

NATIONAL QUALITY FORUM

Measure Submission and Evaluation Worksheet 5.0

This form contains the information submitted by measure developers/stewards, organized according to NQF's measure evaluation criteria and process. The evaluation criteria, evaluation guidance documents, and a blank online submission form are available on the [submitting standards web page](#).

NQF #: 0207	NQF Project: Patient Safety Measures-Complications Project
(for Endorsement Maintenance Review)	
Original Endorsement Date: Aug 05, 2009 Most Recent Endorsement Date: Aug 05, 2009 Last Updated Date: Apr 09, 2012	
BRIEF MEASURE INFORMATION	
De.1 Measure Title: Voluntary Turnover	
Co.1.1 Measure Steward: The Joint Commission	
De.2 Brief Description of Measure: NSC-11.1 Total number of full-time and part-time Registered Nurse (RN) and Advanced Practice Nurse (APN) voluntary uncontrolled separations occurring during the calendar month NSC-11.2 Total number of full-time and part-time Licensed Practical Nurse (LPN), Licensed Vocational Nurse (LVN) voluntary uncontrolled separations occurring during the calendar month NSC-11.3 Total number of full-time and part-time Unlicensed Assistive Personnel (UAP) voluntary uncontrolled separations occurring during the calendar month	
2a1.1 Numerator Statement: The total number of voluntary uncontrolled separations of nursing staff during the calendar month, stratified by type of staff.	
2a1.4 Denominator Statement: Total number of full time and part time employees on the last day of the month, stratified by type of staff.	
2a1.8 Denominator Exclusions: Excluded Populations: Per diems, contractors, consultants, temporary agency, travelers, students, or other non-permanent employees.	
1.1 Measure Type: Structure 2a1. 25-26 Data Source: Management Data, Other 2a1.33 Level of Analysis: Clinician : Team, Facility	
1.2-1.4 Is this measure paired with another measure? No	
De.3 If included in a composite, please identify the composite measure (<i>title and NQF number if endorsed</i>): Not applicable	

STAFF NOTES (<i>issues or questions regarding any criteria</i>)
Comments on Conditions for Consideration:
Is the measure untested? Yes <input type="checkbox"/> No <input type="checkbox"/> If untested, explain how it meets criteria for consideration for time-limited endorsement:
1a. Specific national health goal/priority identified by DHHS or NPP addressed by the measure (<i>check De.5</i>): 5. Similar/related endorsed or submitted measures (<i>check 5.1</i>): Other Criteria:
Staff Reviewer Name(s):

1. IMPACT, OPPORTUNITY, EVIDENCE - IMPORTANCE TO MEASURE AND REPORT

Importance to Measure and Report is a threshold criterion that must be met in order to recommend a measure for endorsement. All three subcriteria must be met to pass this criterion. See [guidance on evidence](#).
Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.
[\(evaluation criteria\)](#)

1a. High Impact: H M L I

(The measure directly addresses a specific national health goal/priority identified by DHHS or NPP, or some other high impact aspect of healthcare.)

De.4 Subject/Topic Areas (Check all the areas that apply): [Prevention](#)

De.5 Cross Cutting Areas (Check all the areas that apply): [Infrastructure Supports, Infrastructure Supports : Workforce, Safety : Workforce](#)

1a.1 Demonstrated High Impact Aspect of Healthcare: [Affects large numbers, High resource use, Patient/societal consequences of poor quality](#)

1a.2 If "Other," please describe:

1a.3 Summary of Evidence of High Impact (Provide epidemiologic or resource use data):

A 2011 study by Taylor et al. conducted a cross-sectional study in a level-one trauma center, included 29 nursing units, 723 nurses and 28,876 discharges. They concluded that a safety climate was associated with nurse and patient injuries suggesting the outcomes may be linked. They also indicate that increased unit turnover should be considered a risk factor for both nurse and patient injuries.

A 2010 study by Bae, Mark and Fried, using data from 268 nursing units at 141 hospitals, units provided monthly nursing turnover rates, nurse questionnaires, and patient outcomes. The findings show that managing nursing unit turnover is critical to delivering high quality patient care.

From the report "VHA's 2002 Research Series: The Business Case for Work Force Stability", a study of the relationship between risk-adjusted mortality and severity-adjusted average length of stay and employee turnover rate found a direct relationship between these variables. The organizations with the lowest turnover rates had lower risk-adjusted mortality rates and severity-adjusted length of stay. Organizations with the highest turnover rates also had the highest mortality and length of stay.

Low Turnover: 4-12%	Mortality: 0.78	Length-of-stay: 3.81
Med Turnover: 12-21%	Mortality: 0.98	Length-of-stay: 4.81
High Turnover: 22-44%	Mortality: 1.09	Length-of-stay: 5.02

1a.4 Citations for Evidence of High Impact cited in 1a.3: [Aiken LH, Clarke SP, Sloane DM, Sochalski J, Silber JH. Hospital nurse staffing and patient mortality, nurse burnout, and job satisfaction. JAMA. 2002; 288:1987-1993.](#)

[Aiken LH, Sochalski J, Anderson GF, Downsizing the hospital nursing workforce. Health Aff. 1996;15:88-92.](#)

[Bae, S., Mark, B., & Fried, B. Impact of nursing unit turnover on patient outcomes in hospitals. Journal of Nursing Scholarship. 2010; 42\(1\), 40-49.](#)

[Buerhaus PI. Shortages of hospital registered nurses: causes and perspectives on public and private sector actions. Nurs Outlook. 2002;50:4-6](#)

[Buerhaus PI, Needleman J, Mattke S, Steward M. Strengthening hospital nursing. Health Aff. 2002; 21:123-132.](#)

[Buerhaus PI, Staiger DO, Auerbach DI. Implications of an aging registered nurse workforce. JAMA. 2000;283:2948-2954.](#)

[Golden, T. An Outcomes-Based Approach to Improved Registered Nurse Retention. Journal for Nurses in Staff Development. 2008; 24\(3\), E6-E11.](#)

[Hayes, L. J., et al. Nurse turnover: A literature review—An update. International Journal of Nursing Studies. 2011; doi:10.1016/j.ijnurstu.2011.10.001](#)

[Kane, R. L., Shamliyan, T., Mueller, C., Duval, S., & Wilt, T. J. Nurse staffing and quality of patient care. \(Evidence Report/Technology Assessment No. 151\). Agency for Healthcare Research and Quality \(US\). 2007; Retrieved from <http://www.ncbi.nlm.nih.gov/books/NBK38315/>](#)

[Kosel KC, Olivo T. VHA's 2002 Research Series: The Business Case for Work Force Stability. Voluntary Hospitals of America; April 2002.](#)

Lake ET. Advances in understanding and predicting nurse turnover. *Research in the Sociology of Health Care*. 1998;15:147-171.

Mark BA, Saylor J, Smith CS. A theoretical model for nursing systems outcomes research. *Nurs Admin Q*. 1996;20:12-27.

McClure ML, Hinshaw AS, eds. *Magnet Hospitals Revisited: Attraction and Retention of Professional Nurses*. Washington, DC: American Nurses Publishing;2002.

Mitchell, P. Nurse staffing—A summary of current research, opinion and policy. A report of the Ruckelshaus Center Nurse Staffing Steering Committee. Pullman, WA: The William D. Ruckelshaus Center. 2009; Retrieved from <http://www.ruckelshauscenter.wsu.edu/projects/documents/NurseStaffingfinal.pdf>

Needleman J, Buerhaus P, Mattke S, Steward M, Zelevinsky K. Nurse-staffing levels and the quality of care in hospitals. *N Eng J Med*. 2002; 346:1715-1722.

Taunton RL, Kleinbeck SV, Stafford R, Woods CQ, Bott MJ. Patient outcomes: are they linked to registered nurse absenteeism, separation, or workload? *J Nurs Admin*. 1994(24):48-55.

Taylor, J., Dominici, F., Agnew, J., Gerwin, D., Morlock, L., Miller, M. Do nurse and patient injuries share common antecedents? An analysis of associations with safety climate and working conditions. *BMJ Qual Saf* 2012; 21:101-111. doi:10.1136/bmjqs-2011-000082

Unruh, L. Nurse staffing and patient, nurse, and financial outcomes. *AJN the American Journal of Nursing*. 2008;108(1), 62. Retrieved from http://www.pennanurses.org/pac/PDFs/3_08CE_NurseStaff.pdf

1b. Opportunity for Improvement: H M L I

(There is a demonstrated performance gap - variability or overall less than optimal performance)

1b.1 Briefly explain the benefits (improvements in quality) envisioned by use of this measure:

Voluntary turnover within an organization that is due primarily to employee dissatisfaction with his or her job (including aspects such as compensation, work environment, team members, or management) and excluding other recognized causes of separation such as relocation, retirement or termination is a widely recognized, highly specific and more accurate measure for assessing employee separations than total turnover rate. It is correlated with levels of employee satisfaction and impacts the stability of staffing resources. Furthermore, with high patient to nurse ratios, nurses are more likely to experience increased emotional exhaustion (Aiken, et al.). Shortages of available hospital nurses make staff satisfaction and retention an even more critical issue for hospitals. Collection of voluntary turnover information allows healthcare organizations to focus on separations that are likely related to dissatisfaction. By assessing this important workforce issue, an organization may identify opportunities to improve job satisfaction, increase staff retention and maximize nursing resources.

1b.2 Summary of Data Demonstrating Performance Gap (Variation or overall less than optimal performance across providers):

[For Maintenance – Descriptive statistics for performance results for this measure - distribution of scores for measured entities by quartile/decile, mean, median, SD, min, max, etc.]

As shown below the data range from 0-56.9% turnover for RN/APNs and 0-75.7% for LPN/UAP, a lower rate desirable.

Colorado: The Colorado Hospital Report Card

Voluntary Turnover data reported:

2011 = 28 hospitals reported

RN, APN = range 0 – 56.9%

LPN, LVN, NA = 0 – 75.7%

Q4 2011 Adapted-NQF Voluntary Nursing Unit Turnover Rate for NDNOI Units

Reporting Units	Mean	SD	
Adult Critical Care	562	0.23	1.29
Adult Step Down	349	0.3	2.31
Adult Medical	496	0.21	1.16
Adult Surgical	352	0.24	2.92

Adult Med-Surg Combined	625	0.28	1.72
Adult Rehabilitation	150	0.07	2.36
Adult Critical Access	18	0.56	2.36

The Joint Commission pilot hospital Voluntary Turnover measure rates:

	RN/APN	LPN/UAP
Median	10.29%	13.30%
Min	0.00%	1.03%
Max	22.07%	34.68%

43 hospitals reported voluntary turnover data, collected from August 2007 - July 2008.

1b.3 Citations for Data on Performance Gap: [*For Maintenance* – Description of the data or sample for measure results reported in 1b.2 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included]

Colorado: The Colorado Hospital Report Card

http://www.cohospitalquality.org/corda/dashboards/COLORADO_REPORT_CARD_BY_MEASURE/main.dashxml#cordaDash=1030

The National Database of Nursing Quality Indicators® (NDNQI®) data were supplied by the American Nurses Association. The ANA specifically disclaims responsibility for any analyses, interpretations or conclusions.

1b.4 Summary of Data on Disparities by Population Group: [*For Maintenance* –Descriptive statistics for performance results for this measure by population group]

Disparities not applicable to this measure.

1b.5 Citations for Data on Disparities Cited in 1b.4: [*For Maintenance* – Description of the data or sample for measure results reported in 1b.4 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included]

1c. Evidence (Measure focus is a health outcome OR meets the criteria for quantity, quality, consistency of the body of evidence.)
Is the measure focus a health outcome? Yes No If not a health outcome, rate the body of evidence.

Quantity: H M L I Quality: H M L I Consistency: H M L I

Quantity	Quality	Consistency	Does the measure pass subcriterion1c?
M-H	M-H	M-H	Yes <input type="checkbox"/>
L	M-H	M	Yes <input type="checkbox"/> IF additional research unlikely to change conclusion that benefits to patients outweigh harms: otherwise No <input type="checkbox"/>
M-H	L	M-H	Yes <input type="checkbox"/> IF potential benefits to patients clearly outweigh potential harms: otherwise No <input type="checkbox"/>
L-M-H	L-M-H	L	No <input type="checkbox"/>

Health outcome – rationale supports relationship to at least one healthcare structure, process, intervention, or service

Does the measure pass subcriterion1c?
Yes IF rationale supports relationship

1c.1 Structure-Process-Outcome Relationship (Briefly state the measure focus, e.g., health outcome, intermediate clinical outcome, process, structure; then identify the appropriate links, e.g., structure-process-health outcome; process- health outcome; intermediate clinical outcome-health outcome):

Collection of voluntary turnover information allows healthcare organizations to focus on separations that are likely related to dissatisfaction. By assessing this important workforce issue, an organization may identify opportunities to improve job satisfaction,

increase staff retention and maximize nursing resources. Recent evidence shows that appropriate staffing levels are important in achieving good patient outcomes.

1c.2-3 Type of Evidence (*Check all that apply*):

Selected individual studies (rather than entire body of evidence), Systematic review of body of evidence (other than within guideline development)

1c.4 Directness of Evidence to the Specified Measure (*State the central topic, population, and outcomes addressed in the body of evidence and identify any differences from the measure focus and measure target population*):

Kane et al., 2007 concluded that increased nurse staffing in hospitals was associated with lower hospital-related mortality, failure to rescue, and other patient outcomes. Mitchell, 2009 concluded that research is clear that fewer patients per nurse is associated with fewer adverse outcomes.

Unruh, 2008 determined that the evidence shows that adequate staffing and balanced workloads are central to achieving good outcomes. Additionally she notes that staffing and workload are part of a complex matrix that contributes to outcomes of nurses, patients and organizations. Among nursing factors included are dissatisfaction, burnout and high turnover. She determined there is variation in the in the evidence supporting specific measures with specific outcomes, but this may be a reflection of variation in methods or insufficient data.

A 2010 study by Bae, Mark and Fried, using data from 268 nursing units at 141 hospitals, units provided monthly nursing turnover rates, nurse questionnaires, and patient outcomes. The findings show that managing nursing unit turnover is critical to delivering high quality patient care.

A 2011 study by Taylor et al. conducted a cross-sectional study in a level-one trauma center, included 29 nursing units, 723 nurses and 28,876 discharges. They concluded that a safety climate was associated with nurse and patient injuries suggesting the outcomes may be linked. They also indicate that increased unit turnover should be considered a risk factor for both nurse and patient injuries.

This measure reflects the evidence cited.

1c.5 Quantity of Studies in the Body of Evidence (*Total number of studies, not articles*): There are several recent literature reviews that describe the body of evidence related to nurse staffing.

Kane et al. 2007, reviewed studies form 1990-2006, 94 eligible studies, 7 percent case-control; 3 percent case-series; 44 percent cross-sectional; 46 percent assessed temporality in association between nurse staffing and patient outcomes.

Unruh, 2008, reviewed studies from 1980-2006, 117 studies met criteria, 45 studies looked at the relationship between nurse staffing and patient outcomes. 21 of the studies since 2002 were focused on.

Mitchell, 2009, 114 studies are listed in the references, and reviewed to compile a summary of current research.

Hayes et al., 2011 include 69 studies in their review of nursing turnover; studies included were published form 2006 or later. Nine of these studies relate to the consequences of nurse turnover.

1c.6 Quality of Body of Evidence (*Summarize the certainty or confidence in the estimates of benefits and harms to patients across studies in the body of evidence resulting from study factors. Please address: a) study design/flaws; b) directness/indirectness of the evidence to this measure (e.g., interventions, comparisons, outcomes assessed, population included in the evidence); and c) imprecision/wide confidence intervals due to few patients or events*): Kane et al. 2007, includes an assessment that the overall quality of the studies averaged 38 of a possible 50.

1c.7 Consistency of Results across Studies (*Summarize the consistency of the magnitude and direction of the effect*): All of these reviews conclude that overall there is an association between nurse staffing and patient outcomes. As noted by Unruh, 2008 there is variation in the in the evidence supporting specific measures with specific outcomes, but this may be a reflection of variation

in methods or insufficient data.

1c.8 **Net Benefit** (*Provide estimates of effect for benefit/outcome; identify harms addressed and estimates of effect; and net benefit - benefit over harms*):

The cost of nursing turnover has been estimated for fiscal year 2007 per RN would range from \$82,000-88,000 (Jones, 2008 as cited in Mitchell, 2009). Overall the net benefit from monitoring and improving turnover rates far outweighs the cost of collecting and evaluating the results, particularly considering the cost of negative patient, nurse or organization outcomes.

1c.9 **Grading of Strength/Quality of the Body of Evidence.** Has the body of evidence been graded? No

1c.10 If body of evidence graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:

1c.11 System Used for Grading the Body of Evidence: Other

1c.12 If other, identify and describe the grading scale with definitions: None

1c.13 Grade Assigned to the Body of Evidence:

1c.14 Summary of Controversy/Contradictory Evidence:

1c.15 Citations for Evidence other than Guidelines(*Guidelines addressed below*):

1c.16 Quote verbatim, the specific guideline recommendation (*Including guideline # and/or page #*):

1c.17 Clinical Practice Guideline Citation:

1c.18 National Guideline Clearinghouse or other URL:

1c.19 **Grading of Strength of Guideline Recommendation.** Has the recommendation been graded? No

1c.20 If guideline recommendation graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:

1c.21 System Used for Grading the Strength of Guideline Recommendation: Other

1c.22 If other, identify and describe the grading scale with definitions: None

1c.23 Grade Assigned to the Recommendation:

1c.24 Rationale for Using this Guideline Over Others:

Based on the NQF descriptions for rating the evidence, what was the developer's assessment of the quantity, quality, and consistency of the body of evidence?

1c.25 Quantity: High 1c.26 Quality: Moderate 1c.27 Consistency: Moderate

1c.28 Attach evidence submission form:

1c.29 Attach appendix for supplemental materials:

Was the threshold criterion, *Importance to Measure and Report*, met?

(1a & 1b must be rated moderate or high and 1c yes) Yes No

Provide rationale based on specific subcriteria:

For a new measure if the Committee votes NO, then STOP.

For a measure undergoing endorsement maintenance, if the Committee votes NO because of 1b. (no opportunity for

improvement), it may be considered for continued endorsement and all criteria need to be evaluated.

2. RELIABILITY & VALIDITY - SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. **(evaluation criteria)**

Measure testing must demonstrate adequate reliability and validity in order to be recommended for endorsement. Testing may be conducted for data elements and/or the computed measure score. Testing information and results should be entered in the appropriate field. Supplemental materials may be referenced or attached in item 2.1. See [guidance on measure testing](#).

S.1 Measure Web Page (*In the future, NQF will require measure stewards to provide a URL link to a web page where current detailed specifications can be obtained*). Do you have a web page where current detailed specifications for this measure can be obtained? **Yes**

S.2 If yes, provide web page URL: http://www.jointcommission.org/national_quality_forum_nqf_endorsed_nursing-sensitive_care_performance_measures/

2a. RELIABILITY. Precise Specifications and Reliability Testing: H M L I

2a1. Precise Measure Specifications. (*The measure specifications precise and unambiguous.*)

2a1.1 Numerator Statement (*Brief, narrative description of the measure focus or what is being measured about the target population, e.g., cases from the target population with the target process, condition, event, or outcome*):

[The total number of voluntary uncontrolled separations of nursing staff during the calendar month, stratified by type of staff.](#)

2a1.2 Numerator Time Window (*The time period in which the target process, condition, event, or outcome is eligible for inclusion*):
Calendar month

2a1.3 Numerator Details (*All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, codes with descriptors, and/or specific data collection items/responses*):

Included Populations:

- RN and APN separations
- LPN/LVN separations
- UAP separations

Excluded Populations:

- Transfers within the organization
- Separations due to death, disability, illness, pregnancy, relocation, military service, education, retirement, promotions, performance or discipline
- Cutbacks due to mergers, cyclical layoffs, or other permanent reduction in force

Data Elements:

- Month
- Reason for Separation
- Separations APN
- Separations RN
- Separation LPN/LVN
- Separations UAP
- Type of Unit
- Year

[Voluntary turnover or voluntary uncontrolled separation is defined within the context of this performance measure as separations that are primarily due to employee dissatisfaction with his or her job \(including aspects such as compensation, work environment, team members, or management\); excluding other recognized causes of separation such as relocation, retirement or termination.](#)

2a1.4 Denominator Statement (*Brief, narrative description of the target population being measured*):

Total number of full time and part time employees on the last day of the month, stratified by type of staff.

2a1.5 Target Population Category (Check all the populations for which the measure is specified and tested if any):

2a1.6 Denominator Time Window (The time period in which cases are eligible for inclusion):

Calendar month

2a1.7 Denominator Details (All information required to identify and calculate the target population/denominator such as definitions, codes with descriptors, and/or specific data collection items/responses):

Included Populations:

- RNs and APNs engaged in direct patient care positions or related supervisory positions and positions for which an RN degree is a specific condition of hire, employed on the last day of the month.
- LPNs/LVNs and UAPs engaged in direct patient care positions, employed on the last day of the month.
- Staff employed by the hospital but who have no regularly scheduled hours (e.g., float pool)

Data Elements:

Employed APNs

Employed RNs

Employed LPNs/LVNs

Employed UAP

Type of Unit

Month

Year

2a1.8 Denominator Exclusions (Brief narrative description of exclusions from the target population):

Excluded Populations:

Per diems, contractors, consultants, temporary agency, travelers, students, or other non-permanent employees.

2a1.9 Denominator Exclusion Details (All information required to identify and calculate exclusions from the denominator such as definitions, codes with descriptors, and/or specific data collection items/responses):

None

2a1.10 Stratification Details/Variables (All information required to stratify the measure results including the stratification variables, codes with descriptors, definitions, and/or specific data collection items/responses):

NSC-11.1 RN and APN

NSC-11.2 LPN and LVN

NSC-11.3 UAP

2a1.11 Risk Adjustment Type (Select type. Provide specifications for risk stratification in 2a1.10 and for statistical model in 2a1.13): No risk adjustment or risk stratification **2a1.12 If "Other," please describe:**

2a1.13 Statistical Risk Model and Variables (Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development should be addressed in 2b4.):

None

2a1.14-16 Detailed Risk Model Available at Web page URL (or attachment). Include coefficients, equations, codes with descriptors, definitions, and/or specific data collection items/responses. Attach documents only if they are not available on a webpage and keep attached file to 5 MB or less. NQF strongly prefers you make documents available at a Web page URL. Please supply login/password if needed:

2a1.17-18. Type of Score: Ratio

2a1.19 Interpretation of Score (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score): **Better quality = Lower score**

2a1.20 Calculation Algorithm/Measure Logic(Describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; aggregating data; risk adjustment; etc.):

NSC-11.1: Voluntary turnover for Registered Nurse (RN) and Advanced Practice Nurse (APN)

Numerator: Total number of full-time and part-time RN and APN voluntary uncontrolled separations occurring during the calendar month.

Denominator: Total number of full time and part time employed RN and APN on the last day of the month.

Calculate Numerator

Variable key: TotalSeparations

Start processing.

Check Month

- a. If Month is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
- b. If Month is equal to 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 or 12, continue and proceed to check Year.

Check Year

- c. If Year is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
- d. If Year is greater than or equal to 0 and Year is less than or equal to 9999, continue and proceed to check Separations APN.

Check Separations APN

If Separations APN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

If Separations APN is greater than or equal to 0, continue and proceed to check Separations RN.

Check Separations RN

- e. If Separations RN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
- f. If Separations RN is greater than or equal to 0, continue and proceed to initialization of TotalSeparations.

Initialization. Initialize TotalSeparations to 0. Continue and proceed to calculation of TotalSeparation.

Calculate TotalSeparation. TotalSeparation equals Separations APN plus Separations RN. Continue and proceed to Numerator assignment.

Numerator assignment. Numerator of NSC11.1 equals TotalSeparation. Stop processing.

Calculate Denominator

Variable key: TotalEmployed

1. Start processing.

2. Check Month
 - a. If Month is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Month is equal to 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 or 12, continue and proceed to check Year.
3. Check Year
 - a. If Year is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Year is greater than or equal to 0 and Year is less than or equal to 9999, continue and proceed to check Employed APN.
4. Check Employed APN
 - a. If Employed APN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Employed APN is greater than or equal to 0, continue and proceed to check Employed RN.
5. Check Employed RN
 - a. If Employed RN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Employed RN is greater than or equal to 0, continue and proceed to initialization of TotalEmployed.
6. Initialization. Initialize TotalEmployed to 0. Continue and proceed to calculation of TotalEmployed.
7. Calculate TotalEmployed. TotalEmployed equals Employed APN plus Employed RN. Continue and proceed to check TotalEmployed.
8. Check TotalEmployed
 - a. If TotalEmployed is less than or equal to 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If TotalEmployed is greater than 0, continue and proceed to Denominator assignment.
9. Denominator assignment. Denominator of NSC11.1 equals TotalEmployed. Stop processing.

NSC-11.2: Voluntary turnover for Licensed Practical Nurse (LPN) / Licensed Vocational Nurse (LVN)
Numerator: Total number of full-time and part-time LPN, LVN voluntary uncontrolled separations occurring during the calendar month.
Denominator: Total number of full time and part time employed LPN and LVN on the last day of the month.

Calculate Numerator

Variable key: TotalSeparations

1. Start processing.
2. Check Month
 - a. If Month is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Month is equal to 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 or 12, continue and proceed to check Year.
3. Check Year
 - a. If Year is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Year is greater than or equal to 0 and Year is less than or equal to 9999, continue and proceed to check Separations LPN.

4. Check Separations LPN
 - a. If Separations LPN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Separations LPN is greater than or equal to 0, continue and proceed to check Separations LVN.
5. Check Separations LVN
 - a. If Separations LVN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Separations LVN is greater than or equal to 0, continue and proceed to initialization of TotalSeparations.
6. Initialization. Initialize TotalSeparations to 0. Continue and proceed to calculation of TotalSeparation.
7. Calculate TotalSeparation. TotalSeparation equals Separations LPN plus Separations LVN. Continue and proceed to Numerator assignment.
8. Numerator assignment. Numerator of NSC11.2 equals TotalSeparation. Stop processing.

Calculate Denominator

Variable key: TotalEmployed

1. Start processing.
2. Check Month
 - a. If Month is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Month is equal to 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 or 12, continue and proceed to check Year.
3. Check Year
 - a. If Year is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Year is greater than or equal to 0 and Year is less than or equal to 9999, continue and proceed to check Employed LPN.
4. Check Employed LPN
 - a. If Employed LPN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Employed LPN is greater than or equal to 0, continue and proceed to check Employed LVN.
5. Check Employed LVN
 - a. If Employed LVN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Employed LVN is greater than or equal to 0, continue and proceed to initialization of TotalEmployed.
6. Initialization. Initialize TotalEmployed to 0. Continue and proceed to calculation of TotalEmployed.
7. Calculate TotalEmployed. TotalEmployed equals Employed LPN plus Employed LVN. Continue and proceed to check TotalEmployed.
8. Check TotalEmployed
 - a. If TotalEmployed is less than or equal to 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If TotalEmployed is greater than 0, continue and proceed to Denominator assignment.

9. Denominator assignment. Denominator of NSC11.2 equals TotalEmployed. Stop processing.

NSC-11.3: Voluntary Turnover for Unlicensed Assistive Personnel (UAP)

Numerator: Total number of full-time and part-time LPN, LVN voluntary uncontrolled separations occurring during the calendar month.

Denominator: Total number of full time and part time employed UAP on the last day of the month.

1. Start processing.

2. Check Month

a. If Month is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

b. If Month is equal to 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 or 12, continue and proceed to check Year.

3. Check Year

a. If Year is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

b. If Year is greater than or equal to 0 and Year is less than or equal to 9999, continue and proceed to check Separations UAP.

4. Check Separations UAP

5. If Separations UAP is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

6. If Separations UAP is greater than or equal to 0, continue and proceed to check Employed UAP.

7. Check Employed UAP

a. If Employed UAP is missing or less than or equal to 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.

b. If Employed UAP is greater than 0, continue and proceed to set Numerator.

8. Set Numerator. Numerator of NSC11.3 equals Separations UAP. Continue and proceed to set Denominator.

9. Set Denominator. Denominator of NSC11.3 equals Employed UAP. Stop processing.

2a1.21-23 Calculation Algorithm/Measure Logic Diagram URL or attachment:

Attachment

NSC_Voluntary_Turnover_algorithm.docx

2a1.24 **Sampling (Survey) Methodology.** If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate):

None

2a1.25 **Data Source** (Check all the sources for which the measure is specified and tested). If other, please describe:

Management Data, Other

2a1.26 **Data Source/Data Collection Instrument** (Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.): Human resource employment records

2a1.27-29 **Data Source/data Collection Instrument Reference Web Page URL or Attachment:**

2a1.30-32 **Data Dictionary/Code Table Web Page URL or Attachment:**

URL

http://www.jointcommission.org/national_quality_forum_nqf_endorsed_nursing-sensitive_care_performance_measures/

2a1.33 Level of Analysis (Check the levels of analysis for which the measure is specified and tested): [Clinician : Team, Facility](#)

2a1.34-35 Care Setting (Check all the settings for which the measure is specified and tested): [Hospital/Acute Care Facility](#)

2a2. Reliability Testing. (Reliability testing was conducted with appropriate method, scope, and adequate demonstration of reliability.)

2a2.1 Data/Sample (Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included):

18 on site visit focus groups answered questions related to Voluntary Turnover.

2a2.2 Analytic Method (Describe method of reliability testing & rationale):

The Joint Commission conducted a 24 month testing project that included reliability assessment visits. Twenty pilot sites were randomly selected for an on-site reliability assessment. Considering the variety of measure data sources and collection frequencies, traditional reliability methods had to be expanded upon. The following methods were used for on-site reliability visits: for document abstracted measures (e.g. infections and falls) Joint Commission staff reviewed and re-abstracted hospital documents such as patient charts, incident reports and infection control reports; observation measures (e.g. pressure ulcer and restraint prevalence) project staff and hospital staff performed prevalence studies observing patients and independently completing data collection tools; lastly for measures based on electronic reports, manual tracking and surveys (e.g. nursing hours, skill mix and PES-NWI nurse survey) the staff developed a standard set of interview questions to assess level of conformity with measure specifications. Project staff completed 19 on-site reliability visits between April and August 2008. The first visit was used as a trial visit and one visit was not completed due to a last minute airline cancellation that could not be rescheduled within the needed timeframe.

2a2.3 Testing Results (Reliability statistics, assessment of adequacy in the context of norms for the test conducted):

Reliability Findings:

Staff responsible for data collection were asked the following questions:

Indicate which types of staff were included in the measure?

	Response Count	Number Interviews	Response Percent
*a. full time	15	18	83.30%
*b. part time	15	18	83.30%
*c. float pool	8	18	44.40%
d. per diems	4	18	22.20%
e. contractors	0	18	0.00%
f. consultants	0	18	0.00%
g. temporary agency	0	18	0.00%
h. travelers	0	18	0.00%
i. students	0	18	0.00%
j. other non-permanent	0	18	0.00%
k. other please specify	1	18	5.60%

* per measure specifications a and b should be included and c. float pool staff who are full or part-time should be included.

The responses show for example, 15 hospitals said they did include full and part time as indicated by the specifications; therefore 3 did not follow specifications as written.

Indicate which kinds of separations were included as Voluntary?

	Response Count	Number Interviews	Response Percent
a. transfers within org	1	18	5.60%
b. death	4	18	22.20%
c. disability	5	18	27.80%

d. illness	8	18	44.40%
e. pregnancy	7	18	38.90%
f. relocation	10	18	55.60%
g. military service	4	18	22.20%
h. education	9	18	50.00%
i. retirement	7	18	38.90%
j. promotions within org	2	18	11.10%
k. promotions outside org	8	18	44.40%
l. performance or discipline	0	18	0.00%
m. cutbacks/layoffs/reduct	2	18	11.10%
n. other please specify	3	18	16.70%

All of these items should be exclusions

The responses show for example, 4 hospitals said they did include nurses who died as voluntary turnover and did not follow specifications as written.

During the study the abstractor determined reasons for separation that would be excluded. Therefore the data element Reason for Separation was added to collect the reason for employment separation. To improve data quality the algorithm will determine the exclusions, rather than the abstractor.

2b. VALIDITY. Validity, Testing, including all Threats to Validity: H M L I

2b1.1 Describe how the measure specifications (measure focus, target population, and exclusions) are consistent with the evidence cited in support of the measure focus (criterion 1c) and identify any differences from the evidence:

Collection of voluntary turnover information allows healthcare organizations to focus on separations that are likely related to dissatisfaction. By assessing this important workforce issue, an organization may identify opportunities to improve job satisfaction, increase staff retention and maximize nursing resources.

In studies noted by Unruh, 2008 there is variation in the in the evidence supporting specific measures with specific outcomes, but this may be a reflection of variation in methods or insufficient data.

2b2. Validity Testing. (Validity testing was conducted with appropriate method, scope, and adequate demonstration of validity.)

2b2.1 Data/Sample (Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included):

18 on site visit focus groups answered questions related to Voluntary Turnover.

2b2.2 Analytic Method (Describe method of validity testing and rationale; if face validity, describe systematic assessment):

The Joint Commission conducted a 24 month testing project that included reliability assessment visits. Twenty pilot sites were randomly selected for an on-site reliability assessment. Considering the variety of measure data sources and collection frequencies, traditional reliability methods had to be expanded upon. The following methods were used for on-site reliability visits: for document abstracted measures (e.g. infections and falls) Joint Commission staff reviewed and re-abstracted hospital documents such as patient charts, incident reports and infection control reports; observation measures (e.g. pressure ulcer and restraint prevalence) project staff and hospital staff performed prevalence studies observing patients and independently completing data collection tools; lastly for measures based on electronic reports, manual tracking and surveys (e.g. nursing hours, skill mix and PES-NWI nurse survey) the staff developed a standard set of interview questions to assess level of conformity with measure specifications. These focus groups discussions included face validity of the measures, and these measures were found to be valid. Project staff completed 19 on-site reliability visits between April and August 2008. The first visit was used as a trial visit and one visit was not completed due to a last minute airline cancellation that could not be rescheduled within the needed timeframe.

2b2.3 Testing Results (Statistical results, assessment of adequacy in the context of norms for the test conducted; if face validity, describe results of systematic assessment):

Reliability Findings:

Staff responsible for data collection were asked the following questions:

Indicate which types of staff were included in the measure?

Response Count	Number Interviews	Response Percent
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*a. full time	15	18	83.30%
*b. part time	15	18	83.30%
*c. float pool	8	18	44.40%
d. per diems	4	18	22.20%
e. contractors	0	18	0.00%
f. consultants	0	18	0.00%
g. temporary agency	0	18	0.00%
h. travelers	0	18	0.00%
i. students	0	18	0.00%
j. other non-permanent	0	18	0.00%
k. other please specify	1	18	5.60%

* per measure specifications a and b should be included and c. float pool staff who are full or part-time should be included. The responses show for example, 15 hospitals said they did include full and part time as indicated by the specifications; therefore 3 did not follow specifications as written.

Indicate which kinds of separations were included as Voluntary?

	Response Count	Number Interviews	Response Percent
a. transfers within org	1	18	5.60%
b. death	4	18	22.20%
c. disability	5	18	27.80%
d. illness	8	18	44.40%
e. pregnancy	7	18	38.90%
f. relocation	10	18	55.60%
g. military service	4	18	22.20%
h. education	9	18	50.00%
i. retirement	7	18	38.90%
j. promotions within org	2	18	11.10%
k. promotions outside org	8	18	44.40%
l. performance or discipline	0	18	0.00%
m. cutbacks/layoffs/reduct	2	18	11.10%
n. other please specify	3	18	16.70%

All of these items should be exclusions

The responses show for example, 4 hospitals said they did include nurses who died as voluntary turnover and did not follow specifications as written.

During the study the abstractor determined reasons for separation that would be excluded. Therefore the data element Reason for Separation was added to collect the reason for employment separation. To improve data quality the algorithm will determine the exclusions, rather than the abstractor.

POTENTIAL THREATS TO VALIDITY. (All potential threats to validity were appropriately tested with adequate results.)

2b3. Measure Exclusions. (*Exclusions were supported by the clinical evidence in 1c or appropriately tested with results demonstrating the need to specify them.*)

2b3.1 Data/Sample for analysis of exclusions (*Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*):

The only exclusions are non-permanent workers who are not employed directly by the organization.

2b3.2 Analytic Method (*Describe type of analysis and rationale for examining exclusions, including exclusion related to patient preference*):

Not applicable

2b3.3 Results (Provide statistical results for analysis of exclusions, e.g., frequency, variability, sensitivity analyses):

None

2b4. Risk Adjustment Strategy. (For outcome measures, adjustment for differences in case mix (severity) across measured entities was appropriately tested with adequate results.)

2b4.1 Data/Sample (Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included):

None

2b4.2 Analytic Method (Describe methods and rationale for development and testing of risk model or risk stratification including selection of factors/variables):

None

2b4.3 Testing Results (Statistical risk model: Provide quantitative assessment of relative contribution of model risk factors; risk model performance metrics including cross-validation discrimination and calibration statistics, calibration curve and risk decile plot, and assessment of adequacy in the context of norms for risk models. Risk stratification: Provide quantitative assessment of relationship of risk factors to the outcome and differences in outcomes among the strata):

None

2b4.4 If outcome or resource use measure is not risk adjusted, provide rationale and analyses to justify lack of adjustment:

2b5. Identification of Meaningful Differences in Performance. (The performance measure scores were appropriately analyzed and discriminated meaningful differences in quality.)

2b5.1 Data/Sample (Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included):

The Colorado Hospital Report Card, Voluntary Turnover data reported: 2011 = 28 hospitals reported

For NDNQI Units Q4 2011 Adapted-NQF Voluntary Nursing Unit Turnover Rate total units equal 2552

The Joint Commission pilot hospital Voluntary Turnover measure rates include 43 hospitals reported voluntary turnover data, collected from August 2007 - July 2008.

2b5.2 Analytic Method (Describe methods and rationale to identify statistically significant and practically/meaningfully differences in performance):

Collection of voluntary turnover information allows healthcare organizations to focus on separations that are likely related to dissatisfaction. By assessing this important workforce issue, an organization may identify opportunities to improve job satisfaction, increase staff retention and maximize nursing resources. Recent evidence shows that appropriate staffing levels are important in achieving good patient outcomes.

2b5.3 Results (Provide measure performance results/scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance):

As shown below the data range from 0-56.9% turnover for RN/APNs and 0-75.7% for LPN/UAP, a lower rate desirable.

Colorado: The Colorado Hospital Report Card

Voluntary Turnover data reported:

2011 = 28 hospitals reported

RN, APN = range 0 – 56.9%

LPN, LVN, NA = 0 – 75.7%

Q4 2011 Adapted-NQF Voluntary Nursing Unit Turnover Rate for NDNQI Units

Reporting Units	Mean	SD		
Adult Critical Care	562	0.23	1.29	
Adult Step Down	349	0.3	2.31	
Adult Medical	496	0.21	1.16	
Adult Surgical	352	0.24	2.92	
Adult Med-Surg Combined		625	0.28	1.72
Adult Rehabilitation	150	0.07	2.36	
Adult Critical Access	18	0.56	2.36	

The Joint Commission pilot hospital Voluntary Turnover measure rates:

	RN/APN	LPN/UAP
Median	10.29%	13.30%
Min	0.00%	1.03%
Max	22.07%	34.68%

43 hospitals reported voluntary turnover data, collected from August 2007 - July 2008.

2b6. Comparability of Multiple Data Sources/Methods. (If specified for more than one data source, the various approaches result in comparable scores.)

2b6.1 Data/Sample (Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included):
Multiple data sources are not used.

2b6.2 Analytic Method (Describe methods and rationale for testing comparability of scores produced by the different data sources specified in the measure):
Not applicable

2b6.3 Testing Results (Provide statistical results, e.g., correlation statistics, comparison of rankings; assessment of adequacy in the context of norms for the test conducted):
Not applicable

2c. Disparities in Care: H M L I NA (If applicable, the measure specifications allow identification of disparities.)

2c.1 If measure is stratified for disparities, provide stratified results (Scores by stratified categories/cohorts): Not applicable

2c.2 If disparities have been reported/identified (e.g., in 1b), but measure is not specified to detect disparities, please explain:
Not applicable

2.1-2.3 Supplemental Testing Methodology Information:

Steering Committee: Overall, was the criterion, *Scientific Acceptability of Measure Properties*, met? (Reliability and Validity must be rated moderate or high) Yes No
Provide rationale based on specific subcriteria:

If the Committee votes No, STOP

3. USABILITY

Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. **(evaluation criteria)**

C.1 Intended Actual/Planned Use (Check all the planned uses for which the measure is intended): [Payment Program](#), [Professional Certification or Recognition Program](#), [Public Reporting](#), [Quality Improvement \(Internal to the specific organization\)](#), [Quality Improvement with Benchmarking \(external benchmarking to multiple organizations\)](#)

3.1 Current Use (Check all that apply; for any that are checked, provide the specific program information in the following questions): [Public Reporting](#), [Payment Program](#), [Professional Certification or Recognition Program](#), [Quality Improvement with Benchmarking \(external benchmarking to multiple organizations\)](#), [Quality Improvement \(Internal to the specific organization\)](#)

3a. Usefulness for Public Reporting: H M L I
 (The measure is meaningful, understandable and useful for public reporting.)

3a.1. Use in Public Reporting - disclosure of performance results to the public at large (If used in a public reporting program, provide name of program(s), locations, Web page URL(s)). If not publicly reported in a national or community program, state the reason AND plans to achieve public reporting, potential reporting programs or commitments, and timeline, e.g., within 3 years of endorsement: [**For Maintenance** – If not publicly reported, describe progress made toward achieving disclosure of performance results to the public at large and expected date for public reporting; provide rationale why continued endorsement should be considered.]

Centers for Medicare & Medicaid Services (CMS)

Hospital Inpatient Quality Reporting (Hospital IQR) program

Structural Measure: Participation in a Systematic Clinical Database Registry for Nursing Sensitive Care

URL:

<http://qualitynet.org/dcs/ContentServer?c=Page&pagename=OnetPublic%2FPage%2FOnetTier3&cid=1228732621592>

The trend in hospitals reporting to Medicare is that they participate in a Nursing-Sensitive Registry to comply with Medicare requirements:

For FY2011 (CY 2009):

1402 PPS providers participated in a Nursing sensitive registry

8 Non-PPS providers participated a Nursing sensitive registry

For FY2012 (CY 2010):

1491 PPS providers participated a Nursing sensitive registry

11 Non-PPS providers participated a Nursing sensitive registry

Many states have mandated collection and reporting of nursing-sensitive measures, for example:

Colorado: The Colorado Hospital Report Card

http://www.cohospitalquality.org/corda/dashboards/COLORADO_REPORT_CARD_BY_MEASURE/main.dashxml#cordaDash=1032

Voluntary Turnover data reported:

2011 = 28 hospitals reported

RN, APN = range 0 – 56.9%

LPN, LVN, NA = 0 – 75.7%

NDNQI (National Database of Nursing Quality Indicators, ANA): began in 1994, per NDNQI data is collected by more than 1500 hospitals nationwide.

<https://www.nursingquality.org/>

NDNQI Data:

Q4 2011 reporting units for Adapted-NQF Voluntary Nursing Unit Turnover Rate

Adult Critical Care: 562

Adult Step Down: 349

Adult medical: 496

Adult Surgical: 352

Adult Med-Surg: 625

Adult Rehab: 150

Adult Critical Access 18

CALNOC (The Collaborative Alliance for Nursing Outcomes): began in 1996, per CALNOC data is collected by more than 225 hospitals across 9 states.

VANOD (Veterans Administration Nursing Outcomes Database): began development in 2002, this database includes data from all 153 VA facilities.

www.inqri.org/uploads/INQRIVANODPanel41309FINAL.ppt

3a.2. Provide a rationale for why the measure performance results are meaningful, understandable, and useful for public reporting. If usefulness was demonstrated (e.g., focus group, cognitive testing), describe the data, method, and results: Through the Interdisciplinary Nursing Quality Research Initiative (INQRI) of the Robert Wood Johnson Foundation a project "Developing and Testing Nursing Quality Measures with Consumers and Patients" was initiated in 2005. The results were presented in June, 2009 by Shoshanna Sofaer for the INQR project team from Baruch College School of Public Affairs and George Washington University School of Medicine and Health Sciences. The project team conducted nine focus groups to gauge the response of the public to the NQF endorsed Nursing-Sensitive Measures. The project team reported that people were confused by what was meant by "rate by which nursing staff voluntarily end their employment". Therefore public reporting of the measure needs to include a clear explanation of what is being measured.

URL to Power Point Presentation:

http://nursing.gwumc.edu/staticfile/SON/Research/INQRI/INQRI_nursing_sensitive_quality_measures_presentation.pdf

3.2 Use for other Accountability Functions (payment, certification, accreditation). If used in a public accountability program, provide name of program(s), locations, Web page URL(s): Centers for Medicare & Medicaid Services (CMS)

Hospital Inpatient Quality Reporting (Hospital IQR) program

Structural Measure: Participation in a Systematic Clinical Database Registry for Nursing Sensitive Care

URL:

<http://qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228732621592>

The trend in hospitals reporting to Medicare that they participate in a Nursing-Sensitive Registry to comply with Medicare requirements:

For FY2011 (CY 2009):

1402 PPS providers participated in a Nursing sensitive registry
 8 Non-PPS providers participated a Nursing sensitive registry

For FY2012 (CY 2010):

1491 PPS providers participated a Nursing sensitive registry
 11 Non-PPS providers participated a Nursing sensitive registry

Many states have mandated collection and reporting of nursing-sensitive measures, for example:

Colorado: The Colorado Hospital Report Card

http://www.cohospitalquality.org/corda/dashboards/COLORADO_REPORT_CARD_BY_MEASURE/main.dashxml#cordaDash=1030

Voluntary Turnover data reported:

2011 = 28 hospitals reported
 RN, APN = range 0 – 56.9%
 LPN, LVN, NA = 0 – 75.7%

3b. Usefulness for Quality Improvement: H M L I

(The measure is meaningful, understandable and useful for quality improvement.)

3b.1. Use in QI. If used in quality improvement program, provide name of program(s), locations, Web page URL(s):

[For Maintenance – If not used for QI, indicate the reasons and describe progress toward using performance results for improvement].

Currently the following initiatives utilize nursing-sensitive care measures and benchmarking:

- NDNQI
- VANOD
- CALNOC
- State nursing-sensitive measure programs

Nursing-sensitive care measures collected through such databases are a required component for organizations to achieve Magnet designation through the American Nurses Credentialing Center (ANCC) Magnet Recognition Program®.

3b.2. Provide rationale for why the measure performance results are meaningful, understandable, and useful for quality improvement. If usefulness was demonstrated (e.g., QI initiative), describe the data, method and results:

Turnover rates can be used for quality improvement purposes as described in one study by Golden, 2008, at a 230-bed facility using turnover rates they determined that 64% of voluntary turnover was for newly hired RN. Their pilot project reduced turnover by 36% for an annual savings of \$1 million.

Overall, to what extent was the criterion, Usability, met? H M L I

Provide rationale based on specific subcriteria:

4. FEASIBILITY

Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. **(evaluation criteria)**

4a. Data Generated as a Byproduct of Care Processes: H M L I

4a.1-2 How are the data elements needed to compute measure scores generated? *(Check all that apply).*

Data used in the measure are:

Other

Data are collected from human resources and payroll records. Data sources can be electronic or paper.

4b. Electronic Sources: H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> I <input type="checkbox"/>
4b.1 Are the data elements needed for the measure as specified available electronically (<i>Elements that are needed to compute measure scores are in defined, computer-readable fields</i>):
4b.2 If ALL data elements are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources:
4c. Susceptibility to Inaccuracies, Errors, or Unintended Consequences: H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> I <input type="checkbox"/>
4c.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measurement identified during testing and/or operational use and strategies to prevent, minimize, or detect. If audited, provide results: Collection of voluntary turnover information allows healthcare organizations to focus on separations that are likely related to dissatisfaction. By assessing this important workforce issue, an organization may identify opportunities to improve job satisfaction, increase staff retention and maximize nursing resources. Recent evidence shows that appropriate staffing levels are important in achieving good patient outcomes. In studies noted by Unruh, 2008 there is variation in the in the evidence supporting specific measures with specific outcomes, but this may be a reflection of variation in methods or insufficient data.
4d. Data Collection Strategy/Implementation: H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> I <input type="checkbox"/>
A.2 Please check if either of the following apply (<i>regarding proprietary measures</i>): 4d.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues (<i>e.g., fees for use of proprietary measures</i>): During the study the abstractor determined reasons for separation that would be excluded. Therefore the data element Reason for Separation was added to collect the reason for employment separation. To improve data quality the algorithm will determine the exclusions, rather than the abstractor.
Overall, to what extent was the criterion, <i>Feasibility</i> , met? H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> I <input type="checkbox"/> Provide rationale based on specific subcriteria:

OVERALL SUITABILITY FOR ENDORSEMENT
Does the measure meet all the NQF criteria for endorsement? Yes <input type="checkbox"/> No <input type="checkbox"/> Rationale:
If the Committee votes No, STOP. If the Committee votes Yes, the final recommendation is contingent on comparison to related and competing measures.

5. COMPARISON TO RELATED AND COMPETING MEASURES
If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure before a final recommendation is made.
5.1 If there are related measures (<i>either same measure focus or target population</i>) or competing measures (<i>both the same measure focus and same target population</i>), list the NQF # and title of all related and/or competing measures:
5a. Harmonization
5a.1 If this measure has EITHER the same measure focus OR the same target population as NQF-endorsed measure(s) : Are the measure specifications completely harmonized?
5a.2 If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden:

5b. Competing Measure(s)
5b.1 If this measure has both the same measure focus and the same target population as NQF-endorsed measure(s): Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible):

CONTACT INFORMATION
Co.1 Measure Steward (Intellectual Property Owner): The Joint Commission, One Renaissance Boulevard, Oakbrook Terrace, Illinois, 60181
Co.2 Point of Contact: Ann, Watt, awatt@jointcommission.org, 630-792-5944-
Co.3 Measure Developer if different from Measure Steward: VHA, Inc., 220 E. Las Colinas Blvd., Irving, Texas, 75039
Co.4 Point of Contact: Lilee, Gelinas, LGELINAS@vha.com, 972-830-0239-
Co.5 Submitter: Susan, Yendro, syendro@jointcommission.org, 630-792-5079- , The Joint Commission
Co.6 Additional organizations that sponsored/participated in measure development:
Co.7 Public Contact: Susan, Yendro, syendro@jointcommission.org, 630-792-5079- , The Joint Commission

ADDITIONAL INFORMATION
Workgroup/Expert Panel involved in measure development Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.
Ad.2 If adapted, provide title of original measure, NQF # if endorsed, and measure steward. Briefly describe the reasons for adapting the original measure and any work with the original measure steward:
Measure Developer/Steward Updates and Ongoing Maintenance Ad.3 Year the measure was first released: 2004 Ad.4 Month and Year of most recent revision: 09, 2011 Ad.5 What is your frequency for review/update of this measure? annual Ad.6 When is the next scheduled review/update for this measure? 09, 2012
Ad.7 Copyright statement:
Ad.8 Disclaimers:
Ad.9 Additional Information/Comments:
Date of Submission (MM/DD/YY): 04/09/2012

NSC-11.1: Voluntary turnover for Registered Nurse (RN) and Advanced Practice Nurse (APN)

Numerator: Total number of full-time and part-time RN and APN voluntary uncontrolled separations occurring during the calendar month.

Denominator: Total number of full time and part time employed RN and APN on the last day of the month.

Calculate Numerator

Variable key: TotalSeparations

1. Start processing.
2. Check Month
 - a. If Month is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Month is equal to 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 or 12, continue and proceed to check Year.
3. Check Year
 - a. If Year is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Year is greater than or equal to 0 and Year is less than or equal to 9999, continue and proceed to check Separations APN.
4. Check Separations APN
 - a. If Separations APN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Separations APN is greater than or equal to 0, continue and proceed to check Separations RN.
5. Check Separations RN
 - a. If Separations RN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Separations RN is greater than or equal to 0, continue and proceed to initialization of TotalSeparations.
6. Initialization. Initialize TotalSeparations to 0. Continue and proceed to calculation of TotalSeparation.
7. Calculate TotalSeparation. TotalSeparation equals Separations APN plus Separations RN. Continue and proceed to Numerator assignment.
8. Numerator assignment. Numerator of NSC11.1 equals TotalSeparation. Stop processing.

Calculate Denominator

Variable key: TotalEmployed

1. Start processing.
2. Check Month
 - a. If Month is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Month is equal to 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 or 12, continue and proceed to check Year.
3. Check Year
 - a. If Year is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Year is greater than or equal to 0 and Year is less than or equal to 9999, continue and proceed to check Employed APN.
4. Check Employed APN
 - a. If Employed APN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Employed APN is greater than or equal to 0, continue and proceed to check Employed RN.
5. Check Employed RN
 - a. If Employed RN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Employed RN is greater than or equal to 0, continue and proceed to initialization of TotalEmployed.
6. Initialization. Initialize TotalEmployed to 0. Continue and proceed to calculation of TotalEmployed.
7. Calculate TotalEmployed. TotalEmployed equals Employed APN plus Employed RN. Continue and proceed to check TotalEmployed.
8. Check TotalEmployed
 - a. If TotalEmployed is less than or equal to 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If TotalEmployed is greater than 0, continue and proceed to Denominator assignment.
9. Denominator assignment. Denominator of NSC11.1 equals TotalEmployed. Stop processing.

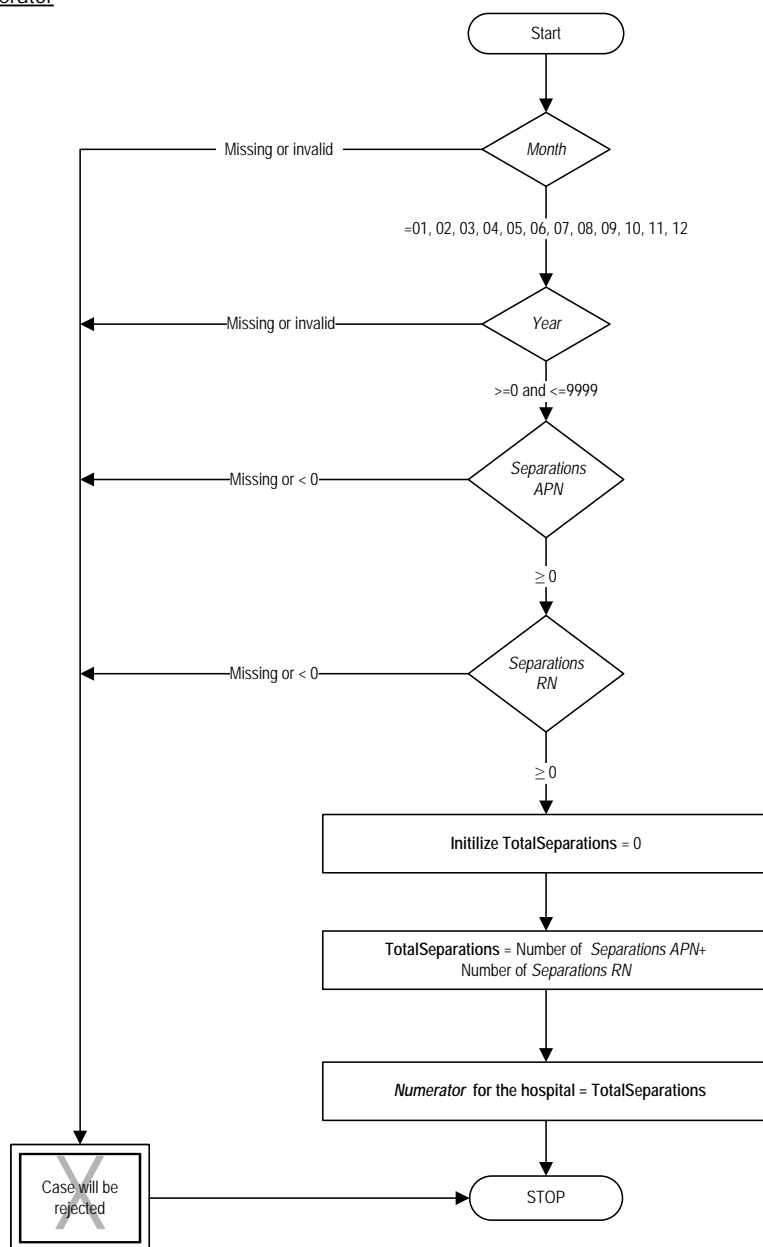
NSC-11.1: Voluntary Turnover for Registered Nurse (RN) and Advanced Practice Nurse (APN)

Numerator: Total number of full-time and part-time RN and APN voluntary uncontrolled separations occurring during the calendar month

Denominator: Total number of full time and part time employed RN and APN on the last day of the month

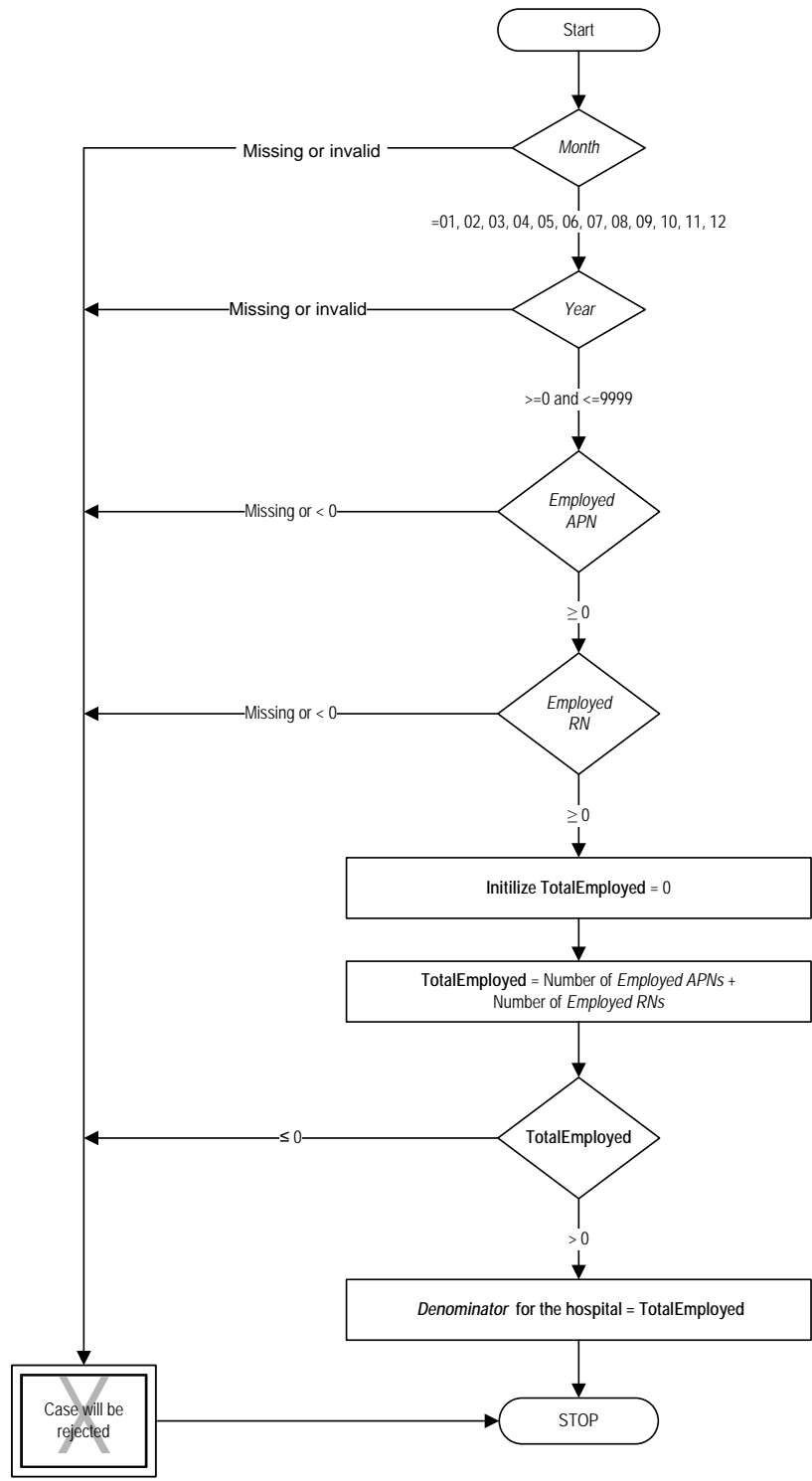
Algorithm to calculate
Numerator

Variable Key:
TotalSeparations



Algorithm to calculate
Denominator

Variable Key:
TotalEmployed



NSC-11.2: Voluntary turnover for Licensed Practical Nurse (LPN) / Licensed Vocational Nurse (LVN)

Numerator: Total number of full-time and part-time LPN, LVN voluntary uncontrolled separations occurring during the calendar month.

Denominator: Total number of full time and part time employed LPN and LVN on the last day of the month.

Calculate Numerator

Variable key: TotalSeparations

9. Start processing.
10. Check Month
 - a. If Month is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Month is equal to 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 or 12, continue and proceed to check Year.
11. Check Year
 - a. If Year is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Year is greater than or equal to 0 and Year is less than or equal to 9999, continue and proceed to check Separations LPN.
12. Check Separations LPN
 - c. If Separations LPN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - d. If Separations LPN is greater than or equal to 0, continue and proceed to check Separations LVN.
13. Check Separations LVN
 - a. If Separations LVN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Separations LVN is greater than or equal to 0, continue and proceed to initialization of TotalSeparations.
14. Initialization. Initialize TotalSeparations to 0. Continue and proceed to calculation of TotalSeparation.
15. Calculate TotalSeparation. TotalSeparation equals Separations LPN plus Separations LVN. Continue and proceed to Numerator assignment.
16. Numerator assignment. Numerator of NSC11.2 equals TotalSeparation. Stop processing.

Calculate Denominator

Variable key: TotalEmployed

1. Start processing.
2. Check Month
 - c. If Month is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - d. If Month is equal to 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 or 12, continue and proceed to check Year.
3. Check Year
 - c. If Year is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - d. If Year is greater than or equal to 0 and Year is less than or equal to 9999, continue and proceed to check Employed LPN.
4. Check Employed LPN
 - c. If Employed LPN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - d. If Employed LPN is greater than or equal to 0, continue and proceed to check Employed LVN.
5. Check Employed LVN
 - e. If Employed LVN is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - f. If Employed LVN is greater than or equal to 0, continue and proceed to initialization of TotalEmployed.
6. Initialization. Initialize TotalEmployed to 0. Continue and proceed to calculation of TotalEmployed.
17. Calculate TotalEmployed. TotalEmployed equals Employed LPN plus Employed LVN. Continue and proceed to check TotalEmployed.
18. Check TotalEmployed
 - c. If TotalEmployed is less than or equal to 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - d. If TotalEmployed is greater than 0, continue and proceed to Denominator assignment.
- 9. Denominator assignment. Denominator of NSC11.2 equals TotalEmployed. Stop processing.**

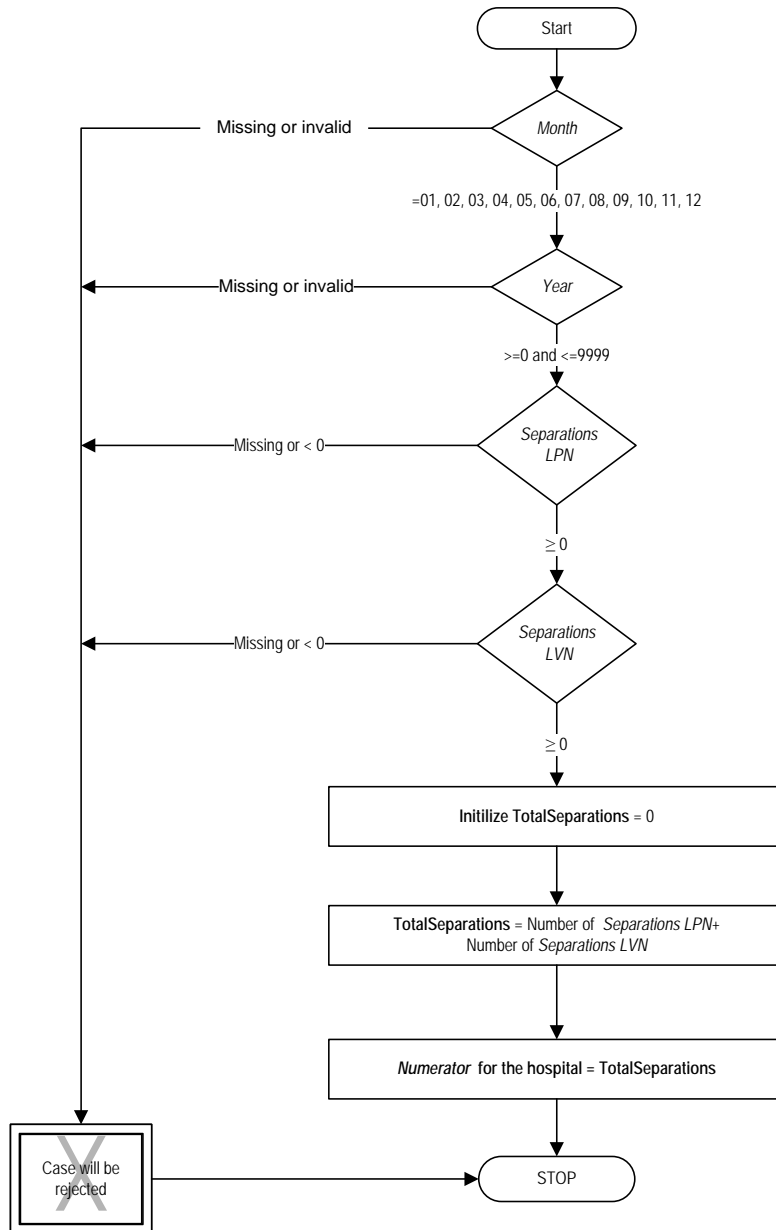
NSC-11.2: Voluntary Turnover for Licensed Practical Nurse (LPN)/Licensed Vocational Nurse (LVN)

Numerator: Total number of full-time and part-time LPN, LVN voluntary uncontrolled separations occurring during the calendar month

Denominator: Total number of full time and part time employed LPN and LVN on the last day of the month

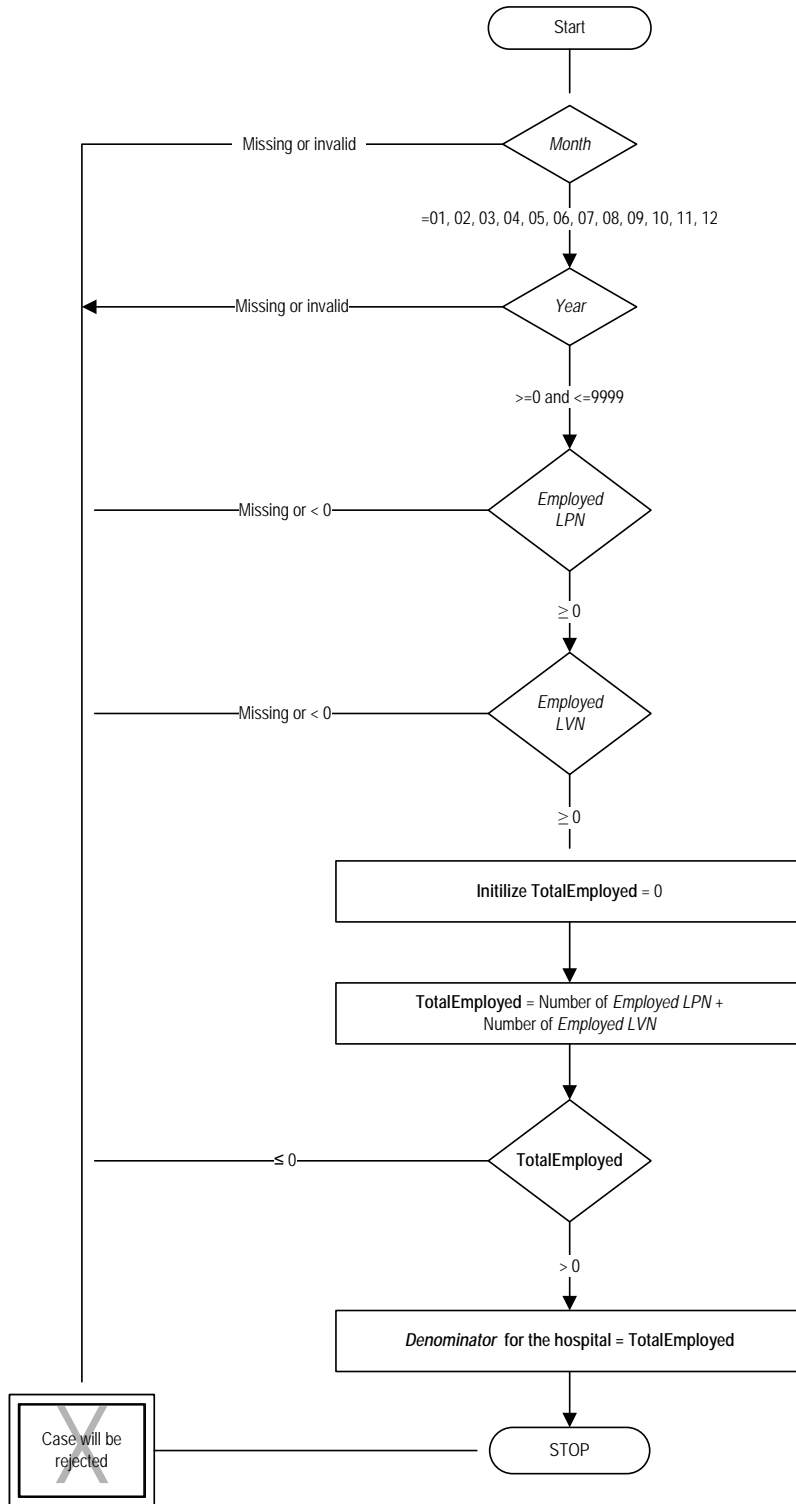
Algorithm to calculate
Numerator

Variable Key:
TotalSeparations



Algorithm to calculate
Denominator

Variable Key:
TotalEmployed



NSC-11.3: Voluntary Turnover for Unlicensed Assistive Personnel (UAP)

Numerator: Total number of full-time and part-time LPN, LVN voluntary uncontrolled separations occurring during the calendar month.

Denominator: Total number of full time and part time employed UAP on the last day of the month.

19. Start processing.
20. Check Month
 - a. If Month is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Month is equal to 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 or 12, continue and proceed to check Year.
21. Check Year
 - a. If Year is missing or invalid, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Year is greater than or equal to 0 and Year is less than or equal to 9999, continue and proceed to check Separations UAP.
22. Check Separations UAP
 - e. If Separations UAP is missing or less than 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - f. If Separations UAP is greater than or equal to 0, continue and proceed to check Employed UAP.
23. Check Employed UAP
 - a. If Employed UAP is missing or less than or equal to 0, the case will proceed to a Measure Category Assignment of X and will be rejected. Stop processing.
 - b. If Employed UAP is greater than 0, continue and proceed to set Numerator.
24. Set Numerator. Numerator of NSC11.3 equals Separations UAP. Continue and proceed to set Denominator.
25. Set Denominator. Denominator of NSC11.3 equals Employed UAP. Stop processing.

NSC-11.3: Voluntary Turnover for Unlicensed Assistive Personnel (UAP)

Numerator: Total number of full-time and part-time UAP voluntary uncontrolled separations occurring during the calendar month

Denominator: Total number of full time and part time employed UAP on the last day of the month

