

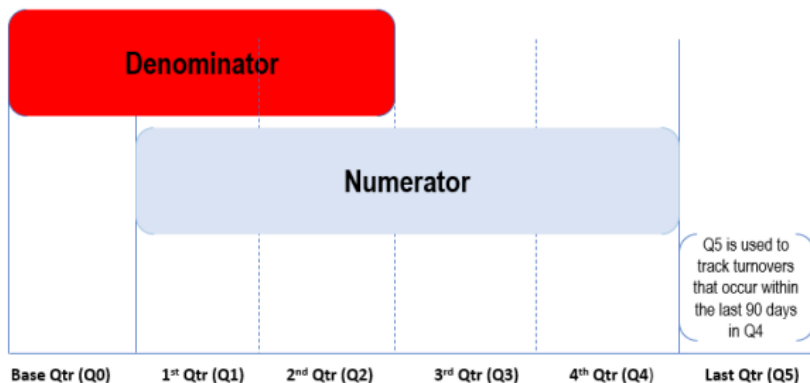
APPENDIX B (Staff Turnover)

The turnover measures are derived based on data from the Centers for Medicare and Medicaid Services (CMS) Payroll-Based Journal (PBJ) System, which contains staffing information submitted by all certified skilled nursing facilities. This appendix provides a basic description of how PBJ data are used to construct staff turnover measures. For a detailed explanation refer to the “Specifications for Staff Turnover Measures” section in the CMS [Nursing Home Five-Star Quality Rating System Technical Users Guide](#).

Using data submitted through PBJ, annual turnover measures for RNs and total nursing staff (RNs, licensed practical/licensed vocational nurses (LPNs), and nurse aides) are constructed. Definitions for these staff categories are as follows:

- RNs: Includes RN directors of nursing, RNs with administrative duties and RNs (registered nurses)
- Total Nursing Staff: Includes RN directors of nursing, RNs with administrative duties, RNs, LPNs with administrative duties, LPNs, certified nurse aides, aides in training, and medication aides/technicians.

Note that calculation of the annual turnover measures requires six consecutive quarters of PBJ data (See Figure below). The turnover measures for 2023 are calculated from October 1st 2022 to September 30th 2023. Data from a baseline quarter (prior to the first quarter covered by the turnover measures) along with the first two quarters covered by the turnover measures are used to identify employees who are eligible to be included in the **Denominator**, which includes only individuals who worked at least 120 hours in a 90-day period (defined as an “employment spell”) with the first workday of the 90-day employment spell occurring in any of the three quarters. Note that both regular employees and contracted staff are included in the turnover measure if they work sufficient hours to be eligible for the denominator. Individuals who have not worked in the facility for 90 consecutive days are considered to be no longer employed for purposes of calculating turnover rates. These individuals comprise the **Numerator**--employment spells that ended in turnover. The 90-day gap in employment must start during the period covered by the turnover measure in any of the 4 quarters.



Turnover is identified based on gaps in days worked, allowing the creation of a turnover measure that is defined the same way across all nursing homes and that does not depend on termination dates reported by nursing homes. Individuals are identified based on the employee system ID. The turnover rate is calculated as the total number of employment spells that ended in turnover divided by the total number of eligible employment spells. Using this formula, the maximum turnover rate is 100 percent.

As an example, if a nursing home had 10 total employment spells (10 individuals who worked at least 120 hours in a 90-day period) and 3 employment spells that ended in turnover (3 individuals who did not work for 90 consecutive days or more), that facility's turnover rate would be 30%.

Note that individuals who return to the nursing home after a gap of more than 90 days can have multiple 'employment spells' used in the turnover calculation if they meet the eligibility requirement for subsequent employment spells. Essentially, they are treated as new employees.

Several factors can result in a nursing home not having a reportable turnover rate.

- Nursing homes that failed to submit staffing data or submitted data that are considered invalid for one or more of the quarters used to calculate the turnover measures are excluded. Turnover measures will not be reported until the quarter(s) with missing or invalid data are no longer included in the turnover measure calculation period (six quarters). Additionally, if a nursing home has no resident census information (derived from MDS assessments and needed for the calculation of staffing levels), the nursing home is excluded. Additionally, nursing homes are excluded if they failed an audit of the PBJ staffing data for a reason that would impact turnover calculations for one of the covered quarters.
- Nursing homes are excluded from the total nurse staffing and RN turnover measures if they have fewer than five eligible nurses (RNs, LPNs, and nurse aides) in the denominator. The purpose of this exclusion rule is to increase the stability of the turnover measures.
- For the total nurse staffing and RN turnover measures, nursing homes with 100 percent daily total nurse staffing turnover for any day in the six quarter period on which there were at least five eligible nurse staff are excluded. 100 percent daily turnover is typically the result of changes in the employee IDs used by nursing homes. Since gaps in days worked are identified based on the employee and nursing home IDs reported in the PBJ data, a change in employee IDs can result in a 100 percent turnover rate on a particular day (i.e., the day that the nursing home started using the new identifier), which reflects the change in the employee IDs and not actual staff turnover.