OMB Approval No.
0938-0786

EQR PROTOCOL 5 VALIDATION AND IMPLEMENTATION OF SURVEYS

A Voluntary Protocol for External Quality Review (EQR)

Protocol 1: Assessment of Compliance with Medicaid Managed Care Regulations
Protocol 2: Validation of Measures Reported by the MCO
Protocol 3: Validation of Performance Improvement Projects (PIPs)
Protocol 4: Validation of Encounter Data Reported by the MCO
Protocol 5: Validation and Implementation of Surveys
Protocol 6: Calculation of Performance Measures
Protocol 7: Implementation of Performance Improvement Projects (PIPs)
Protocol 8: Focused Studies
Appendix V: Information Systems Capabilities Assessment (ISCA)

Department of Health and Human Services (HHS)
Centers for Medicare & Medicaid Services (CMS)

Protocol 5
Version 2.0

September 2012

TABLE OF CONTENTS

PURPOSE AND OVERVIEW OF THE PROTOCOL

This voluntary protocol provides procedures for the administration or validation of managed care enrollee and other health care consumer surveys. The protocol is also applicable to surveys of other groups such as beneficiaries and providers. The instructions are intended for EQROs, States, and other external quality reviewers. Because the protocol may be used for a variety of purposes, no specific survey instrument, sampling method, or approach to analysis and reporting is recommended. However, the protocol does provide specific information about the Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys and reporting formats, which have been developed by the Agency for Healthcare Research and Quality (AHRQ) in collaboration with the CAHPS Consortium. States frequently use CAHPS surveys to evaluate Medicaid beneficiaries' experiences with managed care.

The protocol assumes the State has determined, independently, or in consultation with the EQRO, the survey:

1. Goals and objectives;
2. Instrument (i.e., questionnaire); and
3. Intended audience(s) for findings.

The protocol includes the following eight activities:

1. Identify survey purpose(s), objective(s) and intended use;
2. Select the survey instrument;
3. Develop the sampling plan;
4. Develop a strategy for maximizing the response rate;
5. Develop a quality assurance plan;
6. Implement the survey;
7. Prepare and analyze the data obtained from the survey; and
8. Document the survey process and results.

The survey must be designed and administered to produce valid and reliable information. Validity refers to the degree to which the information is what was intended to be measured. Reliability refers to: 1) the internal consistency of a survey, and 2) the reproducibility of survey results when the survey is administered under different conditions (e.g., by different people, or at different times). This protocol also contains information about validating results of a completed survey. The EQRO should use a worksheet such as that found in Attachment A to document activities. Please note that the Attachment A worksheet only provides examples of the first three activities; it does not outline validation steps for all eight activities listed in this protocol. Information for the remaining five activities is provided throughout this Protocol.

ACTIVITY 1: IDENTIFY SURVEY PURPOSE(S), OBJECTIVE(S) AND INTENDED USE

In order to develop the survey, the EQRO must determine the survey's purpose, objective, and intended use. Therefore, the EQRO should request the State provide answers to the following questions:

- "What does the State want to learn from the survey?"
- "What does the State plan to do with the survey results?"

Examples of survey purposes include:

- Monitoring and evaluating the quality of care provided to beneficiaries;
- Assisting beneficiaries in choosing among MCOs; and/ or
- Informing quality improvement initiatives.

The State should specify the required level of analysis, including populations or subpopulations, to allow for selection of standardized survey instruments. While the EQRO must collect data on individual MCOs, these data may also be used to analyze provider groups or the State's entire managed care program depending upon what the State is interested in knowing. The State should provide concise, explicit, and measurable survey objectives. For example, if the purpose of the survey is to identify how satisfied managed care enrollees are with their health care, specific objectives might include determining if individual MCO enrollees are:

- Satisfied with their access to specialty care;
- Involved in planning for their own treatment; and
- Satisfied with the quality of their interactions with their primary care provider.

The State should specify how it intends to use survey results, since intended use and audience will affect the format of the report(s) the EQRO must prepare. Such audiences and uses could include the following:

- Beneficiaries and their families choosing between fee-for-service (FFS) and MCOs or among MCOs. Increasingly, consumers rely on survey information to inform their choice of healthcare options. This requires the survey design to allow for MCO - to - MCO comparisons.
- MCO managers and providers identifying areas of superior health service delivery as well as areas needing improvement. The State will need to develop a policy specifying whether the MCO may receive individual enrollee survey results or a summary, and determine if MCO-level results will compromise confidentiality.
- State policy makers monitoring how beneficiaries perceive the care they receive under the State's managed care initiative. In this case, the survey analysis would need to provide information on the State's managed care initiative as a whole, on the individual MCO, and may need to consider a comparison to the FFS or Primary Care Case Management (PCCM) System.

ACTIVITY 2: SELECT THE SURVEY INSTRUMENT

The State may choose the survey instrument independently or in consultation with the EQRO. There are three approaches to selecting a survey instrument:

1. Use an existing instrument such as the CAHPS survey;
2. Adapt an existing instrument with additional State-specific supplemental questions; or
3. Develop a new instrument.

The State's choice should be consistent with the survey purposes, objectives and units of analysis and should promote the collection of reliable and valid data. The CAHPS survey instruments and reporting formats have undergone rigorous testing for reliability and validity, including focus group interviewing, cognitive interviewing, and field-testing. CAHPS also provides for the addition of MCO or State-specific questions. As these standardized instruments are used nationally, national and regional benchmarks are available for comparison.

Should the State choose to modify an existing instrument or develop one of its own, it should establish face and content validity and pre-test the tool for reliability. The State can assess face and content validity by convening one or more focus groups that include targeted survey respondents and individuals with subject matter expertise. The State can assess reliability using the test-retest method in which the survey is administered to the same group at two different times. A correlation coefficient is calculated and indicates the reproducibility of results. Correlation coefficients with r-values at or above 0.70 indicate good reliability.

Option 1: Use Existing, Validated Survey Instruments

Due to the costs associated with developing and testing a new survey instrument, the State should use an existing survey instrument whenever possible; especially one that has undergone strong reliability and validity testing, such as CAHPS. CAHPS testing included cognitive testing during the development and evaluation phases, calculation of reliability estimates in a sample of Medicaid enrollees and private health insurance purchasers, and convening of focus groups to test relevance of survey concepts and items. In addition, the validated CAHPS surveys include a free, easy-to-use CAHPS Survey and Reporting Kit. The kit contains a set of mail and telephone survey questionnaires including Spanish language versions and supplement item sets for the Adult and Child surveys. The kit covers a variety of topics of potential interest to the State or MCO, sample reporting formats, and a handbook with step-by-step instructions for sampling, administration, analysis, and reporting. The handbook's instructions are easy to understand and allow for flexibility within the sample and analysis design. The handbook includes a comprehensive, statistical software package and a telephone number and e-mail address for the technical assistance hotline.

The State can select from a wide variety of other questionnaires. The State should question an existing instrument's reliability and validity. Even pre-existing, validated survey instruments may not have been validated in a Medicaid or CHIP population. Selection of instruments not validated in the target population may not yield valid or reliable results.

Another advantage of selecting an existing instrument is that use of the same questionnaire, methods, and analysis for surveys of MCOs, populations, and States, allows the State to compare its findings against those of other studies. For example, using the standardized CAHPS survey instruments, methodology, and report formats provides reliable and valid

measures that the State can use to compare performance across MCOs, between MCOs and fee-for-services (FFS) or primary care case management (PCCM), and across States.

When using an existing survey instrument, the EQRO should document the extent of reliability and validity testing of the survey instrument.

Option 2: Adapt Existing Surveys

The State may decide to adapt an existing survey by adding or deleting items, modifying questions, or using only certain groups of questions relevant to the State's survey objectives. Adapting an existing survey is easier if CAHPS is used, as the CAHPS survey instruments have been specifically designed with opportunities to customize the questionnaire by adding questions from a set of optional supplement items, as well as State-designed questions. This has the advantage of providing a validated instrument that allows comparison, while accommodating special questions of particular interest, either to the State, or to each MCO. Most pre-existing questionnaires are not designed to accommodate such modification and require additional testing.

Modifying an existing questionnaire provides the State with the flexibility to add or change the data to be collected while providing many of the advantages of using a pre-existing questionnaire. However, adding, deleting, or modifying questions may undermine the validity and reliability of the questions, as well as the survey overall. Validated questionnaires are tested "as a whole," and modifications can change the focus and purpose of the questionnaire. When a State adapts an existing questionnaire, it should obtain the advice of an individual knowledgeable in survey design (preferably knowledgeable about the original survey) to provide advice on the modification and how to appropriately test for reliability and validity.

Option 3: Develop New Survey Instruments

The State may decide to use or develop a new survey when the purposes and objectives of the study require answers to questions that are not addressed by existing instruments. A well-designed instrument can capture information that is of interest and relevant to the questions under study. However, assuring the reliability and validity of new surveys is costly and time consuming. Without such reliability and validity testing, surveys can have methodological flaws making the results suspect. When developing new EQR survey instruments, the State should involve an expert in survey design and assure testing of the instrument for validity and reliability. In addition to the cost, this approach has the disadvantage of having limited benchmarks for comparison of results.

ACTIVITY 3: DEVELOP THE SAMPLING PLAN

The EQRO should develop a sampling plan that represents all eligible enrollees within the MCO. If using CAHPS, the CAHPS Health Plan Surveys Reporting Kit contains a handbook with step-by-step instructions for sampling. The handbook's instructions are easy to understand and allow for flexibility in the sample and analysis design. The handbook also includes a comprehensive, statistical software package. In addition, HEDIS®[1] CAHPS technical

[1] HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

specifications provide specific instructions for sampling and administration to ensure comparability with other MCO survey results.

Step 1: Identify the Study Population

The EQRO must define the population to be studied (e.g., all Medicaid or CHIP beneficiaries enrolled in an MCO or all children with special health care needs) and the data sources from which to draw the sample (the sampling frame).

Step 2: Determine the Type of Sampling to be Used

There are two basic types of sampling: probability and non-probability Probability sampling is subject to the laws of chance and includes simple random sampling and stratified random sampling of specific populations. Non-probability sampling is based on the decisions of those administering the survey and not on random chance. Because of the risk of biased results and the obstacles to statistical analysis, non-probability sampling is discouraged. For more information, see Appendix II.

ACTIVITY 4: DEVELOP A STRATEGY TO MAXIMIZE THE RESPONSE RATE

The EQRO should develop a strategy for contacting and following up with the sample respondents that will maximize the response rate.

Step 1: Specify the Strategy for Contacting Target Respondents

The EQRO should develop a strategy for locating and contacting the individuals selected in the sample. Mail and telephone surveys are the most practical and widely used data collection modes. Following up by telephone with those who do not respond to a mail survey results in higher response rates than either method alone.

Other frequently used methods are Internet surveys and interactive voice recognition (IVR) surveys. These methods can combine automated and human contact for different aspects of the survey. Internet surveys typically yield low response rates and can be subject to bias resulting from under-coverage and non-response attributed to the lack of Internet or email access for select respondents and households. Initial studies of IVR techniques suggest that further study is necessary before widespread adoption can be feasible. Personal interviews are expensive and are seldom used outside of research environments.

The EQRO should identify the specific data it needs to administer the survey such as:

- Individual's full name;
- Address;
- Home and cell phone numbers;
- E-mail address;
- Date of birth;
- Primary language;
- Name of the individual's MCO; and
- Length of enrollment.

The EQRO should collect as complete information as possible and consider that some information may be verified through the State's eligibility files or the MCOs' enrollee files. The EQRO should document its plans to locate and contact respondents, including sending names in the sample to a telephone number look-up vendor or using a change-of-address database vendor.

The strategy should include steps the EQRO will take if the respondent rates are lower than expected. These steps may include mailing a reminder postcard or second survey, making a follow-up phone call to non-respondents to a mail survey or conducting repeat calls in a telephone survey. The EQRO should track and follow up on the number of respondents that could not be contacted or failed to respond.

Step 2: Maximize the Response Rate

The survey plan should specify the response rate established by the State; procedures for handling missing data; and the methods for calculating response rates. The CAHPS developers suggest that the target response rate for administering CAHPS to Medicaid beneficiaries range from 40 percent to 50 percent. They also recommend that survey vendors focus on strategies that promote high response rates and develop a plan of corrective actions if the response rate falls short of the goal.

Research suggests a number of strategies to improve response rates. These include:

- Including a cover letter that emphasizes survey sponsorship (e.g., on State government letterhead signed by the Agency Director), and includes:
    a. Purpose of the survey;
    b. A guarantee of anonymity and confidentiality;
    c. Selection criteria for participation;
    d. Benefits to the respondent; and
    e. How to return the survey;
- Using personalized correspondence with respondents (e.g., addressing all correspondence to the respondent by name);
- Providing stamped return envelopes using first class postage; and/or
- Using follow-up contacts (e.g., reminder postcards, second mailing of the questionnaire, telephone contact or special postage mailing of a second questionnaire).

The EQRO may need to arrange for translation of surveys and correspondence into languages other than English. Failure to provide surveys in the respondent's primary language may result in excluding vulnerable segments of the population. The State and MCOs should have information about beneficiary language. If this information is not readily available, the EQRO might translate a sentence in the introductory letter into the most common languages in the area, inviting the individual to call for more information or to request a specific translation. During the call, the respondent may request a translated survey, complete the survey over the phone, or schedule a more convenient telephone interview time.

ACTIVITY 5: DEVELOP QUALITY ASSURANCE PLAN

The EQRO should develop a quality assurance plan that includes processes to monitor, evaluate and review all aspects of the survey administration procedure. The purpose of a quality

assurance plan is to document a strategy of reviews and audits to assure compliance with the appropriate processes.

The quality assurance plan should clearly identify

- Who performs the check;
- What checks are performed;
- How the checks are performed;
- Frequency of these checks;
- Percentage of records that are to be checked, and
- Corrective actions required if issues are identified.

The following checks should be performed during survey administration:

- Sampling—ensure the sampling plan is followed and an initial contact is attempted for every sampled member.
- Mail—review contents of mailing packet, such as cover letter and questionnaire, for accuracy, print smearing, fading, or misalignment.
- Telephone—review training of the interviewers and telephone scripts for accuracy. Monitor live telephone interviews to confirm that interviewers read questions verbatim and accurately capture the response given.
- Internet—review the programming and content for accuracy.
- IVR—review scripts for accuracy and monitor to confirm the script is read verbatim and the system accurately captures the response entered/spoken by the respondent
- Review data entry/capture of returned mail surveys for accuracy.

ACTIVITY 6: IMPLEMENT THE SURVEY

Based on the information obtained in Activities 1, 2, and 3, and the decisions made in Activities 4, 5 and 6, the EQRO should prepare a work plan to govern the implementation of the survey. The work plan should specify routine aspects of project management including key staff and their responsibilities, timelines, and deliverables; how to document each phase of the survey process; and a quality assurance work plan to proactively identify and resolve problems. The work plan should specify the number, format, and content of the reports for submission to the State. The work plan should include a description of any reports that the EQRO will be responsible to publicly release, if this is part of the EQRO's scope of work.

Key methodological issues to be addressed in the work plan include the following:

- Specifications and procedures for formatting, reproducing, and distributing the survey questionnaire;
- Procedures for assuring the confidentiality of the data in compliance with HIPAA regulations;
- Data collection, data entry, and data quality controls;
  The EQRO should determine procedures for handling responses that fail edit checks, treatment of missing data, and procedures for determination of usable/complete surveys. For a survey to be considered "complete," the State or EQRO should establish a pre-determined number of questions that must be answered by the respondent.
- Data analysis plan including statistical methodology;

The EQRO should involve a statistician in developing an analysis plan that supports the State's objectives for the survey.

- Production of data files and their format and delivery;
  If feasible, the EQRO should provide the State with a mock-up of survey results prior to administering the survey. This will help assure that the survey information is consistent with the State's planned use of results.
- Procedures for assessing quality of data collection activities.

The EQRO should obtain State approval of the work plan prior to implementation and implement the survey in accordance with the approved work plan.

ACTIVITY 7: PREPARE AND ANALYZE DATA OBTAINED FROM THE SURVEY

Once the surveys have been completed and returned, the EQRO must prepare the data for, and conduct, the analysis. This includes data quality control procedures (e.g., cleaning and editing), data analysis, and production of data files.

Consistent with the implementation plan, the EQRO should implement procedures for responses that fail edit checks, address missing data, and remove data from surveys determined to be unusable. The EQRO should document the reasons for all exclusions or adjustments of data used for the analysis.

Following the analysis plan, the EQRO should generate frequency distributions for each survey question and calculate statistics, such as measures of central tendency. In addition, the EQRO should examine differences in survey results among MCOs, between MCOs and the FFS or PCCM population, or between MCOs in the State and nation or region. The comparisons should follow the analysis plan approved by the State.

Consistent with the purposes and objectives of the survey, the EQRO could analyze and report on sub- populations within each MCO. For example, the State may be interested in whether responses differ significantly across geographic locations, racial/ethnic groups, socio-economic groups, or other identifiable subgroups.

ACTIVITY 8: DOCUMENT THE SURVEY PROCESS AND RESULTS

Statistical graphs should accompany narrative text to aid comparison and interpretation. For example, bar graphs and comparison charts, such as those recommended by CAHPS, convey important information about the performance of each MCO and indicate meaningful differences among MCOs.

The EQRO should prepare and submit reports in the agreed format documenting the survey process and results, including:

1. Survey purpose and objectives;
2. Survey implementation and analysis (Activities 2 - 7), including challenges encountered, lessons learned, and recommendations for improving future efforts;
3. Data obtained, including raw data files and analyses;
4. Public reports, presentations or web site designs developed for public reporting.
5. Conclusions drawn from the data;

6. A detailed assessment of each MCO's strengths and weaknesses with respect to access, quality, and/or timeliness of health care furnished to enrollees; and
7. Methodologically appropriate, comparative information about all MCOs, as determined by the State.

VALIDATE SURVEYS (OPTIONAL)

This is a voluntary activity used to assess the methodological soundness of a completed survey. Many MCOs contract with NCQA-certified survey vendors to conduct CAHPS 4.0H surveys following a standardized protocol. The State may rely on such surveys without further validation. However, some MCOs, States, and local healthcare collaboratives conduct or sponsor surveys using other instruments or methods. The State needs assurance that the results of these other surveys are valid and reliable.

The activities in this protocol focus on a review of survey procedures. They do not include collecting survey data anew from the initial survey respondents to verify their responses.

The protocol specifies seven activities the EQRO should follow to assess the methodological soundness of a completed survey:

1. Review survey purpose(s) and objective(s) and intended use.
2. Assess the reliability and validity of the survey instrument.
3. Assess the sampling plan.
4. Assess the adequacy of the response rate.
5. Assess implementation.
6. Review survey data analysis and findings/conclusions.
7. Document evaluation of survey.

The EQRO should use a worksheet, such as that found in Attachment A, to document its activities. The EQRO should identify documentation that it reviewed the survey procedures and note its findings for each activity listed. The EQRO should document the absence of documentation for a particular activity because that is relevant to the EQRO's assessment of survey validity.

Step 1: Review Survey Purpose(s), Objective(s) and Intended Use

The State, MCO or a health care collaborative may have conducted a survey prior to the EQRO's engagement. To understand and evaluate the adequacy of the prior survey to assess access, timeliness, or quality of care, the EQRO should communicate with the entity(ies) that sponsored or administered the survey to understand the survey's purpose(s), objective(s), and intended use. See Part 1, Activity 1 for more information about defining the survey purpose and intended use.

Step 2: Assess the Reliability and Validity of the Survey Instrument

A survey may have been administered using:

- A pre-existing, validated survey instrument;
- An adaptation of a pre-existing instrument with additional State-specific supplemental questions; or
- A new instrument developed specifically for the particular survey under review

The EQRO should review the evidence about the reliability and validity testing of any survey instrument used. The EQRO need not conduct independent validity and reliability testing of the survey instrument; however, it should evaluate whether such testing was done. The EQRO should consider the adequacy of the survey's reliability and validity testing in determining whether to rely upon the survey findings to inform its analysis and evaluation of access, quality, and timeliness of health care. (See Part 1, Activity 2 for more information about how States and EQROs ensure the validity and reliability of survey instruments.)

Step 3: Review the Sampling Plan

The EQRO should assess the sample plan documentation for the following:

- Definition of the study population;
- Specifications for the sample frame;
- Type of sampling used;
- Adequacy of the sample size; and
- Sample selection procedures.

The level of detail involved in this review requires that the EQRO use professional statisticians. The EQRO must evaluate whether the sample selected was sufficiently representative of the study population for the EQRO to have confidence in the survey findings. (See Part 1, Activity 3 and Appendix B for more information about sampling.)

Identify the Study Population

The EQRO should document what population the survey was designed to study (e.g., all Medicaid or CHIP beneficiaries enrolled in MCOs, or all children with special health care needs). A good sample is representative of the population to be studied in terms of characteristics that could be associated with differences in survey results (e.g., race, age, MCO affiliation).

Review The Sample Frame

Once the EQRO understands how the target population was defined, it must assess the construction of the survey's sample frame. The EQRO's objective is to determine whether the sample frame's construction was appropriate to the survey objectives, or if it could bias the survey results.

Review The Type Of Sampling Used

The EQRO should evaluate whether the sampling method used was appropriate to the survey purpose. For more information, see Appendix II.

Review Adequacy of Sample Size

Two factors influence the determination of the appropriate sample size for a survey:

1. The acceptable margin of error; and
2. The confidence levels.

The EQRO should determine an acceptable margin of error for the survey results in relation to the States need to assess access, timeliness, or quality of care. The EQRO should determine whether the sample size was appropriate for the survey's original purpose, as well as its

adequacy to inform the EQRO's current quality review efforts. The sample size should be determined by a statistical software program or a statistician. See Step 5 for more information on determining an appropriate sample size.

Review The Sample Selection Procedures
The EQRO should review the sample selection procedures including reviewing the statistical program or other process used to generate the sample. The EQRO should determine the extent to which the selection of sample members was conducted to protect against bias.

Step 4: Review the Adequacy of the Response Rate

The EQRO should assess the response rate, whether the survey employed a reasonable method for calculating the response rate, potential sources of non-response and bias, and the extent to which the response rate weakens or strengthens the generalizeability of the survey findings. The EQRO should consider national standards for acceptable survey response rates in evaluating the response rate achieved. See Part 1, Activity 5 for more information on response rate targets.

Step 5: Review Survey Implementation

The EQRO should review the survey implementation and quality assurance plans and documentation of the survey administration. It should assess whether survey implementation conformed to the plans. The EQRO should specifically consider the following:

- The presence and comprehensiveness of a survey quality assurance plan;
- Problems detected and corrections implemented during the survey process;
- How the survey questionnaire was administered, including formatting and distribution of mailed surveys or scripting and training of telephone surveys;
- Confidentiality procedures followed; and
- Data collection, data entry, and data quality control methods used, including reports of missing data, data that failed edit checks, and incomplete or unusable surveys.

Step 6: Review Survey Data Analysis and Findings/Conclusions

The EQRO should review how the survey data were analyzed, including the statistical procedures used and comparisons made. The EQRO should assess whether the analysis was appropriate to the survey purpose, whether appropriate statistical tests were applied, and how well the survey findings were supported by the data. See Part 1, Activities 7 and 8 for more information about analysis and presentation of survey findings.

Step 7: Document Evaluation of Survey

Using the information obtained from Activities 1 - 6, the EQRO should assess whether the findings can be generalized to the population from which the sample was drawn. The EQRO should document these conclusions and provide written findings on:

- The survey's technical strengths and weaknesses;
- The limitations/generalizeability of survey findings;
- Conclusions drawn from the survey data;

- Assessment of access, quality, and/or timeliness of healthcare furnished to beneficiaries by the MCO if not done as part of the original survey report; and
- Comparative information about all MCOs, as appropriate.

REFERENCES

Agency for Healthcare Research and Quality: CAHPS Overview http://www.cahps.ahrq.gov/content/cahpsOverview/OVER_Program.asp?p=101&s=12, last accessed 11/18/2010.

Babbie, E. “The Practice of Social Research.” 12th Edition. Chapter 9. Wadsworth Publication Company: Belmont, CA. 2010.

Brown, J., Nederend, S., Hays, R., Short, P.F., & Farley, D. “Special Issues in Assessing Care of Medicaid Recipients.” Medical Care. Volume 37, Number 3: MS79-88, MS106-MS115. March 1999.

Cella, D., Hernandez, L., Bonomi, A., Corona, M., Vaquero, M., Shiomoto, G., Baez, L. “Spanish Language Translation and Initial Validation of the Functional Assessment of Cancer Therapy Quality-of-Life Instrument.” Medical Care. Volume 36, Number 9: 1407-1418. 1998.

Converse, P.D., Wolfe, E.W., Huang, X., Oswald, F.L. “Response Rates for Mixed-Mode Surveys Using Mail and E-mail/Web.” American Journal of Evaluation. Volume 29, Number 1: 99-107. 2008.

Dillman, Don A., Sinclair, Michael D., Clark, Jon R. “Effects of Questionnaire Length, Respondent-Friendly Design, and a Difficult Question on Response Rates for Occupant-Addressed Census Mail Surveys”. Public Opinion Quarterly. Volume 57: 289-304. 1993.

Dillman, Don A., Mail and Telephone Surveys: The Total Design Method. New York, A Wiley-Interscience Publication, 1978.

Don A. Dillman, Corresponding Author Contact Information, E-mail The Corresponding Author, Glenn Phelps, Robert Tortora, Karen Swift, Julie Kohrell, Jodi Berck and Benjamin L. Messer. “Response rate and measurement differences in mixed-mode surveys using mail, telephone, interactive voice response (IVR) and the Internet.” Social Science Research. Volume 38, Issue 1. 1-18. March 2009.

Donelan, Karen. “How Surveys Answer A Key Question: Are Consumers Satisfied With Managed Care?” Managed Care, Volume 5, Issue 2: 17-24. February 1996.

Gallagher, P.M., Fowler, F.J., & Stringfellow, V.L. “Respondent Selection by Mail: Obtaining Probability Samples of Health Plan Enrollees.” Medical Care. Volume 37, Number 3: MS50-8. March 1999.

Gold, Marsha & Eden, Jill. “Monitoring Health Care Access Using Population-Based Surveys: Challenges in Today’s Environment, Information for Policymakers.” Methods Brief, August 1998.

Harris-Kojetin, L.D., Fowler, F.J., Brown, J.A., & Sweeney, S.F. “The Use of Cognitive Testing to Develop and Evaluate CAHPS 1.0 Core Survey Items.” CAHPS™ Medical Care. Volume 37, Number 3: MS10-21. March 1999.

Hays, R.D., Shaul, J.A., Williams, V.S.L., Lubalin, J.S., Harris-Kojetin,L., Sweeney, S.F., & Cleary, P.D. “Psychometric Properties of the CAHPS™ 1.0 Survey Measures. Consumer Assessment of Health Plans Study.” Medical Care. Volume 37, Number 3: MS22-31. March 1999.

Heerwegh, D., Loosveeldt, G. “Face-to-face versus web surveying in a high-internet-coverage population.” Public Opinion Quarterly. Volume 72, Number 5: 836-846. 2008.

END OF PROTOCOL