

White Paper on Measuring Staffing Retention/Turnover in Skilled Nursing Facilities

*For
The California Department of Public Health*

September 2012



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Introduction

California legislation requires the California Department of Public Health (CDPH) and the California Department of Health Care Services (DHCS) to implement a Quality and Accountability Program (QAP) for skilled nursing facilities (SNFs). As part of this statutory requirement, CDPH and DHCS are also required to consider expanding the initial SNF QAP measure set, specifically evaluating the following measure topics:

- ◆ Chemical Restraint Use
- ◆ Olmstead Compliance
- ◆ Direct Care Staffing Retention

CDPH contracted with Health Services Advisory Group, Inc. of California (HSAG) to assist in evaluating these topic areas. This white paper discusses the options for measuring staffing retention as part of the CDPH SNF QAP. It provides a comprehensive review of staffing retention and turnover measures including discussion of the background, a literature review, discussion of existing data collection methods and quality measures, and provides recommendations. DHCS in collaboration with CDPH will examine the recommendations.

Background

Nursing home staffing is important to measure given that it can be a correlate of health care quality. Nursing home retention and turnover are related terms that are used throughout this report. Nursing home **retention** measures how long nursing home staff have been employed at the facility. Nursing home **turnover** refers to how many staff have left the nursing home.¹⁻¹ According to Donogue's *Nursing Home Staff Turnover and Retention: An Analysis of National Level Data*, "retention is different from turnover because it reflects not only an organization's record of stable employment, but also its propensity to groom a staff with a longer mean employment duration in the same facility. The distinction between turnover and retention is most apparent when considering the amount of time that an organization's 'stayers' (or those who have not been terminated either voluntarily or involuntarily) have spent in employment."¹⁻²

Although the statutory requirement mandates that direct care staffing retention be evaluated, HSAG also reviewed staffing turnover measures given their close relationship to retention. Most of the existing measures identified by HSAG in this white paper were staffing turnover measures, not staffing retention measures.

¹⁻¹ Advancing Excellence in America's Nursing Homes. FAST FACTS: Staff Retention. Published 2012. Available at: <http://www.nhqualitycampaign.org/files/factsheets/Consumer%20Fact%20Sheet%20-%20Staff%20Retention.pdf>.

¹⁻² Donoghue C. Nursing Home Staff Turnover and Retention: An Analysis of National Level Data. *Journal of Applied Gerontology*. Feb 2010; 29(1):91. Available at: <http://jag.sagepub.com/content/29/1/89>. Accessed on: Apr 20, 2012.

CDPH and DHCS have also acknowledged the importance of staffing as a quality indicator, which is evidenced by its evaluation and QAP inclusion of the nursing hours per patient per day measure. SNFs are required to maintain 3.2 nursing hours per patient per day in order to be in regulatory compliance and be eligible to receive financial incentives through the QAP.

Staffing Turnover Impact on Quality

High staffing turnover may impact the quality of care provided to residents.¹⁻³ High rates of staff turnover in nursing homes has been an issue for many years. It is important for nursing home administrators to monitor turnover rates to help run their facility optimally from not only a budget perspective, but also to ensure a high level of care is provided.

High staffing turnover rates in nursing homes can be disadvantageous in several different ways. Some of the negative side effects can include high employee replacement cost, loss of productivity, compromised quality of care to patients, and an overall decrease in staff and patient morale.¹⁻⁴ One study found that higher staffing turnover was correlated with higher hospitalization rates.¹⁻⁵ The monetary costs due to staffing turnover can also be substantial. Costs include hiring and training of new employees as well as the associated advertising and recruiting costs. A decrease in employee morale due to staffing shortage can also lead to a higher level of work-related stress.¹⁻⁶

Although an excessively high staffing turnover rate can have negative effects on a facility, it seems some turnover may be beneficial. Through research, it has been found that certain low levels of staffing turnover can help to eliminate poor performing employees. In essence, some level of staffing turnover may be essential to build a quality workforce.¹⁻⁷ Monitoring staffing turnover rates are essential to finding the proper balance to improve patient care, productivity, staff morale, and decrease excessive costs associated with high turnover.

Staffing Performance Measures

The following are examples of various types of staffing measures in existence:

- ◆ Nursing Hours per Patient Day (ratio)
- ◆ Consistent Assignment of Staff
- ◆ Staff Satisfaction

¹⁻³ Abt Associates Inc. *Nursing Home Value-Based Purchasing Demonstration*. Cambridge, MA: Abt Associates Inc.; Mar 2009.

¹⁻⁴ Brannon D, Zinn J, Mor V, et al. An Exploration of Job, Organizational, and Environmental Factors Associated With High and Low Nursing Assistant Turnover. *The Gerontologist*, 2002; 42(pt 2): 159-168.

¹⁻⁵ Abt Associates Inc. *Nursing Home Value-Based Purchasing Demonstration*. Cambridge, MA: Abt Associates Inc.; Mar 2009.

¹⁻⁶ Pillemer D, Meador R, Henderson C, et al. A Facility Specialist Model for Improving Retention of Nursing Home Staff: Results From a Randomized, Controlled Study. *The Gerontologist*, 2008; 48(pt 1): 80-89.

¹⁻⁷ Brannon D, Zinn J, Mor V, et al. An Exploration of Job, Organizational, and Environmental Factors Associated With High and Low Nursing Assistant Turnover. *The Gerontologist*, 2002; 42(pt 2): 159-168.

- ◆ Staffing Retention
- ◆ Staffing Turnover

Measuring Staff Turnover in Nursing Homes: Literature Review

HSAG conducted a literature review of all staffing measures that currently exist. The following information synthesizes the pertinent findings from the major sources.

Evaluation of Measurement Approaches

In 2008, Nicholas Castle from the University of Pittsburgh conducted a three-phased approach to evaluate staffing turnover, which was documented in The Gerontological Society of America's *Measuring Staff Turnover in Nursing Homes*. His approach included the following components:

- ◆ Conducting a literature review.
- ◆ Evaluating how staffing turnover is measured.
- ◆ Examining the impact of the bias observed due to using different staffing turnover measurement methods.

After Castle completed his literature review, evaluating 38 studies in total, he concluded that “many studies fail[ed] to provide a comprehensive definition of turnover.” This finding prompted Castle to conduct a survey of nursing home administrators to assess what is being reported at the facility level when asked to report turnover rates.

Another topic discussed by Castle was whether or not to include agency staff in the staffing turnover rate. Castle notes that if turnover rates (used to gauge quality) exclude agency staff, nursing homes could potentially decrease their rates simply by using more agency staff, which might be more costly. Additionally, some studies suggest that agency staff members provide a lower quality of care. Castle suggests that an alternative reporting approach would be to report agency staff turnover separately, which would eliminate facilities potentially gaming the system. In addition, Castle notes that “serious consideration is needed in determining what factors are used to calculate turnover rates...consideration should be given to the shift worked, part-time staff, and the voluntary and involuntary nature of turnover.”

The results of this study suggested that turnover rates can vary greatly based on the measurement approach employed (e.g., vague directions given). Castle determined that a high degree of measurement error exists with this performance measure and that specific guidelines need to be provided to administrators when being asked to report this type of information.¹⁻⁸

¹⁻⁸ Castle NG. Measuring Staff Turnover in Nursing Homes. *The Gerontologist*. 2006; 46(2):217. Available at: <http://gerontologist.oxfordjournals.org/>. Accessed on: Apr 25, 2012.

California Report to the Legislature

In January 2009, in a *Report to the Legislature*, CDPH's Licensing and Certification Program (L&C) was required to provide two annual reports evaluating several quality indicators of patient care in SNFs. Staffing retention levels and rates were included as part of this report.

The report included the Office of Statewide Health Planning and Development (OSHPD) staffing retention data for both the number of staff who were on the payroll at the beginning of the OSHPD reporting period, and the number of staff that were on the payroll at both the beginning and the end of the reporting period (i.e., staff who were still on the payroll at the end of the payroll period).

Between the years of 2002 and 2006, the majority of the facilities retained the majority of its registered nurses (RN) and licensed vocational nursing (LVN) staff. Most facilities fell between 60 to 80 percent retention during these periods. In 2006, retention rates improved noticeably over 2005 levels. The retention rates for certified nurse assistants (CNAs) also improved between 2002 and 2003, but declined between 2003 and 2005. It was not until 2006, that CNAs began to see an upturn in the retention rates.¹⁻⁹

The legislative reports (as per AB 1629, Frommer, Chapter 875, Statutes of 2004) are no longer mandated.

CMS Measure Development

The Centers for Medicare & Medicaid Services (CMS) has identified nursing home staffing as an important performance measure to publicly report, as evidenced by the staffing information publicly available on Nursing Home Compare. However, staffing information published on this Web site is limited to staffing hours per resident per day (stratified by staff type). Staffing data are reported to the nursing home's State survey agency. However, staffing turnover rates are not publicly reported at this time on this Web site.¹⁻¹⁰

The National Quality Form (NQF) recommended in 2003 that CMS adopt a nursing staffing measure into its measurement set. This proposal resulted in CMS providing an evaluation of data collection options.

This evaluation first began in 2003 when CMS contracted with the Colorado Foundation for Medical Care (CFMC) in collaboration with the University of Colorado at Denver and Health Sciences Center (UCDHC). A technical expert panel (TEP) convened during this contract recommended that this information would be most accurately captured via payroll data. Subsequently, the contractors began to develop a payroll record database, which represented 1,453 nursing homes across 48 States comprising a total of 11.6 million payroll records. These data were used to drive the nursing home staffing measure development process, specifically to determine if

¹⁻⁹ California Department of Public Health. *Report to the Legislature*. CDPH; Jan 1, 2009. Available at: http://www.cdph.ca.gov/programs/Documents/LnC_AB1629LegReport20090101.pdf.

¹⁻¹⁰ Nursing Home Compare. Nursing Home Important Information. Published 2012. Available at: <http://www.medicare.gov/NHCompare/static/tabhelp.asp?language=English&activeTab=3&subTab=0&version=default>.

standardized data elements could be obtained from various entities. CMFC and UCHC eventually were tasked with developing specifications for the following data sources:

- ◆ Census
- ◆ Pay period
- ◆ Shift level (time-clock)

The feasibility of submitting an electronic payroll data extract file (similar to the manner in which Minimum Data Set [MDS] data are submitted to CMS) was also evaluated. CMFC and UCHC noted the following findings related to this portion of the study:

- ◆ The storage requirements at the nursing home and/or State levels would be minimal and would not be burdensome for these entities.
- ◆ The existing Quality Improvement Evaluation System (QIES) could be used to collect this information since it is already being used to collect similar files (e.g., MDS flat files). Further, the nursing home community is accustomed to this system; however, the system would need to be modified in order to inform users about the data submission requirements and various processes.
- ◆ Users should submit data quarterly two months after the end of the quarter.

This report also resulted in the recommendations for the following measures to be publicly reported:

- ◆ RN/directors of nursing (DON) staffing levels
- ◆ CNA staffing levels
- ◆ Composite turnover measure (RN/DON, licensed practical nurses [LPN], and CNA)
- ◆ RN/DON tenure

The option to collect staffing data from payroll records was reinforced in 2007 by various stakeholders, including the National Association of State Long-Term Care Ombudsmen Programs, when they testified before the Senate Select Committee on Aging and recommended adopting this approach to monitor nursing home staffing.¹⁻¹¹

Through this evaluation, CMS identified two potential data collection methods:

- ◆ Require turnover data to be submitted during the annual licensure-certification process.

¹⁻¹¹ Medicare Quality Improvement Organization for Colorado, Centers for Medicare & Medicaid Services. May 2, 2008. CMS-HHSM-500-2005-CO001C. Development of Staffing Quality Measures – Phase 1: Continuation. Final Report; 2008 SQM Phase 1 Final Report; Number CO0027.

- ◆ Collect data from payroll records.¹⁻¹²

Future CMS Plan on Staffing Turnover and Retention

CMS released a 2012 Nursing Home Action Plan to guide its efforts in improving the quality and safety of care provided in nursing homes. The action plan is based on CMS' Three-Part Aim and organized into 5 strategies:

1. Enhance consumer engagement
2. Strengthen survey processes, standards, and enforcement
3. Promote quality improvement
4. Create strategic approaches through partnerships
5. Advancing quality through innovation and demonstration¹⁻¹³

Under the first strategy, CMS aims to make publicly available relevant information that will enable individuals to be active and informed participants in their care. To that end, CMS seeks to make improvements to the Nursing Home Compare Web site's Five Star Quality Rating System, including a plan to increase the accuracy and comprehensiveness of staffing data. In June 2012, CMS planned to implement a pilot project to collect payroll data from nursing homes. The expected completion date of this project is spring 2013.¹⁻¹⁴ As CMS moves forward in collecting the payroll data, there is possibility for the development of additional staffing measures, including measures of turnover and retention. However, CMS has not announced definitive plans for development and implementation of these staffing measures.

In addition, the *Report to Congress, Plan to Implement a Medicare Skilled Nursing Facility Value-Based Purchasing Program*, was recently released in June 2012. This report outlines the roadmap for a value-based purchasing (VBP) program in the SNF setting. However, the report notes that CMS will need to perform additional research prior to making final determinations about program requirements, including quality measures and staffing measures, for the SNF VBP Program.¹⁻¹⁵

¹⁻¹² Castle NG. Measuring Staff Turnover in Nursing Homes. *The Gerontologist*. 2006; 46(2):217. Available at: <http://gerontologist.oxfordjournals.org/>. Accessed on: Apr 25, 2012.

¹⁻¹³ Department of Health and Human Services, Centers for Medicare & Medicaid Services. CMS 2012 Nursing Home Action Plan; Jun 2012. Available at: <http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/Downloads/2012-Nursing-Home-Action-Plan.pdf>.

¹⁻¹⁴ Ibid.

¹⁻¹⁵ Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Report to Congress: Plan to Implement a Medicare Skilled Nursing Facility Value-Based Purchasing Program*. CMS; Jun 2012. Available at: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HomeHealthPPS/Downloads/Stage-2-NPRM.pdf>.

2. POTENTIAL PERFORMANCE MEASURES AND DATA COLLECTION METHODS

Overview

In order to provide recommendations for CDPH and DHCS's consideration, HSAG reviewed staffing measures and the data collection methods previously and/or currently used in accountability demonstrations, reporting, and quality improvement programs. In addition, HSAG reviewed recent CMS documents to identify potential future directions on staffing turnover and retention measures. HSAG narrowed the potential options to include only measures that have been used in accountability demonstrations reporting, and quality improvement programs.

The potential staffing measures and data collection methods are discussed in the following sections:

1. Nursing Home Value-Based Purchasing Demonstration
2. Advancing Excellence in America's Nursing Homes
3. Medi-Cal Cost and OSHPD Disclosure Reports

Each section includes an overview of the program and description of the measures and methods used in the programs. Where applicable, measures were evaluated according to the measure selection criteria, which were recommended by HSAG for the SNF QAP. A separate discussion on each measure's data collection method and validation of data collected are also included to provide additional information on their feasibility for use in the QAP. Finally, each section concludes with a discussion related to the potential adoption of each method or measure into the QAP.

1. Nursing Home Value-Based Purchasing Demonstration

The Nursing Home Value-Based Purchasing (NHVBP Demonstration) is a 3-year demonstration that aims to improve the quality of care among nursing homes. It includes voluntarily participating nursing homes in Arizona, Mississippi, New York, and Wisconsin. Participants are eligible for financial incentives once Medicare savings are generated in their respective State. The demonstration began in 2009 and will conclude in December 2012. The technical design of the NHVBP was developed by Abt Associates, Inc. (Abt) as documented in a 2006 report with later refinements made in 2009.²⁻¹

NHVBP Demonstration participants are evaluated on four domains. One of these domains is nurse staffing and includes a nurse staffing turnover composite rate for RNs, DONs, LPNs, and CNAs. This measure is calculated quarterly using payroll data submitted by each participant in an Excel spreadsheet.^{2-2,2-3} The following payroll data elements are submitted:

- ◆ Medicare provider number
- ◆ Employee identification number
- ◆ Employee start date
- ◆ Employee job category (e.g., RN)
- ◆ Pay period dates (start and end dates)
- ◆ Employee hours reported
 - Number of hours worked at facility
 - Non-productive hours (sick, vacation, etc.)²⁻⁴

In the June 2012 *Report to Congress, Plan to Implement a Medicare Skilled Nursing Facility Value-Based Purchasing Program*, CMS indicated that an evaluation of the NHVBP Demonstration will take place by fall 2013 and the results of this evaluation will be taken into

²⁻¹ Abt Associates Inc. *Nursing Home Value-Based Purchasing Demonstration*. Cambridge, MA: Abt Associates Inc.; Mar 2009.

²⁻² Medicare Demonstration Projects & Evaluation Reports. *Nursing Home Value-Based Purchasing Demonstration*. Baltimore, MD: Department of Health and Human Services, Centers for Medicare & Medicaid Services. Available at: https://www.cms.gov/Medicare/Demonstration-Projects/DemoProjectsEvalRpts/downloads/NHP4P_OpenDoor.pdf.

²⁻³ Abt Associates Inc. *Nursing Home Value-Based Purchasing Demonstration*. Cambridge, MA: Abt Associates Inc.; Mar 2009.

²⁻⁴ *Nursing Home Value-Based Purchasing Demonstration*. Baltimore, MD: Department of Health and Human Services, Centers for Medicare & Medicaid Services. Available at: https://www.cms.gov/Medicare/Demonstrationprojects/DemoProjectsEvalRpts/downloads/NHP4P_OpenDoor.pdf./DemoProjectsEvalRpts/downloads/NHP4P_OpenDoor.pdf

consideration as CMS makes final determinations, including proposed quality measures, for the SNF VBP Program.²⁻⁵

Performance Measure

The staffing turnover measure for the NHVBP Demonstration includes employees with at least 40 hours in the first payroll period, or employees with at least two consecutive payroll periods with at least 20 hours (if the facility pays every other week or bi-monthly). If a facility pays weekly or monthly, a proportional adjustment of this criterion is applied. Employees who were hired toward the end of the measurement period and do not meet this criterion are excluded from the measure calculation.

The NHVBP Demonstration staffing turnover measure is calculated as:

$$\frac{\text{\# of Terminated Employees}}{\text{Average Facility Employment}}$$

Employees are considered terminated if they meet the following criteria:

- ◆ No hours (productive and non-productive) for four consecutive periods (if pay periods are weekly) or two periods (if pay periods are bi-weekly and one period if facility pays monthly) at the end of the quarter.

OR

- ◆ No hours (productive and non-productive) for eight consecutive periods (weekly), four consecutive periods (biweekly/ twice monthly) or two consecutive periods (monthly) during the quarter.

Average employment is the average number of employees across the payroll periods in the turnover calculation.

Measure Selection Criteria

Importance. Turnover rates have been found to be associated with nursing home quality. High turnover rates may result in poor quality, low continuity of care, and low staffing levels.^{2-6,2-7}

Scientific Acceptability. An extensive analysis of the development of the staffing turnover for the NHVBP was conducted by CMS. Payroll data were collected in several national corporations in

²⁻⁵ Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Report to Congress: Plan to Implement a Medicare Skilled Nursing Facility Value-Based Purchasing Program*. CMS; Jun 2012. Available at: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HomeHealthPPS/Downloads/Stage-2-NPRM.pdf>.

²⁻⁶ Castle, N.G., Engberg, J. & Men, A. (2007). Nursing Home Staff Turnover: Impact on Nursing Home Compare Quality Measures. *Gerontologist*, 47(5), 650-651.

²⁻⁷ Harrington, C., Kovner, C., Mezey, M., Kayser-Jones, J., Burger, S., Mohler, M., Burke, B., & Zimmerman, D. (2000). Experts Recommend Minimum Staffing Standards for Nursing Facilities in the U.S. *Gerontologist*, 40(1), 5-16.

order to generate a large payroll database from which to construct and test measures derived from payroll data.

Feasibility. Data elements (e.g., payroll information) for this measure were submitted electronically by participating NHVBP facilities through a data submission form. CMS conducted pre-demonstration surveys and first quarter assessment of burden to calculate an overall data reporting and validation burden under the demonstration. CMS reported that the estimated quarterly data collection burden for Section C (payroll data) was 1,007.5 hours.²⁻⁸

Usability. This measure was used in the CMS NHVBP Demonstration project. An overall evaluation report of the demonstration project is still not available. Nevertheless, a CMS Report to Congress indicated that several participants of the NHVBP have reported improvements in their quality measures.²⁻⁹ However, none of the improvements reported were specific to staffing turnover.

Related or Competing Measure. This measure is related to the staffing turnover measures used in programs such as Advancing Excellence and Medi-Cal Cost/OSHPD financial report.

Data Collection Method

Nursing facilities that choose to participate in the NHVBP program are required to submit payroll information, which includes 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. All participating nursing homes are also required to submit contact, census, payroll, and agency staff information electronically to CMS on a quarterly basis.

The data specification requires nursing home facilities to classify nursing staff into one of the four job categories described below.²⁻¹⁰ Nursing facilities are instructed to assign staff to the appropriate job category based on their job title on the first day of the pay period being reported.

Registered Nurse—Those persons licensed to practice as registered nurses in the State where the facility is located. This category includes RN/DONs whose primary responsibilities involve direct patient care. Primary refers to greater than 50 percent of time.

Licensed Practical/Vocational Nurse—Those persons licensed to practice as licensed practical/vocational nurses in the State where the facility is located. This category includes LPNs/LVNs whose primary responsibilities involve direct patient care.

²⁻⁸ U.S. Department of Health and Human Services. Centers for Medicare and Medicaid Services. *Revision of Data Collection for the Nursing Home Value Based Purchasing (NHVBP) Demonstration*. Office of Management and Budget Clearance Package Supporting Statement.

²⁻⁹ U.S. Department of Health and Human Services. (No date). Report to Congress: Plan to Implement a Medicare Skilled Nursing Facility Value-Based Purchasing Program. Available at: <http://www.aanac.org/docs/reference-documents/snf-vbp-rtc.pdf?sfvrsn=0>.

²⁻¹⁰ U.S. Department of Health and Human Services. Centers for Medicare and Medicaid Services. *Revision of Data Collection for the Nursing Home Value Based Purchasing (NHVBP) Demonstration*. Office of Management and Budget Clearance Package Supporting Statement.

Certified Nurse Aide—Individuals who have completed a State-approved training and competency evaluation program, or competency evaluation program approved by the State, or have been determined competent as provided in 483.150(a) and (3), and who are providing nursing or nursing-related services to residents. This category includes State certified Medication Aides and Restorative Aides. CNAs in training should not be included. If an individual works in two positions (e.g., CNA and housekeeping) all hours for this employee should be reported as CNA hours.

Director of Nursing—Professional registered nurse(s) administratively responsible for managing and supervising nursing services within the facility.

Nursing facilities are also instructed to enter each staff’s productive and non-productive hours in the data submission form.²⁻¹⁰

Productive Hours. Refers to the number of hours worked, which includes the total number of hours worked during the pay period at the nursing home for the employee identified in the record. This number cannot include hours for vacation leave, sick leave, corrections to reconcile errors from previous pay periods, etc. This number does reflect hours worked in both direct and non-direct patient care. If an employee covers a shift at a facility within a nursing home corporation, the hours worked should be assigned to the respective facility and not allocated to a “home” or “primary” facility. If no productive hours were worked during a pay period the data element should be submitted with zero hours.

Nonproductive Hours. Refers to the total number of hours paid during the pay period for leave (sick, vacation, administrative), bonuses, employee payouts, etc. If no nonproductive hours were paid during the pay period the data element should be submitted with zero hours.

Figure 2-1 shows the Excel spreadsheet template for submitting NHVBP Demonstration payroll data.

Validation of Data Submitted

CMS designed a validation process for the staffing turnover measure in order to ensure the accuracy of data voluntarily submitted by participating nursing homes. The validation process involves submission of raw payroll records from a sample of participants. In Abt's NHVBP report, it details potential criteria for selecting a targeted sample of nursing homes, including the following:

- ◆ Extremely high turnover rates
- ◆ Extremely low turnover rates
- ◆ Aberrant staffing levels
- ◆ Missing data
- ◆ High error rate²⁻¹¹

Performance measure rates are ranked numerically and then assigned points according to their ranked position.

Discussion

Performance Measure

The measure used for this program has been adopted by CMS for a 3-year demonstration project. Further, the validation process being employed for this program seems reasonable and necessary. CDPH and DHCS could consider adopting a similar performance measure methodology and data validation strategy in the QAP.

Data Collection Method

The data collected through this program is for a limited number of voluntary participants. California does not currently participate in the NHVBP Demonstration. Although CDPH and DHCS could adopt a similar process for collecting these data modeled after the NHVBP Demonstration process, it may be an arduous process to implement. For example, CDPH would need to educate all nursing homes on the data measurement and submission process and also establish a process for receiving and storing submitted data. In addition, it is undecided if CMS will adopt this measure for the SNF VBP program in the future. As previously mentioned, CMS will evaluate the results of NHVBP Demonstration in fall 2013 and the results of this evaluation

²⁻¹¹ Abt Associates Inc. *Nursing Home Value-Based Purchasing Demonstration*. Cambridge, MA: Abt Associates Inc.; Mar 2009.

will be taken into consideration as CMS makes final determinations, including proposed quality measures, for the SNF VBP Program.²⁻¹²

Limitations

There are limitations to the NHVBP staffing turnover measure. The reported staffing turnover performance rate for the NHVBP is a composite rate of all licensed and unlicensed nursing staff. Although there is an existing data submission process established for collecting data to calculate this measure, this process is not currently in place for California nursing homes given that they are not included in the demonstration. Payroll data submission to the NHVBP posed a huge burden on the participating facilities.

2. Advancing Excellence in America's Nursing Homes

Advancing Excellence in America's Nursing Homes (Advancing Excellence) is a national initiative to assist nursing homes achieve a high level of care. According to its Web site, 519 California nursing homes currently participate in Advancing Excellence.²⁻¹³ One of the eight program goals is staffing turnover: "nursing homes will take steps to minimize staffing turnover in order to maintain a stable workforce to care for residents."²⁻¹⁴

Advancing Excellence named the following turnover objectives to be completed by the fourth quarter of 2011:

- ◆ Average annual turnover rate at 65 percent or below (includes all nursing staff—RNs, LPN/LVNs, and CNAs).
- ◆ Average annual LPN turnover rate at 35 percent or below.
- ◆ Average annual CNA turnover rate at 65 percent or below.^{2-15,2-16}

As part of CMS' Quality Improvement Organization (QIO) 10th scope of work (SoW), QIOs are required, beginning July 31, 2012, to partner with nursing homes and form a Statewide collaborative to improve the quality of care in nursing homes on multiple indicators, including staffing. QIOs are required to partner with the Advancing Excellence Local Area Network of Excellence (LANE) and other partners to achieve these goals. As part of this collaborative, the

²⁻¹² Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Report to Congress: Plan to Implement a Medicare Skilled Nursing Facility Value-Based Purchasing Program*. CMS; Jun 2012. Available at: <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HomeHealthPPS/Downloads/Stage-2-NPRM.pdf>.

²⁻¹³ Advancing Excellence Campaign: The NH Quality Campaign. Nursing Home Participating Provider List. Available at: http://www.nhqualitycampaign.org/star_index.aspx?controls=nh_list.

²⁻¹⁴ Advancing Excellence Campaign: The NH Quality Campaign. Eight Goals – Advancing Excellence in America's Nursing Homes. Available at: http://www.nhqualitycampaign.org/star_index.aspx?controls=eightgoals.

²⁻¹⁵ Advancing Excellence Campaign: The NH Quality Campaign. Advancing Excellence Phase 2 Goals. Available at: http://www.nhqualitycampaign.org/files/Final_Goals_Technical_Information.pdf.

²⁻¹⁶ Advancing Excellence in America's Nursing Homes. Resources by Goal. Published 2012 Available at: www.nhqualitycampaign.org/files/AE_StaffTurnoverTrackingTool_v1.1.xls

QIOs are responsible for ensuring timely data reporting and performance improvement. For staffing turnover, the QIOs' goal is to improve staffing turnover by 60 percent, with quarter four 2012 representing the baseline period. The data source for this performance measurement activity will be the Advancing Excellence Data Tracker, as described above.²⁻¹⁷ Therefore, some facilities in California will already be submitting these data to HSAG as the QIO and/or Advancing Excellence. Of note, QIOs will also be working with facilities to ensure consistent staffing assignment.

Performance Measure

Advancing Excellence defines turnover as an employee departure, either due to firing or quitting, and the employee receiving a final paycheck. The Advancing Excellence performance measure looks at two rates: the monthly turnover rate and the annualized turnover rate as defined below.

The Advancing Excellence monthly turnover rate is defined as:

$$\frac{\text{\# of Nursing Staff Terminated by the Last Day of Each Month}}{\text{\# of Nursing Staff Employed on the First Day of Each Month}}$$

The Advancing Excellence annualized turnover rate is defined as:²⁻¹⁸

$$\frac{\text{\# of Nursing Staff Terminations During the 12 Months}}{\text{Average \# of Nursing Staff During the 12 Months}}$$

Measure Selection Criteria

Importance. Turnover rates have been found to be associated with nursing home quality. High turnover rates may result in poor quality, low continuity of care, and low staffing levels.^{2-19,2-20}

Scientific Acceptability. Evidence that demonstrates reliability and validity of the calculated measure score and data elements for the Advancing Excellence staffing turnover measure was not found.

Feasibility. Data elements (e.g., payroll information) for this measure are submitted electronically by participating Advancing Excellence facilities through a data submission form. At present time, only those facilities who are voluntarily participating in Advancing Excellence in California are submitting these data. Data collection burden will be imposed on non-Advancing Excellence participating facilities.

²⁻¹⁷ Centers for Medicare & Medicaid Services. 2011 Modifications – 10th SOW. January 13, 2012.

²⁻¹⁸ Advancing Excellence in America's Nursing Homes. Resources by Goal. Published 2012 Available at: www.nhqualitycampaign.org/files/AE_StaffTurnoverTrackingTool_v1.1.xls

²⁻¹⁹ Castle, N.G., Engberg, J. & Men, A. (2007). Nursing Home Staff Turnover: Impact on Nursing Home Compare Quality Measures. *Gerontologist*, 47(5), 650-651.

²⁻²⁰ Harrington, C., Kovner, C., Mezey, M., Kayser-Jones, J., Burger, S., Mohler, M., Burke, B., & Zimmerman, D. (2000). Experts Recommend Minimum Staffing Standards for Nursing Facilities in the U.S. *Gerontologist*, 40(1), 5-16.

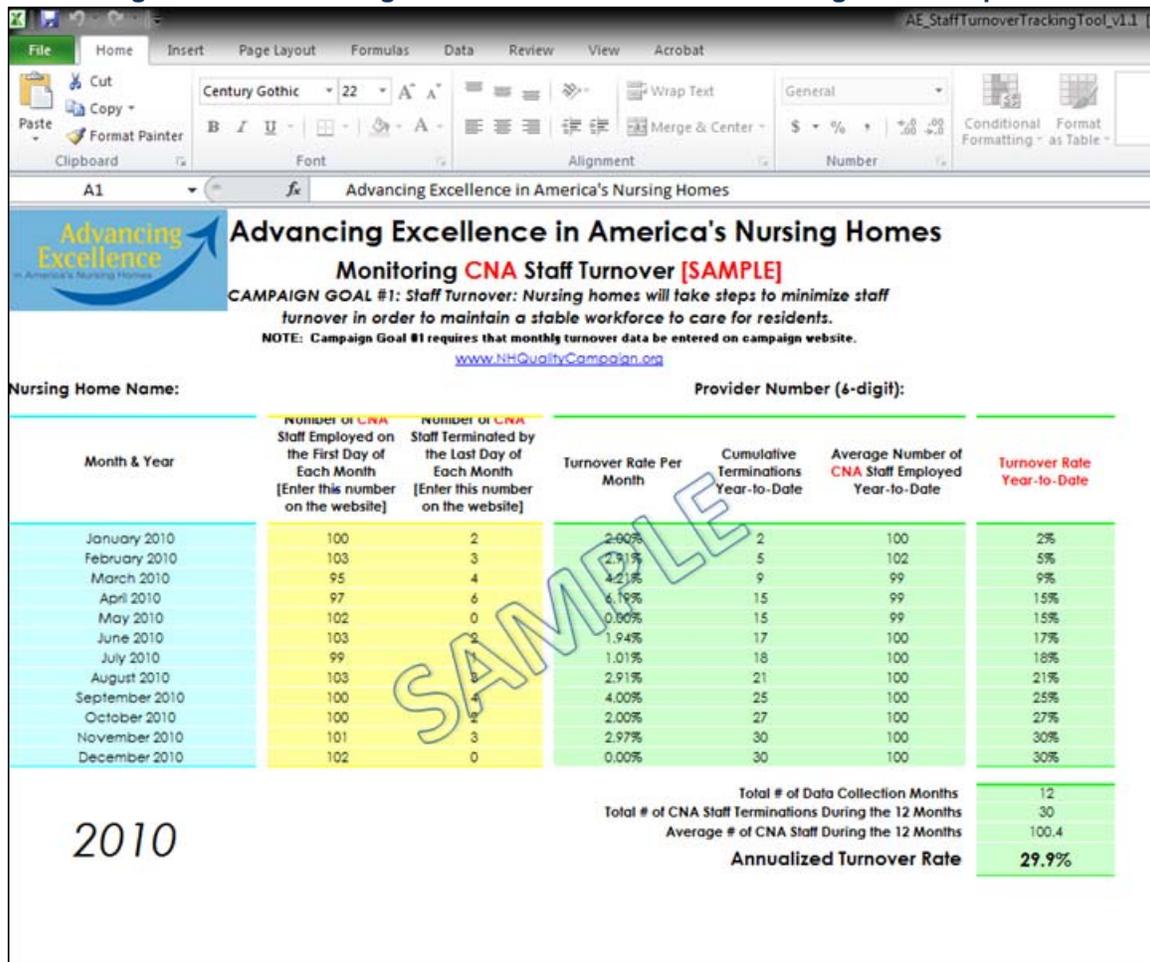
Usability. The Advancing Excellence staffing turnover measure is used in quality improvement. Evidence that demonstrates how performance results of this measure have been used by facilities was not found.

Related or Competing Measure. This measure is related to other staffing turnover measures such as those used in the NHVBP and OSHPD report.

Data Collection Method

The Advancing Excellence program Web site allows participating nursing homes to enter data on staff employment and terminations monthly. Advancing Excellence provides numerous educational resources on its Web site to assist participants in measuring improvement for this indicator. An Advancing Excellence Staff Turnover Tracking Tool is provided to assist facilities calculate annualized turnover rates. This Excel-based tool provides separate tabs for each clinician type and corresponding trending Figure 2-2 provides an example of a completed tool.

Figure 2-2—Advancing Excellence Staff Turnover Tracking Tool: Sample²⁻²¹



An additional staff-related measure, consistent assignment, ensures that patients are being cared for by the same caregiver, is also included in Advancing Excellence.

Validation of Data Submitted

Data submitted to Advancing Excellence are not validated for accuracy.

²⁻²¹ Ibid.

Discussion

Performance Measure

The performance measure for this program seems reasonable, as is evidenced by CMS' desire to include this as part of the QIO evaluation criteria. If this approach is adopted, HSAG recommends that CDPH and DHCS consider validating Advancing Excellence data. This could be a random sample, or a targeted sample based on select criteria as identified in Abt's NHVBP report and previously discussed. This will ensure that data are accurate and that facilities are using consistent data element definitions.

Data Collection Method

CDPH and DHCS could consider adopting the Advancing Excellence measure. As previously mentioned, some California facilities already submit this data to the Advancing Excellence program. Further, the QIOs will be working with SNFs in California to improve staffing retention and the Advancing Excellence measure will be used. The adoption of the Advancing Excellence program would align with other existing initiatives, such as the QIO work. However, data are not currently submitted by all facilities. CDPH should require all facilities to submit the Advancing Excellence performance measure. In addition, it is unclear how performance measure data would be obtained. For instance, CDPH may need to partner with Advancing Excellence to obtain a data extract of facility-level information, which may require multiple data use agreements (DUAs) between CDPH, Advancing Excellence, and the facilities. Some data collection agencies, such as Advancing Excellence, may not release facility-level data without the SNFs' direct consent. Alternatively, CDPH could set up a separate data submission process by which facilities would submit the Advancing Excellence directly to CDPH; however, that may be burdensome for both facilities and CDPH.

Limitations

There are limitations to the Advancing Excellence staffing turnover measure. The Advancing Excellence data collection tool allows missing values. Therefore, the tool may generate inaccurate annualized turnover performance rates if facilities fail to submit data for one or more months. If CDPH and DHCS adopt this measure, consideration for a methodology for handling missing values should be developed. Further, the rates are based on unaudited self-reported data and subject to self-report bias.

3. Medi-Cal Cost and OSHPD Disclosure Reports

California State law requires that all nursing home facilities submit an annual report of financial and operational data to OSHPD. In turn, OSHPD publishes a file containing financial and utilization data submitted by California long-term care facilities. Data files are updated biannually in October and April.

The Medicaid Cost Reports are publicly reported on the OSHPD Web site. Data from these reports are also used by other organizations such as the CalQualityCare.org Web site managed by the California HealthCare Foundation in partnership with the Department of Social and Behavioral Services at the University of California, San Francisco.

Performance Measure

The data elements captured in this file are the actual self-reported performance measure rates for each facility, which include:

- ◆ **Employee Turnover Percentage**—Number of times an employee is replaced during the given time period. OSHPD reports three employee turnover rates:
 1. Total employee turnover rate
 2. Nursing employee turnover rate
 3. Nursing assistant turnover rate

The formula for calculating the turnover rate is as follows:

$$\frac{(\text{Total Number of Employees} \times 100) - 100}{\text{Average Number of Employees}}$$

- ◆ **Employees with Continuous Service for the Entire Period**—Number of employees who were working for the facility at both the beginning of the time period and at the end of the time period.²⁻²²

²⁻²² State of California Office of Statewide Health Planning and Development. Long-term Care Facility Annual Financial Data. Published Oct 2011. Available at: <http://www.oshpd.ca.gov/HID/Products/LTC/AnnFinanclData/SelectedData/data/lafd122010/Lafd1210.pdf>.

Measure Selection Criteria

Importance. Turnover rates have been found to be associated with nursing home quality. High turnover rates may result in poor quality, low continuity of care, and low staffing levels.^{2-23,2-24}

Scientific Acceptability. Evidence that demonstrates reliability and validity of the calculated measure score and data elements for the OSHPD staffing turnover measure was not found.

Feasibility. Data elements (e.g., payroll information) for this measure are submitted electronically by Medicaid-certified facilities through a data submission form on a yearly basis.

Usability. The OSHPD staffing turnover measure is currently used for public reporting. However, evidence that demonstrates how performance results of this measure have been used by facilities was not found.

Related or Competing Measure. This measure is related to the staffing turnover measures used in programs such as Advancing Excellence and NHVBP demonstration project.

Data Collection Method

Facilities are not required to report data until as late as 7 months after their end of fiscal year. The current OSHPD data publicly available is for calendar year 2010, but there are important caveats about the data. All facilities report 12 months of data, but the reporting periods for many of the facility vary. The 12 months of data submitted is not always reported on a calendar year basis by all facilities. Some facilities report using different annual time frames. For example, some facilities report on the state fiscal year from July 1st to June 30th of each year, and others on different calendars entirely. This leaves many facilities with only partial 2010 calendar year data submitted and used in the 2010 annual report.

Nursing facilities are instructed by OSHPD to complete the Integrated Disclosure and Medi-Cal Cost Report and submit either on disk or electronically via the Internet.²⁻²⁵ Reported information includes costs and expenses, revenues, census, and labor.

In the labor section of the report, nursing facilities are instructed to report productive hours worked by employees that relate to health care activities. Nursing facilities are also instructed to perform the calculations required for employee turnover. Only productive hours are reported, which include regular time and overtime. Productive hours do not include vacation, sick, on call, holiday, or other paid time off.

²⁻²³ Castle, N.G., Engberg, J. & Men, A. (2007). Nursing Home Staff Turnover: Impact on Nursing Home Compare Quality Measures. *Gerontologist*, 47(5), 650-651.

²⁻²⁴ Harrington, C., Kovner, C., Mezey, M., Kayser-Jones, J., Burger, S., Mohler, M., Burke, B., & Zimmerman, D. (2000). Experts Recommend Minimum Staffing Standards for Nursing Facilities in the U.S. *Gerontologist*, 40(1), 5-16.

²⁻²⁵ Office of Statewide Health Planning and Development. (1999). Accounting and Reporting Manual for California Long-Term Care Facilities. http://www.oshpd.ca.gov/HID/Products/ltc/manual/forms_and_instr.html.

Table 2-1 represents a sample form completed for this portion of the OSHPD submission.

Table 2-1—Labor Turnover				
Line No.		(1) All Employees	(2) Nursing Employees	(3) Nurse Assistants
605	Number of employees at beginning of period	91	53	37
610	Number of employees at end of period	93	54	38
615	Average number of employees	93	54	38
620	Total number of people employed during the period	138	94	78
625	Turnover percentage [(line 620 / line 615) X 100] - 100	48.39%	74.07%	105.26%
630	Number of employees with continuous service for entire reporting period	70	28	20

Validation of Data Submitted

OSHPD’s Web site indicated that the financial reports submitted by long-term care facilities are based on a uniform accounting and reporting system developed and maintained by the Office and undergo a thorough desk audit.²⁻²⁶ Ty Christensen, Health Program Audit Manager at OSHPD, described the desk audit process in an interview. Each facility’s report undergoes the desk audit. OSHPD reviews the data through established parameters to identify outliers. If anything seems high or low, then the submissions are flagged, and the auditor reviews what was submitted last year to identify if there is a reasonable explanation. If there are outstanding questions, the auditor follows up with the facility (typically reports are prepared by a Certified Public Accountant or consultant) to receive an explanation or correction of the data. Once the data are corrected, they are run through the process again. Approximately 95 percent of the facilities are contacted with questions.²⁻²⁷

DHCS obtains raw OSHPD data monthly, however does not audit staffing retention data. DHCS audits for reimbursement as related to the Medi-Cal Cost Report.²⁻²⁸

Performance Measure

The Medi-Cal Cost Report turnover rates published by OSHPD can be used in the QAP. OSHPD publishes actual staffing turnover performance rates; therefore, minimal or no data manipulation would be required in order to derive facility-specific rates for staffing turnover or retention.

This performance measurement method has also been used as a California nursing home metric for many years and facilities are familiar with its methodology. Further, the employee turnover data

²⁻²⁶ Office of Statewide Health Planning and Development. Healthcare Information Division - Long-Term Care Facilities Annual Financial Data. <http://www.oshpd.ca.gov/HID/Products/LTC/AnnFinanclData/index.html>.

²⁻²⁷ Christensen, Ty. Office of Statewide Health Planning & Development. Telephone interview. Aug 24, 2012.

²⁻²⁸ Harrold, Mike. Department of Health Care Services. Telephone interview. Aug 24, 2012.

from the OSHPD has also been used in other public reporting programs such as CalQualityCare.org.

If this method is adopted, HSAG recommends that CDPH and DHCS consider validating OSHPD data. HSAG recommends implementing a validation strategy based on select criteria as identified in Abt's NHVBP report, as discussed on page 2-7. This will ensure that data are accurate and that facilities are using consistent data element definitions.

Data Collection Method

CDPH and DHCS could consider using the existing data source, OSHPD, for the calculation of these rates. The advantage with this source is that data will likely be available from all QAP-eligible facilities. However, the main challenge associated with the OSHPD data is the data lag. Further, the OSHPD data collection time frame does not align with the QAP time frame (i.e., facilities submit data on varying time frames). In addition, publicly available data appear to lag even greater than 7 months. Therefore, CDPH and DHCS may need to consider adopting different performance measurement periods for the staffing turnover measure and work with OSHPD to obtain a data extract prior to public posting in order to have the data required to calculate performance measure rates in a timely manner, which may require DUAs.

Limitations

There are limitations to the OSHPD staffing turnover measure derived from the Medi-Cal Cost Report. There are no separate turnover reports for RNs and LVNs. Also, it is not possible to distinguish full-time and part-time employees.

In addition, the reporting period each nursing facility uses is not standardized. The feasibility of enforcing a standardized reporting period for the Medi-Cal Cost Report is unknown. Finally, the turnover rate published in the OSHPD financial report reflects an average of staffing turnover in one year. As a result, analysis of variation in staffing turnover within the year is not possible.

Summary

HSAG evaluated the following potential measurement approaches in the previous section:

- ◆ Nursing Home Value-Based Purchasing Demonstration
- ◆ Advancing Excellence in America's Nursing Homes
- ◆ Medi-Cal Cost and OSHPD Disclosure Reports

NHVBP Demonstration and Advancing Excellence. The first two options had significant limitations in obtaining the data necessary from QAP-eligible facilities. Although both had sound performance measure methodologies, obtaining the data required to support the calculation of those methods might be burdensome to the facilities and the State. For example, CDPH should consider educating all nursing homes on the data measurement and submission procedure and establish a process for receiving and storing submitted data. In addition, CDPH should consider establishing a validation mechanism to ensure data are accurate and comparable across facilities.

OSHPD. The third option would be to use the existing OSHPD data. The advantage with using these data and performance measure would be that the data already exists and this would place no additional burden on nursing homes to report this performance measure. However, each nursing home reports data to OSHPD on a different time period (e.g., fiscal year, State year, etc.). Therefore, the reporting periods would be inconsistent. Additionally, OSHPD conducts a desk audit; however, comprehensiveness of the audit and the accuracy of this method may require further investigation.

Comparison of Measures using the Measure Selection Criteria

In a prior white paper developed by HSAG for the SNF QAP, HSAG identified proposed measure selection criteria. Table 3-1 provides as summary that addresses those criteria for each of the above performance measures.

Table 3-1—Comparison of Staffing Turnover Measures Using the Measure Selection Criteria

Measure Selection Criteria	Potential Measures		
	NHVBP Demonstration	Advancing Excellence	OSHPD Data
Importance	High turnover rates may result in poor quality, low continuity of care, and low staffing levels.	High turnover rates may result in poor quality, low continuity of care, and low staffing levels.	High turnover rates may result in poor quality, low continuity of care, and low staffing levels.
Scientific Acceptability	An extensive analysis of the development of the staffing turnover for the NHVBP was conducted by CMS.	No evidence found on the reliability and validity of the measure.	No evidence found on the reliability and validity of the measure.
Feasibility	CMS reported that the estimated quarterly data collection burden for Section C (Payroll data) was 1,007.5 hours.	Only those facilities who are voluntarily in Advancing Excellence in California are submitting these data. Data collection burden will be imposed on non-Advancing Excellence participating facilities.	Facilities have been submitting data to OSHPD yearly.
Usability	Measure was used in a performance incentive demonstration program.	Measure is currently being used in a quality improvement program.	Measure is used in two public reporting programs: OSHPD Financial Report, and CalQualityCare.org.
Comparison to Related and Competing Measures	This measure is related to the staffing turnover measures used in programs such as Advancing Excellence and the OSHPD report.	This measure is related to other staffing turnover measures such as those used in the NHVBP and OSHPD report.	This measure is related to the staffing turnover measures used in programs such as Advancing Excellence and NHVBP demonstration project.

Recommendations

The issue of measuring staffing retention/turnover is important because turnover and retention are linked to the quality of care provided in nursing homes. Based on an evaluation of the measure selection criteria, as presented in Table 3-1, and discussed in the prior section, HSAG recommends that CDPH and DHCS consider adopting the OSHPD performance measure into the QAP in upcoming years. The major advantage with this option is that data already exist, which will minimize reporting burden for facilities. Given that data already exist, this will allow CDPH and DHCS to move forward with this measurement approach immediately.

However, the following issues need to be considered when using the OSHPD data in the QAP:

- ◆ **Data Lag**—There is a large lag time between providers' submissions and public reporting. For example, data available in June 2012 reflect calendar year 2010. Consideration could be given to determine if the data lag is problematic. However, these issues may need to be further explored with OSHPD (e.g., obtain a data extract from OSHPD prior to its public release) and stakeholders.
- ◆ **Reporting Period**—Facilities report data to OSHPD on different reporting periods. Even though a calendar year of data is published by OSHPD, all facilities may not have data included that represents that entire reporting period. HSAG recommends that further evaluation and data analysis need be conducted to assess the impact of having less than one calendar year of data when calculating staffing turnover.

Although the labor data submitted by the facilities to OSHPD undergo a desk audit, HSAG recommends further assessment of the data be conducted to determine its adequacy for the QAP. Validation of the OSHPD labor data by a third party is an option that CDPH could consider if the OSHPD desk audit is determined to be insufficient for the QAP.

Overall, HSAG believes that using OSHPD data to report staffing turnover/retention is a viable option and encourages CDPH and DHCS to strongly consider this recommendation and seek additional input from stakeholders.