Payroll-Based Journal
Public Use Employee Detail File:
Technical Specifications

January 2022

1. Background

To augment the currently available quarterly payroll-based journal public use files[1] that provide daily summary information on nursing and non-nursing hours for both employees and contract workers, The Centers for Medicare & Medicaid Services (CMS) is now providing an additional quarterly file, the Payroll Based Journal Employee Detail Public Use File that contains more detailed information on the hours worked by individual employees. These are based on data submitted by nursing homes to CMS through the Payroll Based Journal (PBJ) system. Long-term care (LTC) facilities must electronically submit to CMS through the PBJ system complete and accurate direct care staffing information, including information for agency and contract staff, based on payroll and other verifiable and auditable data in a uniform format according to specifications established by CMS. Facilities are required to submit the number of hours that each staff member (including agency and contract staff) is paid to deliver services for each day worked.

The employee detail file includes the hours worked by all employees and contract workers in any of the job categories (nurse and non-nurse) for which PBJ data submission is mandatory. The quarterly files are available beginning with data from the second calendar quarter of 2020. A new data file will be published on a quarterly basis. Note that all of the PBJ public use files include only data that were received by the reporting deadline (which is 45 days after the last day in the quarter) and exclude data from facilities that submitted incomplete or erroneous data (see details below).

More details on the PBJ system, including the PBJ Policy Manual, can be found here: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/Staffing-Data-Submission-PBJ.html

2. Facility Inclusion and Exclusion Criteria

All inclusion and exclusion criteria are applied at the level of the facility. No additional editing or exclusions are applied for individual workers. These criteria are based on the nurse staffing data that are submitted and are the same criteria as those applied to the previously published PBJ PUFs.

a. Facility Inclusion Criteria
To be included in the PBJ PUFs, nursing homes must have been active on the last day of the quarterly submission period.

b. Facility Exclusion Criteria
A nursing home is excluded from the PBJ PUFs if the nursing home had aggregate PBJ nurse staffing levels for the quarter that are considered aberrant, based on rules previously applied for the exclusion of Certification and Survey Provider Enhanced Reports (CASPER)-based staffing measures reported on Nursing Home Care Compare and used in the Five-Star Quality Rating System. Specifically, nursing homes are excluded from the PBJ PUFs if;

    (1) Total nurse staffing = 0 hours per resident per day ; or
    (2) Total nurse staffing > 12 hours per resident per day; or
    (3) Nurse aide staffing > 5.25 hours per resident per day; or

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[1] https://data.cms.gov/quality-of-care/payroll-based-journal-daily-non-nurse-staffing

https://data.cms.gov/quality-of-care/payroll-based-journal-daily-nurse-staffing

(4) Total nurse staffing on weekends = 0 hours per resident per day; or

(5) Total nurse staffing on weekends >12 hours per resident per day; or

(6) Total nurse aide staffing on weekends > 5.25 hours per resident per day

For this purpose, total nurse staffing includes the following specific job categories: Registered Nurse (RN) Director of Nursing (DON), RN with administrative duties, RN, Licensed Practical Nurse (LPN) with administrative duties, LPN, Certified Nursing Assistant (CNA), Medication Aide/Technician, and Nurse Aide in Training. Aggregate staffing for the quarter is calculated by summing all relevant staffing hours across the quarter and dividing this by the sum of the daily MDS census across the quarter. For weekend staffing, both staffing hours and census are aggregated across all weekend days (Saturdays and Sundays) in the quarter. These aggregates include only days for which there was a non-zero census. Census data are derived from the Nursing Home Minimum Data Set (MDS).

3. Basic File Structure

The data are presented at a very detailed level. A given employee may have multiple records on a given day if they worked in multiple job categories on the same day. A record in the file is uniquely identified by the combination of the following variables/data fields: facility identifier, work date, employee identifier, job code, and job type. Additional information about each of these data fields is provided below, in the data dictionary.

4. Data Dictionary

Table 1 shows the variables (columns) that are included in the Employee Detail File, along with information about coding.

Table 1. Columns included in the PBJ Employee Detail Public Use File

Column Name	Description	Specification notes
PROVNUM	Federal Provider Number	6-character, alphanumeric
STATE	Postal abbreviation for state	2 characters
CY_QTR	Calendar Quarter	yyyyQn
WORKDATE	Work Date	YYYYMMDD
SYS_EMPLEE_ID	System Employee ID	Numeric, integer
EMPLEE_JOB_CD_ID	Employee Job Code	Numeric, includes codes with mandatory reporting: 1 =Administrator 2 = Medical Director 3 = Other Physician 4 = Physician Assistant 5 = RN Director of Nursing 6 = RN with Administrative Duties 7 = Registered Nurse 8 = LPN with Administrative Duties

Column Name	Description	Specification notes
		9 = Licensed Practical/Vocational Nurse
		10 = Certified Nurse Aide
		11 = Nurse Aide in Training
		12 = Medication Aide/Technician
		13 = Nurse Practitioner
		14 = Clinical Nurse Specialist
		15 = Pharmacist
		16 = Dietitian
		17 = Food Service Worker
		18 = Occupational Therapist
		19 = Occupational Therapy Assistant
		20 = Occupational Therapy Aide
		21 = Physical Therapist
		22 = Physical Therapy Assistant
		23 = Physical Therapy Aide
		24 = Respiratory Therapist
		25 = Respiratory Therapy Technician
		26 = Speech/Language Pathologist
		27 = Therapeutic Recreation Specialist
		28 = Qualified Activities Professional
		29 = Other Activities Staff
		30 = Qualified Social Worker
		31 = Other Social Worker
		34 = Mental Health Service Worker
EMPLEE_CTR	Employee Type	1 = Employee 2 = Contract
WORK_HRS_NUM	Hours worked	Numeric, two decimal places

5. Limitations of Using Microsoft Excel® to open a large comma-separated value (CSV) file

The PBJ Employee Detail file can be downloaded from the data.cms.gov website as a CSV file. On many computers, if a user double-clicks on the filename for a CSV file, Microsoft Excel® will attempt to open the file. However, Excel cannot correctly load more than 1,048,576 rows. Each PBJ employee detail file has more than 60 million rows. Users may follow the Help provided by Excel or can use a statistical software package such as SAS® or Stata® to directly import the files. An alternative is to download the data for individual states or use filters to select a subset of states for download.