**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**
**CENTERS FOR MEDICARE AND MEDICAID SERVICES**

# DATA COLLECTION FOR THE NURSING HOME VALUE BASED PURCHASING (NHVBP) DEMONSTRATION

## OFFICE OF MANAGEMENT AND BUDGET CLEARANCE PACKAGE SUPPORTING STATEMENT

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# Supporting Statement for Administering the Nursing Home Value Based Purchasing Demonstration Data Collection Approach

## A. BACKGROUND

### A.1 Purpose

The purpose of this report is to transmit the Centers for Medicare and Medicaid Services' (CMS') supporting statement to the Office of Management and Budget (OMB) for the approval of an information collection request under the Paperwork Reduction Act and CFR 1320.6. This information collection request relates to the collection of data from nursing homes for the Nursing Home Value Based Purchasing (NHVBP) Demonstration. The goal of the NHVBP Demonstration is to use financial incentives to improve the quality of care in nursing homes.

The main purpose of the NHVBP data collection effort is to gather information that will enable CMS to determine which nursing homes will be eligible to receive incentive payments under the NHVBP Demonstration. Information will be collected from all nursing homes applying to participate. In addition, information will be collected from nursing homes participating in the demonstration on an ongoing quarterly basis. CMS will collect payroll-based staffing and resident census information to help assess the quality of care in participating nursing homes. CMS will determine which homes qualify for an incentive payment based on their relative performance in terms of quality. CMS will additionally collect data on two measures, staff immunization status and use of resident care experience surveys, which may be included in the payment determination during the second and third years of the demonstration.

### A.2 NHVBP Demonstration

**Overview:**

The NHVBP Demonstration is a CMS "pay-for-performance" initiative to improve the quality of care furnished to Medicare beneficiaries in nursing homes (those that receive Part A benefits as well as those that receive only Part B benefits, many of whom are also eligible for Medicaid). Under this three-year demonstration project, CMS will assess the performance of nursing homes based on selected quality measures, and then make additional payments to those nursing homes that achieve a higher performance based on those measures. In the first year of the demonstration, quality will be assessed based on the following four domains: staffing, appropriate hospitalizations, outcome measures from the minimum data set (MDS), and survey deficiencies. Additional quality measures may be added in the second and third years of the demonstration as deemed appropriate.

CMS will select up to five States to host the demonstration. Hospital-based and free-standing nursing homes in these States may apply to participate. CMS will then select approximately fifty applicants in each State to participate in the demonstration, which will result in a maximum of 250 nursing homes participating in the demonstration. These

nursing homes will be required to submit information on an ongoing quarterly basis over the three years of the demonstration in order to determine their eligibility for incentive payments. An equal number of applicants in each State will be assigned to a control group, but will not be required to provide any information.

CMS estimates that about 1,000 nursing homes will apply for the demonstration. All applicant nursing homes will be required to submit baseline data with their initial applications, as described in greater detail below. These data will allow CMS to assess baseline quality levels, and to identify potential issues with data collection and submission that should be addressed before the start of the demonstration.

The demonstration will be budget neutral to Medicare. CMS anticipates that certain avoidable hospitalizations may be reduced as a result of improvements in quality of care. The reduction of avoidable hospitalizations and subsequent skilled nursing home stays is expected to result in savings to Medicare. These savings will constitute a pool for each State from which we will make the performance payments.

**Demonstration Design:**

Quality Measures:

The quality measures to be used in the demonstration are as follows:

- Staffing Domain: There is considerable evidence of a relationship between nursing home staffing levels, staffing stability, and resident outcomes. Low staffing levels place residents at increased risk of hospitalizations and poor quality outcomes. The demonstration will therefore include three staffing-related measures:

    - RN hours per resident day
    - Total nursing hours per resident day (RN, Licensed Practical Nurse, nurse aide)
    - Turnover percentage for nursing staff

- Appropriate Hospitalizations Domain: Careful management of certain kinds of conditions may reduce the number of hospitalizations that occur. Conditions such as heart failure and urinary tract infections are thought to be manageable if they are treated in a proactive and timely fashion; thus hospitalizations for these conditions are considered to be "potentially avoidable." We will use separate measures of hospitalization rates for long-stay residents and short-stay residents (i.e., those in a Medicare Part A nursing home stay) in the demonstration.

- Minimum Data Set (MDS) Outcomes Domain: A set of measures has been developed from MDS-based indicators to describe the quality of care provided in nursing homes. These measures address a broad range of functioning and health status in multiple care areas. We have selected a subset of these measures for use in the demonstration based on their validity, reliability, statistical performance, and policy considerations:

- Long-Stay Residents
    - Percent of residents whose need for help with daily activities has increased;
    - Percent of residents whose ability to move in and around their room got worse;
    - Percent of high-risk residents who have pressure ulcers;
    - Percent of residents who have had a catheter left in their bladder; and,
    - Percent of residents who were physically restrained.

- Short-Stay Residents

    - Percent of residents with improving level of ADL functioning;
    - Percent of residents who improve status on mid-loss ADL functioning; and,
    - Percent of residents experiencing failure to improve bladder incontinence.

- Survey Deficiencies Domain: The survey deficiency domain includes two types of measures. One will be a screening measure to prevent any nursing home with a serious deficiency or enforcement action on a standard or a complaint survey from receiving an incentive payment. The other will be a deficiency score, where the score will be determined based on the scope and severity of each deficiency and the regulatory areas where the deficiencies occur._

CMS has identified existing data sources on which to base most of these quality measures. All measures included in the MDS outcomes, survey deficiency, and appropriate hospitalization domains can be calculated from existing secondary data sources, such as the MDS, annual nursing home certification surveys, and Medicare claims data.

However, for the staffing domain, no satisfactory alternative source for these data has been identified. The CMS Online Survey Certification and Reporting (OSCAR) system includes information about staffing ratios. But the staffing measures as reported in OSCAR have many limitations: the annual two-week reporting period is too short an interval to produce stable staffing measures; measures of turnover are missing; and information on agency staff hours is not available. Staffing measures are available in Medicaid Cost Reports for some, but not all, States. But Medicaid Cost Reports typically do not report information on turnover or staff retention, and are unavailable for nursing homes that do not accept Medicaid patients. In addition, Medicaid Cost Reports may not be available to CMS on a sufficiently timely basis for the purposes of the demonstration. Therefore, primary data collection is necessary for staffing measures.

Developmental Measures:

CMS also plans to collect data on two “developmental measures” from all applicant nursing homes: staff influenza immunization rates and nursing home use of resident care

experience surveys. We will evaluate these measures for possible future inclusion in the determination of the performance score. If included, these data would be collected on an annual basis from participating nursing homes.

Staff Influenza Immunizations: CMS recently adopted a requirement that, as a condition of participation, long-term care homes must offer all residents annual flu immunizations and at least one pneumococcal vaccination, unless medically contraindicated. Because of inadequate antibody response in the elderly population, however, many nursing home residents continue to be at risk despite influenza vaccination (Potter et al., 1999). Immunization of at least 60 percent of staff in long term care nursing homes has been associated with reducing influenza-like illness and deaths among residents even though vaccination of residents was not associated with significant effects on mortality (Potter et al., 1997; Carman et al., 2000).

These findings suggest that staff influenza immunization is an important measure of quality in nursing homes. However, given the current lack of staff immunization rate data, there is little to guide specification of a performance measure based on staff immunizations. Staff immunization rates will not therefore be used as a performance measure in the first year of the demonstration. However, collection of staff immunization rate data from applicant homes will allow CMS to assess the feasibility of including this performance measure in the second and third year of the NHVBP Demonstration. Strong evidence of a link between staff immunization rates and resident outcomes in participating nursing homes would argue favorably for the future inclusion of such a measure in the demonstration.

Use of Resident Care Experience Surveys: A nursing home with good performance on clinical measures of quality may not necessarily have the most comfortable and satisfied residents. For nursing home residents, satisfaction with the environment, food, and delivery of care may be as important if not more important than clinical outcomes. Performance measures based on resident satisfaction or quality of life may therefore be desirable to include in the demonstration. However, no nationally accepted standard instrument for collecting data on resident care experience currently exists. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) program, sponsored by the Agency for Healthcare Research and Quality (AHRQ) jointly with CMS, is in the process of developing the CAHPS Nursing Home Survey. Development and testing of the CAHPS Nursing Home instrument is ongoing. However, nursing home CAHPS has not been implemented nationally, so data from this instrument are not yet available for this demonstration.

CMS will collect data from applicant nursing homes for the purposes of evaluating a developmental measure that would give credit to nursing homes for the administration and use of resident assessment of care surveys. These data include whether the nursing home collects and monitors resident experience of care annually, and, if so, how the survey data is used by the nursing home. For

example, data from resident assessment of care surveys could be used to inform quality improvement activities, as a measure of nursing home quality of care, to identify strengths and weaknesses, for peer group comparisons, for accreditation purposes, or for other uses. Baseline data collected for the NHVBP Demonstration will be used to research the links between use of resident assessment of care surveys and resident outcomes. If such a correlation is identified, a measure of use of resident care experience surveys may be used in determining performance scores in the second and third year of the demonstration.

Savings Pool:

CMS will randomly assign applicant nursing homes to the demonstration and control groups for each State. The control group will allow CMS to estimate Medicare savings for each State and enable us to evaluate the impact of the demonstration. Within 12 months after the conclusion of each year, CMS will compare certain risk-adjusted Medicare expenditures per resident between the developmental and control groups. Any actual savings will be determined based on the difference in the growth of the risk-adjusted Medicare costs between the two groups.

Performance Payments:

CMS will award points to each nursing home based on how they perform on the quality measures within each of the four domains. Each domain will count towards the nursing home's overall score. The staffing and appropriate hospitalization domains will each count for 30 percent of the total score, and the MDS outcomes and survey deficiencies domains will each count for 20 percent of the total score. In the second and third years of the demonstration, these performance scores may be altered to incorporate measures of staff influenza immunizations and/or use of resident care experience surveys as deemed appropriate.

CMS will determine which nursing homes qualify for a performance payment based on their overall performance scores. Those homes with the highest scores and those that show the most significant improvement in their scores from the prior year will be eligible to receive incentive payments.

## A.3 Data Collection Approach

### Nursing Home Application

All nursing homes interested in participating in the NHVBP Demonstration will be required to complete a 1-page application (see Attachment 1). The application collects basic contact information as well as very limited administrative information (i.e., chain affiliation, whether at least 50 percent of residents are Medicare eligible, and whether the nursing home is a Medicare provider in good standing). Other administrative information needed to stratify the nursing homes prior to random assignment to experimental and control groups (e.g., size, profit status, etc.) is available in CMS' administrative files.

**Data Collection**

This data collection will take place in two phases. In the first phase, baseline information will be collected from all nursing homes applying to participate in the NHVBP Demonstration. Payroll data, resident census, and agency staff hours for the previous quarter must be submitted by these nursing homes, as well as information on staff influenza immunizations and use of resident care experience surveys. Collection of these data will allow CMS to determine baseline quality levels in applicant homes, screen out nursing homes for which the demonstration's data submission requirements are infeasible, help identify nursing homes for future data verification activities, evaluate developmental measures, and identify any remaining data collection issues to be addressed prior to the demonstration's inception.

The second phase of the data collection will include only those nursing homes selected for participation in the NHVBP Demonstration from the pool of initial applicants and assigned to the demonstration group of approximately 250 nursing homes. These nursing homes will submit payroll, census, and agency staff information on a quarterly basis throughout the three-year demonstration. Information on the developmental measures will be required for year 1 of the demonstration, and may be required for years 2 and 3 depending on the evaluation of these measures. The remainder of this section describes the data collection approach in greater detail.

Electronic Reporting of Payroll Information

All nursing homes applying to participate in the NHVBP Demonstration will be required to electronically submit payroll information for the previous quarter to CMS. Each data submission will consist of an Excel or ASCII text file that contains the information necessary to calculate the staffing performance measures. Submitted data will include information on each employee's job category (e.g., RN, LPN, nurse aide) and the hours worked in each pay period during the previous quarter. See Attachment 2 for electronic payroll data submission guidelines and a sample data submission file.

Data Verification

A subset of nursing homes each year will be asked to supply raw payroll data in order to verify the information we receive in their regular electronic submission. Submission of these verification data will not require the type of standardized format and file layout that the quarterly data reports use. While we are requesting "raw" payroll data, nursing homes will still need to encrypt the data to ensure that they do not contain any personal identifiers (name, Social Security number).

We will use a targeted approach to select the sample of nursing homes that will be asked to submit payroll data for verification purposes. We will focus on nursing homes that have aberrant data in their standardized reports (e.g., extremely low or high turnover, large changes relative to the baseline or prior years, aberrant staffing levels or distribution of staff by job category, missing data for some payroll periods, or high rates of errors on individual employee records.) We expect that no more than 25 participating nursing

homes (10 percent of all participants) will be asked to submit raw payroll data for verification purposes each year.

Participating nursing homes will also be instructed to keep copies of the backup information that they used to compile staff immunization information. If CMS decides to include this measure in year 2 of the demonstration, we will ask up to 10 percent of the participants to submit this backup information for verification purposes each year of the demonstration.

Other Data to be Collected

CMS will collect additional information not included in the electronically submitted payroll data via a supplementary data collection form. Applicants to the NHVBP Demonstration will be required to submit all data elements included on the form. Nursing homes that are chosen to participate in the demonstration will be required to re-submit these data on a periodic basis as follows (see Attachment 3 for a copy of the data collection form):

Quarterly submission:

*Census of Resident Days*: Information on resident days is required to create the staffing ratio measures (i.e., staffing hours per resident day).

*Agency Staff Hours*: The number of agency hours worked in the previous quarter (per agency invoices) is part of the determination of the staffing ratio measures.

Annual submission:

*Staff Immunization Rates*: If CMS includes this measure in later years of the demonstration, participating nursing homes will be asked to provide this on an annual basis.

*Use of Resident Care Experience Surveys*: If CMS includes this measure in the future, nursing homes will be asked to provide this information annually.

## A.4 Consultation with Industry

Demonstration design:

In September 2005, a nine-member technical expert panel was recruited to provide feedback on the pay-for-performance preliminary demonstration design. Panel members included experts on long-term care clinical and payment issues from private, State government, and academic settings. The panel was asked to review the preliminary demonstration design and provide comments during several teleconference calls and a one-day meeting held at the CMS offices in September 2005.

CMS held an Open Door meeting in September 2005 to present the preliminary design to the industry, answer their questions, and solicit their input. Furthermore, in November 2006, CMS held a stakeholder meeting to identify the issues and concerns of key organizations in the industry. The Stakeholder meeting included representatives from provider groups (American Health Care Association, American Association of Homes and Services for the Aging), the Nursing Home Quality Campaign Coalition, the American Medical Directors Association, the National Citizen's Coalition for Nursing Home Reform, Center for Medicare Advocacy, the Alliance for Quality Nursing Home Care, the American Physical Therapy Association, the American Occupational Therapy Association, the American Hospital Association, and the National Geriatric Nurses Association. The feedback received from these industry groups was used to refine the overall design of the demonstration. Among other issues, the stakeholders discussed the use of payroll data for determining the staffing performance measures. Key representatives indicated support for the collection of this data item.

Data Collection:

Nine nursing homes were surveyed in early 2007 to ascertain the expected burden associated with meeting the data requirements of the NHVBP Demonstration. These nursing homes were asked to assess the burden and feasibility of supplying electronic payroll records, agency staff hours, resident census information, staff influenza immunization summary data, and information on the use of resident care experience surveys. The burden information collected from these nursing homes is shown in section B.12.

## A.5 Participant Recruitment

As described above, CMS will initially select up to five States to host the NHVBP Demonstration. After the States have been selected, CMS will solicit nursing homes in the selected States to participate. Nursing homes that are interested in participating will be required to submit an application to CMS along with baseline information on the staffing and developmental measures. Since participation in the NHBVP Demonstration is strictly voluntary, we do not expect nursing homes that consider the data collection requirements to be especially burdensome to apply. CMS anticipates that approximately 1000 nursing homes will apply to participate in the demonstration. The data submitted with the initial nursing home applications will be used to assess the candidates and to assign them to demonstration and control groups. Data from the applications will also be used to determine which nursing homes show significant improvement in the first year of the project, and to assess developmental measures for possible later inclusion in the demonstration.

CMS will select an average of 50 nursing homes per state in 5 states (a total of 250 nursing homes) to participate in the program. CMS anticipates that many homes will be interested in the demonstration, permitting a randomized design in which some homes that apply to be in the demonstration are assigned to a control group. This control group

will also include 250 nursing homes. Nursing homes assigned to the control group will not participate in data reporting over the course of the demonstration.

## B. JUSTIFICATION

### B.1 Need and Legal Basis

Need for the NHVBP Demonstration

In its report "Crossing the Quality Chasm," the Institute of Medicine (IOM, 2001) argued that payment incentives should be aligned with quality improvement, with providers given the opportunity to share in the benefits of quality improvement and incentives aligned with the achievement of better outcomes and the use of good processes of care or other desired actions. The report recommended that all purchasers reexamine payment policies to remove barriers that impede quality and build in stronger incentives for quality enhancement, calling for government agencies like CMS to "identify, pilot test, and evaluate various options for better aligning current payment methods with quality improvement goals."

Value-based purchasing (or pay-for-performance) involves the use of incentives to encourage providers to improve the quality of services that they provide. This is in contrast to the current system, for which quantity is the basis for reimbursement. The NHVBP Demonstration is one CMS response to the IOM's challenge and is part of our broader long-term care quality initiative. Like other value-based purchasing programs, this demonstration will offer incentives to providers who meet certain quality objectives. These incentives are expected to promote the quality of care provided by nursing homes.

Demonstration Authority

The authority to conduct this demonstration is section 402(a)(1)(A) and section 402(b) of the Social Security Amendments of 1967, as codified by 42 USC 1395b-1(a)(1)(A) and 1395b-1(b). Under section 402(a)(1)(A), the Secretary of Health and Human Services is authorized to develop and engage in demonstration projects to determine whether, and if so which, changes in methods of payment or reimbursement for health care and services would have the effect of increasing the efficiency and economy of health services under such programs through the creation of additional incentives without adversely affecting the quality of such services. Under section 402(b), the Secretary may waive compliance with Medicare requirements related to reimbursement as needed to implement the demonstration.

Need for the NHVBP Data Collection Approach

The main purpose of the NHVBP data collection approach is to collect data on performance measures to assist in assessing nursing home quality. Wherever possible, CMS has identified existing secondary data sources for computing quality measures. As described in section A.2 above, data items already collected as part of the Minimum Data Set, the OSCAR system, and Medicare claims data will be substantial components in

determining financial incentive payments to participating nursing homes. However, there are no existing secondary sources available which meet the data needs of the NHVBP Demonstration with respect to staffing measures, staff influenza immunization rates, or use of resident care experience surveys.

As previously discussed, the staffing measures collected via OSCAR are inadequate for the purposes of the NHVBP Demonstration. No other national sources of staffing data currently exist. CMS will therefore require submission of payroll data for nursing homes participating in this demonstration.

There are no alternative sources of data on agency staff hours, staff immunization or use of resident care experience surveys. This information must therefore be collected directly from participating nursing homes.

## B.2 Explanation of Use of Data (Information Users)

The payroll, agency and census data will be used to calculate the three performance measures included in the staffing domain: RN hours per resident day, total nursing hours (RN, LPN, nurse aide) per resident day, and turnover percentage for nursing staff. As a specific example, to determine RN hours per resident day, CMS will sum the productive hours (i.e., hours actually worked) by RNs, the hours worked by agency RNs, and the resident days as reported by each nursing home for the entire year. CMS will then calculate the ratio of RN hours per resident day for each nursing home. Then CMS will rank the nursing homes from the highest performers (greater ratio) to lowest performers (smaller ratio). CMS will assign a score to each nursing home according to its ranking for this measure. A similar ranking approach will be used to assign scores to nursing homes for the total nursing hours measure and the turnover measure.

As noted in section A.2, the staffing domain will account for 30 percent of the total performance score; each of the three quality measures will account for one-third of the staffing domain, or 10 percent of the total score. For each measure, the highest ranking nursing home will receive the full 10 points; the lowest ranking home will receive zero points; and all others will receive a score that is in proportion to their rank. These staffing domain scores will be combined with scores from the other three domains (appropriate hospitalizations, MDS outcomes, and survey deficiencies) to create a single composite performance score for each nursing home. Those nursing homes with the highest overall scores and those homes that show the greatest improvement from year to year will be eligible to receive performance payments.

Information on use of resident care experience surveys and on staff influenza immunizations collected at baseline and in the first year of the demonstration will be used to evaluate these measures for potential inclusion in the demonstration in years 2 and 3. If CMS finds that there is a strong observed association between these developmental quality measures and resident outcomes, the performance score system may be modified to include these measures. If these developmental measures are approved for inclusion in the demonstration, they will be collected on an annual basis from participating nursing homes.

## B.3 Use of Electronic Means of Collection

Nursing homes will submit the payroll data that will be used to calculate the staffing performance measures electronically, sending the information to CMS in either an Excel spreadsheet or ASCII text file.

We plan to collect information on resident census, staff immunization rates, agency staff hours, and use of resident care experience surveys using a paper-based data collection form. Because this information is expected to come from a variety of sources and record types within the nursing home, we believe that the use of a paper data collection form is the optimal approach. However, nursing homes may request an electronic copy of the data collection form, and/or submit the data electronically if they so choose.

## B.4 Duplication of Similar Information

Although we will use existing data sources to measure performance for the MDS outcomes, appropriate hospitalizations and survey deficiencies domains, there is no existing data collection effort that gathers the information we need on staffing, resident census, staff immunizations or use of experience of care surveys. As explained above, self-reported staffing measures in the OSCAR system cover too short of an interval for the computation of stable staffing measures and contain no information on turnover or retention, while Medicaid Cost Reports do not typically report turnover and retention measures and are not available for all States. In addition, there are no existing national sources of data for resident census (for the period corresponding to the nursing home's payroll submission), staff influenza immunization, agency staff hours, or use of resident care experience surveys. These data must therefore be collected directly from nursing homes.

## B.5 Small Business

For purposes of this data collection, we assumed that nursing homes were small businesses if they were independently owned and operated and had less than 70 beds. Three of the nine nursing homes in the burden survey met these criteria. These three nursing homes reported that they would be able to meet all of the data submission requirements for the demonstration. The smaller homes indicated a greater burden than larger homes to electronically submit the payroll information. However, they indicated a lesser burden than larger homes to submit the other data items.

Overall, we estimate that about 20 percent of all nursing homes nationwide are small businesses under these criteria. Assuming that the size does not impact the likelihood of applying for the demonstration, about 200 of the applicants and 50 of the demonstration participants are expected to be small businesses. This may vary somewhat depending on which States are selected since rural States tend to have a greater number of smaller nursing homes. Also, note that participation in the demonstration is voluntary, so smaller

nursing homes that find the data submission requirements to be too burdensome may not apply or may elect not to participate in the demonstration.

### B.6 Consequences of Less Frequent Collection

All applicant nursing homes will submit the data once. Nursing homes that are chosen to participate in the demonstration will submit data on payroll, agency staff hours, and resident census on a quarterly basis for the 3-year duration of the demonstration. Quarterly collection of these items will enable CMS to determine which nursing homes may have difficulties meeting the reporting requirements so that we may offer technical assistance before difficulties become unmanageable. Also, quarterly reporting will allow CMS to conduct interim assessments of nursing home performance.

Participating nursing homes will also submit the two developmental measures (staff influenza immunization rates and use of resident care experience surveys) during year 1 of the demonstration. If the developmental measures are included in the demonstration, the participating nursing homes will also submit these data annually for years 2 and 3 of the demonstration. Less frequent collection of these data would be insufficient for determining appropriate annual incentive payments.

### B.7 Special Circumstances

There are no special circumstances associated with this data collection.

### B.8 Federal Register Notice/ Outside Consultation

A 60-day notice about this data collection will appear in the Federal Register.

Outside consultation was sought in designing the NHVBP Demonstration and in evaluating the burden of data requirements. See Section A.4 for further details.

### B.9 Payment/Gifts to Respondents

There are no provisions to provide any payments or gifts to complete the data submission requirements.

### B.10 Confidentiality

All information collected as part of the demonstration will be protected and held confidential. Project directories and databases are protected by assigned group memberships, passwords and other techniques that prohibit access by unauthorized users. In addition to the issue of protection of privacy, data security encompasses backup procedures and other file management techniques to ensure that files are not inadvertently lost or damaged.

With respect to payroll data, nursing homes will be asked to submit a unique employee identifier with each payroll record, and they will be instructed that this unique employee

identifier should not contain personally identifiable information such as employee names or social security numbers. CMS will use the unique employee identifier to determine the turnover rate at the nursing home.

## B.11 Sensitive Questions

Payroll records are the only individual-level data to be gathered in this data collection effort. The payroll data submission guidelines (see Attachment 2) instruct nursing homes to create unique employee identifiers for their data submissions, and to remove all potentially identifiable information such as names or Social Security numbers from their records. Since CMS will not be able to identify individuals, the payroll data are not considered sensitive. Other data will be collected at the nursing home level and are not considered sensitive.

## B.12 Program/Burden Estimate

*Earlier Studies*

As part of a study for CMS considering the analytic justification for establishing minimum staffing ratios for nursing homes, researchers from Abt Associates Inc. investigated the ability of nursing homes to electronically provide payroll data via the Public Reporting of Nursing Home Staffing Information Survey (hereafter referred to as "Nursing Home Staffing Survey"). This 2004 survey of 188 nursing homes in California, Iowa, North Carolina, North Dakota, and Ohio asked about the availability of payroll records including information on nursing hours worked by licensure type, shift, and day of the week. This is a greater level of detail than will be required for the NHVBP Demonstration, which will require only summary pay period data by licensure type.

Ninety-four percent of the nursing homes in the survey indicated that data on nursing hours worked were available, and eighty-nine percent said that these data were available by licensure category. Of the 188 homes surveyed, 127 were able to estimate how long it would take to modify their systems in order to provide the payroll information. Over two thirds of these respondents reported that it would take less than 24 hours to modify their systems to provide these data. Qualitative interviews with payroll processing companies/payroll vendors and with representatives of large multi-nursing home chains further supported the general finding that payroll data by licensure type were readily available. These results suggest that electronic reporting of payroll data does not represent a significant burden for most nursing homes.

*NHVBP Burden Survey*

As discussed earlier, we surveyed nine nursing homes in order to assess the data reporting burden under the demonstration. In general, the results of the survey indicated that the burden associated with the demonstration was considered to be moderate. Nearly all of the nursing homes in the sample were able to comply with the electronic payroll submission requirements. Specifically, all nine nursing homes reported that employee

start dates and pay period dates were readily available. Eight of nine reported that employee job category was readily available while one said this was available but would take some effort to generate. Seven reported that data on productive hours for salaried employees was readily available; one said this was available but difficult to generate; and, one said this was unavailable in their payroll system. Note that CMS does not intend to select a nursing home for the demonstration unless it can comply with all data submission requirements.

In order to assign a cost to the burden, we translated the estimated hours of burden into an equivalent cost by applying an average salary factor. Respondents were asked to report what types of staff would be involved in this process, and relevant wage rates were obtained for each reported job category from the Bureau of Labor Statistics May 2005 National Occupational Employment and Wage Estimates. Nursing homes variously reported that payroll clerks, bookkeeping clerks, human resources staff, office managers, and nursing home managers would be involved in this data collection. Where more than one type of staff was listed, the assumed wage rate was set equal to the highest wage rate among the provided staffing categories. Wage rates were applied to respondents' hour burden estimates and used to calculate the dollar cost to each nursing home for the collection of baseline payroll data. The resulting estimates were then averaged across nursing homes to obtain the average cost per nursing home reported below. Note that the burden can be regarded as either hours of burden or the equivalent cost burden.

**Payroll Data**

Table 1 provides estimates of the hours of burden associated with the baseline collection of electronic payroll information. On average, nursing homes anticipated spending 11.4 hours to modify their systems in order to generate electronic payroll records for submission to CMS. Table 1 also provides estimates of the equivalent cost to respondents for the hours of burden of the baseline collection of electronic payroll information. As shown below, CMS estimates an equivalent cost of approximately $190 per nursing home associated with the 11.4 hours of burden of payroll data collection.

**Table 1: Estimated Burden of Modifying Systems to Provide Payroll Data**

| Burden Reported | Number of homes | Total Estimated Burden |
|---|---|---|
| <4 hours | 5 | 10 hours |
| 4-12 hours | 1 | 8 hours |
| 13-24 hours | 2 | 37 hours |
| 1-3 days | 1 | 48 hours |
| Total Hours (All Nursing Homes) | 9 | 103 hours |
| Average Hours per Nursing Home | | 11.4 hours |
| Average Equivalent Cost per Nursing Home | | $190 |

*Source: Abt Associates, 2007*

Table 2 provides estimates of the quarterly burden of providing electronic payroll data. Respondents estimated an ongoing burden of approximately 11.4 hours per nursing home per data submission required to produce electronic staffing reports on a quarterly basis. The associated equivalent annual cost is approximately $208 per nursing home per data submission.

| Table 2: Estimated Quarterly Burden of Reporting Payroll Data | | |
|---|---|---|
| Burden reported | Number of homes | Total Estimated Burden |
| <4 hours | 5 | 10 hours |
| 4-12 hours | 1 | 8 hours |
| 13-24 hours | 2 | 37 hours |
| 1-3 days | 1 | 48 hours |
| Total Hours (All Nursing Homes) | 9 | 103 hours |
| Average Hours per Nursing Home | | 11.4 hours |
| Average Equivalent Quarterly Cost per Nursing Home | | $208 |

*Source: Abt Associates, 2007*

For the payroll baseline burden estimate, the total burden is derived from the systems modification burden in table 1 and the one time reporting burden in table 2. For 1,000 nursing homes, the baseline burden is 11,400 hours for system modifications plus 11,400 hours for reporting, or 22,800 hours. This is equivalent to a cost of (1,000 homes)*($190/home) + (1,000 homes)*($208/home) = $ 398,000.

For the payroll reporting burden under the demonstration, the annual reporting burden is derived from table 2. Assuming that data are collected from 250 nursing homes each quarter, the annual burden is (250 homes)*(4 quarters)*(11.4 hours/home) = 11,400 hours. The equivalent cost is (250 homes)*(4 quarters)*($208) = $208,000.

**Agency Staff Hours**

According to data from the CMS Online Survey Certification and Reporting system (OSCAR), fewer than 20 percent of nursing homes nationwide use agency staff. Results from the burden survey were consistent with this, with two of the nine nursing homes reporting use of agency staff. One of these nursing homes reported that 18 hours of clerical/business office time would be required to gather information on agency staff hours worked by licensure category, while the other estimated that only 4 hours would be required. Assuming a burden of zero hours for nursing homes not using agency staff yields an average estimated hours of burden per nursing home (for the nine nursing homes) of around two and a half hours. This is equal to a cost burden of approximately $51 per nursing home per data submission.

OSCAR 2005 18 percent of all nursing homes nationally reported using agency staff. This may be a bit low because if only captures a 2-week period, but it is close enough to substantiate. If we assume that the 9 nursing homes in our sample are representative of the industry, then the baseline burden estimate is (1,000 homes)*(2.5 hours/home) = 2,500 hours of burden. The equivalent baseline cost is (1,000 homes)*($51) = $51,000. The annual burden under the demonstration is (250 homes)*(4 quarters)*(2.5 hours/home) = 2,500 hours. The equivalent annual cost is (250 homes)*(4 quarters)*($51) = $51,000.

**Resident Census**

The nine nursing homes all reported that their quarterly burden was between a fraction of an hour and 8 hours. On average, respondents estimated that compiling quarterly resident census information would require about two hours per nursing home. This is equal to a cost burden of $49 per quarter.

The baseline burden estimate for 1,000 homes is 2,000 hours. The equivalent baseline cost is $49,000. The annual burden under the demonstration is (250 homes)*(4 quarters)*(2 hours) = 2,000 hours. The equivalent annual cost is $49,000.

**Staff Influenza Immunization Rates**

Six of nine nursing homes reported that staff influenza information was currently available in paper-based personnel records; the remaining three nursing homes were able to compile this information by surveying current staff. Thus, all nine nursing homes were able to report this information. On average, nursing homes estimated that compiling annual staff immunization information would take four hours. The average equivalent cost burden associated with this is approximately $100 per nursing home.

The baseline burden estimate for 1,000 homes is 4,000 hours. The equivalent baseline cost is $100,000. The annual burden under the demonstration (since these data are only collected once a year) is (250 homes)*(4 hours) = 1,000 hours. The equivalent annual cost is $25,000.

**Use of Resident Care Experience Surveys**

Seven of nine nursing homes responding to the NHVBP Burden Survey reported that they currently use resident care experience surveys. These nursing homes all reported that it would take them no more than 10 minutes to answer questions about the use of these surveys. Conservatively, we will assume an average burden of half an hour per nursing home. (Note that this reflects only the burden of answering questions about the use of care experience surveys, not the time of conducting the care experience survey itself.) We assume that seven out of every nine nursing homes in the demonstration will use experience of care surveys. We also assume that our questions would generally be answered by the business office manager at an average hourly rate of $21.89 (Source: May 2005 National Occupational Employment and Wage Estimates). This results in an average cost per nursing home of ($21.89)*(1/2 hour)*(7/9) = $8.50.

The baseline burden estimate is (1000)*(1/2 hour)*(7/9), or about 400 hours. The equivalent baseline cost is $8,500. The annual burden under the demonstration is about 100 hours. The equivalent annual cost is about $2,100.

**Nursing Home Applications**

Nursing homes will be required to submit a brief application to participate in the demonstration (see Attachment 1). Nursing homes in the sample estimated that it would take no more than 15 minutes to complete the application and return it to CMS. We

assume that the application will be completed by senior management at an average hourly rate or $42.52 (Source: May 2005 National Occupational Employment and Wage Estimates). This results in an average cost per nursing home of ($42.52)* (1/4 hour) = $10.63.

The baseline burden estimate is (1,000)*(1/4 hour) = 250 hours. The equivalent baseline cost is (1000)*($10.63), or about $10,600. Because the application will filled out at baseline only, there is no ongoing annual burden.

**Data Verification**

We collected information on the burden associated with the verifying payroll data (per the methods described in Section A.3) from four of the nursing homes in the sample. Two of the respondents estimated that it would take less than 4 hours to provide the raw payroll that we will use for data verification; one estimated that it would take 4-12 hours; and one estimated that providing the information for data verification would take 13-24 hours. This yields an average time to be 8.5 hours per nursing home, with an average equivalent cost of $160. Since up to 25 nursing homes will be asked to submit raw payroll data for verification purposes each year, the annual data verification burden is 212.5 hours (25 submissions at 8.5 hours each), and the estimated annual equivalent cost is about $4,000.

Regarding staff immunizations, nursing homes will be instructed to keep copies of the documents they used to compile this information for submission to CMS. We believe that the time to submit copies of this information will be trivial. Conservatively, we assume that this measure will be included in the demonstration, that up to 25 nursing homes each will be included in this effort each year of the demonstration, and that the burden will be 15 minutes per nursing home. This yields an annual burden of (25)*(1/4 hour) = 6.25 hours. Applying the wage rate for a bookkeeping clerk yields ($14.76)*(6.25 hours) = $100. Thus the total annual burden for data verification is about 220 hours at an equivalent cost of $4,100.

**Total Burden Estimates**

As described above, nursing homes applying to participate in the NHVBP Demonstration will be required to electronically submit payroll information as well as data on agency staff hours, resident census, staff influenza immunization, and use of resident care experience surveys. Baseline burden estimates assume that 1,000 nursing homes will submit data along with their applications. We anticipate that 250 nursing homes will be selected from the initial application pool and assigned to the demonstration group. These nursing homes will be required to submit electronic payroll information and data on agency staff hours and resident census on a quarterly basis. In addition, they will report developmental measures for the first year of the demonstration and, depending on the results of the evaluation of the developmental measures, may also be asked to report staff immunization and/or use of resident care experience survey information for years 2 and 3 of the demonstration.

Based on the burden estimates reported in the NHVBP Burden Survey, and assuming (conservatively) that both developmental measures will be reported throughout the duration of the demonstration, the burden estimates are shown in table 3.

| Table 3: Total Program Burden | | |
|---|---|---|
| | Baseline | Annual Demonstration |
| *Hours of Burden* | | |
| Payroll | 22,800 hours | 11,400 hours |
| Agency Staff | 2,500 hours | 2,500 hours |
| Resident Census | 2,000 hours | 2,000 hours |
| Staff Immunizations | 4,000 hours | 1,000 hours |
| Resident Care | 400 hours | 100 hours |
| Experience | | |
| Application | 250 hours | NA |
| Data Verification | NA | 220 hours |
| Total | 31,950 hours | 17,220 hours |
| | | |
| *Equivalent Cost Burden* | | |
| Payroll | $398,000 | $208,000 |
| Agency Staff | $51,000 | $51,000 |
| Resident Census | $49,000 | $49,000 |
| Staff Immunizations | $100,000 | $25,000 |
| Resident Care | $8,500 | $2,100 |
| Experience | | |
| Application | $10,600 | NA |
| Data Verification | NA | $4,100 |
| Total | $617,100 | $339,200 |

*Source: Abt Associates, 2007*

For the baseline collection, the average hours per response is the annual hour burden from above (31,950 hours) divided by the total number of applicants (1,000), or 31.95 hours per response. For the ongoing collection under the demonstration, the average hours per response is the annual hour burden (17,220 hours) divided by the number of annual responses (250 respondents times 4 responses per year), or 17.22 hours per response.

## B.13 Capital Costs

Three of nine nursing homes anticipated possible capital costs associated with the need for new software or modification of existing software systems through consultation with outside vendors in order to electronically provide payroll records. Specific cost estimates ranged from $500 to $2500 per nursing home. The average cost over nine nursing homes was $400 per nursing home.

For the baseline collection, the cost per response is estimated to be $400. The annual cost burden for 1,000 applicants is estimated to be $400,000.

There are no anticipated capital costs associated with the paper submission of data.

## B.14 Cost Estimate to Federal Government

The cost to the government to administer the NHVBP Data Collection for the baseline period is $80,000. The annual cost to administer the data collection during the demonstration is $40,000.

### B.15 Program Changes

This is a new data collection for demonstration applicants and participants. There are no other program changes.

### B.16 Publication and Tabulation Schedule

Information will be tabulated annually. CMS may publish information on the aggregate performance scores of nursing homes in the demonstration on an annual basis.

### B.17 Expiration Date

CMS will display the date for OMB approval on the collection instrument.

### B.18 Certification Statement

There are no exceptions to this certification statement.

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