_i$ = – a*normalized patient characteristics$_i$ – b* mode$_i$*~~

~~Since Equation 3 is an adjustment and not a final value for the percentage with the response of interest, one more step is needed to arrive at the adjusted response, as shown in Equation 4.~~

~~Equation 4~~

~~*Adjusted % with response = raw % with response – a*normalized patient characteristics$_i$ – b* mode$_i$*~~

~~The form of the adjustment is similar when the dependent variable is treated as a continuous variable from 1 to 10 or from 1 to 4.~~

A.16.1b Individual-Level Estimation and Adjustment

The formulations for the equations above assume that linear models are being used in the model estimation phase. If the linear approximation is not deemed satisfactory, nonlinear probability models such as logit will be needed.