Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to sub criterion 1b).

Brief Measure Information

NQF #: 0681

Corresponding Measures:

Measure Title: Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (long stay)

Measure Steward:

sp.02. Brief Description of Measure: This measure reports the percentage of long-stay residents, 180 days of age and older, who were in a nursing facility for at least one day during the most recently completed influenza vaccination season (IVS), and who were assessed and appropriately given the seasonal influenza vaccine . The IVS is defined as beginning on October 1 and ends on March 31 of the following year. The measure is the aggregate of three separately calculated submeasures to reflect the process by which a resident is assessed and appropriately given the influenza vaccination during the current or most recent influenza season.

The three submeasures are as follows:
• resident received the influenza vaccine during the current or most recent influenza season, either in the facility or outside the facility (NQF #0681a);
• resident was offered and declined the seasonal influenza vaccine (NQF #0681b); and
• resident was ineligible to receive the seasonal influenza vaccine due to contraindication(s) (e.g., anaphylactic hypersensitivity to eggs or other components of the vaccine, see http://www.cdc.gov/flu/professionals/vaccination/vax-summary.htm) (NQF #0681c).

The denominator consists of long-stay residents 180 days of age or older on the target date of assessment who were in the facility for at least one day during the most recently-completed influenza vaccination season (IVS). This measure is based on data from the Minimum Data Set (MDS 3.0) OBRA, PPS, and/or discharge assessments during the selected influenza season. Long-stay residents are identified as those who have had 101 or more cumulative days of nursing facility care.

A separate measure (NQF #0680, Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (short stay)) is to be used for residents who have had 100 or fewer cumulative days of nursing facility care.

1b.01. Developer Rationale: This measure is intended to encourage nursing homes to focus on this important aspect of clinical care through the assessment of residents on their seasonal influenza vaccination status and to vaccinate as appropriate.

Influenza poses a substantial health threat to elderly populations. According to the CDC, pneumonia and influenza

were together the seventh most common cause of death for people aged 65 and older in the United States in 2013 (Centers for Disease Control and Prevention, 2015). Morbidity and mortality data related to influenza are often reported in conjunction with data regarding pneumonia. In 2013, influenza and pneumonia combined caused 38,031 deaths in people over the age of 65, with 2,686 deaths caused from influenza alone. (Xu, et al, 2016) In addition to being at risk for primary illness, frail elderly are especially vulnerable and subject to complications of influenza. Influenza is also associated with a major decline in functional status, especially among nursing home residents (Gozalo, et al., 2012). Because influenza is particularly threatening to people with comorbidities, nursing home residents, who are likely to have comorbidities, are especially susceptible to adverse outcomes of influenza. Nursing home residents frequently have two or more chronic conditions which, together with immunosenescence, make them more susceptible to influenza infection (Fulop, et al. 2009)

According to the CDC, there were an estimated 975,000 influenza-associated hospitalizations in the United States during the 2014-2015 influenza season (Centers for Disease Control and Prevention, 2015). Approximately 758,000 of these hospitalizations were for persons age 65 and older. The average hospital stay was approximately 5.3 days at a cost of $6,900 per stay (Milenkovic et al., 2006). Further, the death rate per 100,000 persons from influenza among Americans aged 65-74 was 29.5, 103.7 for those aged 75-84, and 441.0 for those 85 and older. The death rate for influenza and pneumonia in people 65 to 74 years old is 2.4 times that of a person 55 to 64; and for a person over the age of 85, the death rate is 36.1 times that (Xu et al., 2016). Older adults aged 65+ years accounted for 54–70% of hospitalizations and 73–85% of deaths depending on the season, and had the highest rates of hospitalization (170–1,033 per 100,000 persons) and death (8.6–55 per 100,000) (Xu et al., 2016).

Influenza vaccination is an effective preventative measure against influenza and related hospitalization and death. A 2014 meta-analysis of the cumulative research on the effectiveness of influenza vaccination in institutionalized older adults indicates that seasonal vaccination reduces clinical outcomes such as pneumonia (VE: 37%, 95% confidence interval [CI]: 18%–53%, p = .001) and death due to pneumonia or influenza (VE: 34%, CI: 10%–53%, p = .01) (Chan, et al., 2014). In 2015, CDC estimated that flu vaccination during the 2012-2013 flu season averted 357,220 medically attended cases of influenza (CI 69,905, - 1,188,338) and 57,990 hospitalizations (CI, 11,242 – 192,327; 7.1% of all hospitalizations, CI, 1.3–19.2%), among adults aged 65 and older (CDC, 2015) Pop-Vicas et al. studied various influenza strains and analyzed the effect of vaccination on mortality and pneumonia and influenza hospitalization outcomes in the long-stay NH population. They estimated that there were 130,000 deaths and 77,000 pneumonia and influenza hospitalizations of long-stay NH residents during the 32 non-summer weeks. Their study found that well-matched influenza vaccines can significantly reduce morbidity and mortality in NH residents and remain an important disease prevention modality for this vulnerable NH population, despite the poorer vaccine responsiveness of elderly adults (Pop-Vicas, et el., 2015).

There are two QMs on assessing and appropriately giving the influenza vaccine to nursing home residents: one for the long-stay resident population and the other for the short-stay population. These two populations have inherent clinical differences, so the quality of care for them should be measured separately. Nursing homes have a longer timeframe to assess and vaccinate the long-stay population. According to Nursing Home Compare, the national rate for the long-stay influenza vaccine QM, NQF#0681 was 94.5% for calendar year 2015 (Centers for Medicare & Medicaid Services, 2016).

Centers for Disease Control and Prevention. (10 Dec. 2015) Estimated Influenza Illnesses and Hospitalizations Averted by Vaccination — United States, 2014–15 Influenza Season. http://www.cdc.gov/flu/about/disease/2014-15.htm.

Centers for Disease Control and Prevention. Health, United States, 2014 with Special Feature on Adults Aged 55-64. May 2015. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.
Centers for Medicare & Medicaid Services. Nursing Home Compare. May 2016. Available from https://www.medicare.gov/nursinghomecompare/

Chan, T. C., Fan-Ngai Hung, I., Ka-Hay Luk, J., Chu, L. W., & Hon-Wai Chan, F. (2014). Effectiveness of influenza

vaccination in institutionalized older adults: a systematic review. J Am Med Dir Assoc, 15(3), 226.e221-226. doi:10.1016/j.jamda.2013.10.008

Colorado Foundation for Medical Care. Environmental scan: review of the literature, clinical guidelines, and other sources of information pertinent to the CMS publicly reported nursing home quality measures. Englewood, CO: Colorado Foundation for Medical Care, 2007.

Fulop, T., Pawelec, G., Castle, S., & Loeb, M. (2009). Immunosenescence and vaccination in nursing home residents. Clin Infect Dis, 48(4), 443-448. doi:10.1086/596475

Gorina Y, Kelly T, Lubitz J, & Hines Z. Trends in influenza and pneumonia among older persons in the United States. Hyattsville, MD: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics, 2008.

Milenkovic M, Russo CA, & Elixhauser A. Hospital stays for influenza, 2004. Healthcare cost and utilization project. Statistical Brief #16. Rockville, MD: Agency for Healthcare Research and Quality, 2006.

Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2009. MMWR. 2009 July 31; 58(RR-08). Available from http://www.medicare.gov/NHCompare/Include/DataSection/Questions/SearchCriteriaNEW.asp?version=default&browser=IE%7C6%7CWinXP&language=English&defaultstatus=0&pagelist=Home&CookiesEnabledStatus=TrueCDC.

U.S. Department of Health and Human Services. Healthy people 2010. 2000. Available from http://www.health.gov/healthypeople.

Xu J, Murphy S L, Kochanek K D, & Bastian B A. “Deaths: Final Data for 2013.” National Vital Statistics Report, Vol. 64, No. 2. Centers for Disease Control and Prevention (CDC), Division of Vital Statistics, 2016.

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sp.12. Numerator Statement: The numerator is the number of long-stay residents with a target assessment (OBRA admission, quarterly, annual or significant change/correction assessments; PPS 5-,14-, 30-, 60-, 90-day, or readmission/return assessments; or discharge assessment with or without return anticipated) who were in the denominator sample, AND who meet any of the following criteria for the selected influenza season: (1) they received the influenza vaccine during the most recent influenza season, either in the facility or outside the facility (NQF #0681a), (2) they were offered and declined the influenza vaccine (NQF #0681b), or (3) they were ineligible due to medical contraindication(s) (NQF #0681c) . The influenza season is defined as July 1 of the current year to June 30 of the following year. The IVS begins on October 1 and ends on March 31 of the following year.

Each of the three submeasure numerators described above will be computed and reported separately, alongside the overall numerator calculated as the aggregate of the three submeasure numerators.

sp.14. Denominator Statement: The denominator is the total number of long-stay residents 180 days of age or older on the target date of the assessment who were in the nursing facility who were in a nursing facility for at least one day during the most recently completed IVS that have an OBRA, PPS, or discharge assessment and who did not meet the exclusion criteria.

sp.16. Denominator Exclusions: Residents whose age is 179 days or less on target date of selected influenza vaccination assessment are excluded.

If the facility sample includes fewer than 30 residents after all other resident-level exclusions are applied, then the facility is excluded from public reporting.

Measure Type: Process

sp.28. Data Source:

Electronic Health Records

sp.07. Level of Analysis:

Facility

IF Endorsement Maintenance – Original Endorsement Date: 2011-03-03 06:28 AM

Most Recent Endorsement Date: 1/17/2017 12:00:00 AM

IF this measure is included in a composite, NQF Composite#/title:

IF this measure is paired/grouped, NQF#/title:

sp.03. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results?:

1. Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. Measures must be judged to meet all sub criteria to pass this criterion and be evaluated against the remaining criteria

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1ma.01. Indicate whether there is new evidence about the measure since the most recent maintenance evaluation. If yes, please briefly summarize the new evidence, and ensure you have updated entries in the Evidence section as needed.

[Response Begins]

[Response Ends]

Please separate added or updated information from the most recent measure evaluation within each question response in the Importance to Measure and Report: Evidence section. For example:

2021 Submission:

Updated evidence information here.

2018 Submission:

Evidence from the previous submission here.

1a.01. Provide a logic model.

Briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient's health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

[Response Begins]

[Response Ends]

1a.02. Select the type of source for the systematic review of the body of evidence that supports the performance measure.

A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data.

[Response Begins]

[Response Ends]

If the evidence is not based on a systematic review, skip to the end of the section and do not complete the repeatable question group below. If you wish to include more than one systematic review, add additional tables by clicking "Add" after the final question in the group.

Evidence - Systematic Reviews Table (Repeatable)

Group 1 - Evidence - Systematic Reviews Table

1a.03. Provide the title, author, date, citation (including page number) and URL for the systematic review.

[Response Begins]

[Response Ends]

1a.04. Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the systematic review.

[Response Begins]

[Response Ends]

1a.05. Provide the grade assigned to the evidence associated with the recommendation, and include the definition of the grade.

[Response Begins]

[Response Ends]

1a.06. Provide all other grades and definitions from the evidence grading system.

[Response Begins]

[Response Ends]

1a.07. Provide the grade assigned to the recommendation, with definition of the grade.

[Response Begins]

[Response Ends]

1a.08. Provide all other grades and definitions from the recommendation grading system.

[Response Begins]

[Response Ends]

1a.09. Detail the quantity (how many studies) and quality (the type of studies) of the evidence.

[Response Begins]

[Response Ends]

1a.10. Provide the estimates of benefit, and consistency across studies.

[Response Begins]

[Response Ends]

1a.11. Indicate what, if any, harms were identified in the study.

[Response Begins]

[Response Ends]

1a.12. Identify any new studies conducted since the systematic review, and indicate whether the new studies change the conclusions from the systematic review.

[Response Begins]

[Response Ends]

1a.13. If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, describe the evidence on which you are basing the performance measure.

[Response Begins]

[Response Ends]

1a.14. Briefly synthesize the evidence that supports the measure.

[Response Begins]

[Response Ends]

1a.15. Detail the process used to identify the evidence.

[Response Begins]

[Response Ends]

1a.16. Provide the citation(s) for the evidence.

[Response Begins]

[Response Ends]

1b.01. Briefly explain the rationale for this measure.

Explain how the measure will improve the quality of care, and list the benefits or improvements in quality envisioned by use of this measure.

[Response Begins]

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Centers for Disease Control and Prevention. (10 Dec. 2015) Estimated Influenza Illnesses and Hospitalizations Averted by Vaccination — United States, 2014–15 Influenza Season. http://www.cdc.gov/flu/about/disease/2014-15.htm.

Centers for Disease Control and Prevention. Health, United States, 2014 with Special Feature on Adults Aged 55-64. May 2015. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.
Centers for Medicare & Medicaid Services. Nursing Home Compare. May 2016. Available from https://www.medicare.gov/nursinghomecompare/

Chan, T. C., Fan-Ngai Hung, I., Ka-Hay Luk, J., Chu, L. W., & Hon-Wai Chan, F. (2014). Effectiveness of influenza vaccination in institutionalized older adults: a systematic review. J Am Med Dir Assoc, 15(3), 226.e221-226. doi:10.1016/j.jamda.2013.10.008

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Fulop, T., Pawelec, G., Castle, S., & Loeb, M. (2009). Immunosenescence and vaccination in nursing home residents. Clin Infect Dis, 48(4), 443-448. doi:10.1086/596475

Gorina Y, Kelly T, Lubitz J, & Hines Z. Trends in influenza and pneumonia among older persons in the United States. Hyattsville, MD: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics, 2008.

Milenkovic M, Russo CA, & Elixhauser A. Hospital stays for influenza, 2004. Healthcare cost and utilization project.

Statistical Brief #16. Rockville, MD: Agency for Healthcare Research and Quality, 2006.

Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2009. MMWR. 2009 July 31; 58(RR-08). Available from http://www.medicare.gov/NHCompare/Include/DataSection/Questions/SearchCriteriaNEW.asp?version=default&browser=IE%7C6%7CWinXP&language=English&defaultstatus=0&pagelist=Home&CookiesEnabledStatus=TrueCDC.

U.S. Department of Health and Human Services. Healthy people 2010. 2000. Available from http://www.health.gov/healthypeople.

Xu J, Murphy S L, Kochanek K D, & Bastian B A. "Deaths: Final Data for 2013." National Vital Statistics Report, Vol. 64, No. 2. Centers for Disease Control and Prevention (CDC), Division of Vital Statistics, 2016.

[Response Ends]

1b.02. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis.

Include mean, std dev, min, max, interquartile range, and scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include. This information also will be used to address the sub-criterion on improvement (4b) under Usability and Use.

[Response Begins]

The quality measure was calculated for influenza vaccination seasons 2011-2012, 2012-2013, 2013-2014, and 2014-2015. Influenza vaccination seasons begin October 1 and end the following June 30. During the 2014-2015 IVS there were 15,522 eligible facilities and 1,415,329 residents with target assessments, and 14,421 facilities (92.9%) had sufficient sample size (30 or more long-stay residents included in the denominator) to report on this measure and 1,413,767 residents (99.9%) were included in the calculation of this measure. Please see Appendix Table 1 for score distributions of this quality measure and its submeasures for IVS 2014-2015 and Figure 2 for trends of the mean and median scores of this quality measure over the past four IVSs.

Distributions of the measure and submeasures suggest some room for improvement. Ten percent of facilities had overall QM scores of 82.83% or less, and 25% of facilities had Offered and Declined rates of 18.46% or higher.

IVS 2014-2015
Mean: 93.2%
SD: 10.3%
Min: 0%
Max: 100%
IQR: 7.2%
10th percentile: 82.8%
20th percentile: 90%
30th percentile: 93.2%
40th percentile: 95.2%
50th percentile: 96.7%
60th percentile: 97.7%
70th percentile: 98.5%
80th percentile: 100%
90th percentile: 100%

IVS 2013-2014
Mean: 93.5%

SD: 10.4%
IQR: 6.6%
10th percentile: 83.7%
20th percentile: 90.6%
30th percentile: 93.7%
40th percentile: 95.6%
50th percentile: 97%
60th percentile: 97.9%
70th percentile: 98.7%
80th percentile: 100%
90th percentile: 100%

IVS 2012-2013
Mean: 93.6%
SD: 10.1%
Min: 2.8%
Max: 100%
IQR: 6.7%
10th percentile: 84.1%
20th percentile: 90.6%
30th percentile: 93.7%
40th percentile: 95.6%
50th percentile: 96.9%
60th percentile: 97.9%
70th percentile: 98.7%
80th percentile: 100%
90th percentile: 100%

IVS 2011-2012
Mean: 92.9%
SD: 11.2%
Min: 0%
Max: 100%
10th percentile: 82.3%
20th percentile: 89.8%
30th percentile: 93.1%
40th percentile: 95.1%
50th percentile: 96.6%
60th percentile: 97.6%
70th percentile: 98.4%
80th percentile: 99.3%
90th percentile: 100%

[Response Ends]

1b.03. If no or limited performance data on the measure as specified is reported above, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement. Include citations.

[Response Begins]

This section is not applicable.

[Response Ends]

1b.04. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability.

Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included. Include mean, std dev, min, max, interquartile range, and scores by decile. For measures that show high levels of performance, i.e., "topped out", disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b) under Usability and Use.

[Response Begins]

Table 2 in the appendix attached to this MSF compares rates of being in the numerator of this QM y race/ethnicity. Among residents eligible for the denominator of this measure, Asian residents and white residents were slightly more likely to be in the measure's numerator, with 93.8% and 93.7% in the numerator respectively, than Hispanics (91.3%) or black residents (90.2%), all with standard deviations greater than 20 percentage points. These could be suggestive of racial/ethnic disparities in this care area, but these statistics are inconclusive, given the descriptive nature of this analysis and the small magnitude of the differences. Please also note that in the MDS, residents may identify with more than one race or ethnicity, and they are included in the Other category.

There is some potential statistical evidence of socioeconomic (SES) disparities related to the first two submeasures, although a firm causal relationship cannot be established. (Please see Table 4 of the appendix attached to this MSF.) RTI calculated Spearman rank correlation coefficients between facility-level scores on this measure (and its submeasures) and socioeconomic characteristics of the facilities' counties. The six county-level socioeconomic variables from the U.S. Census Bureau's American Community Survey that we analyzed are median household income, the percent of individuals <138% of the federal poverty level (FPL), the percent of residents with less than a high school diploma, the percent of residents with more than a high school diploma, the percent of residents with 4 or more years of college, and the unemployment rate for those aged 16 and above. The submeasure indicating the vaccine was administered and the submeasure indicating that the resident refused to be vaccinated when offered are both slightly correlated with four SES variables: percent below 138% of the FPL, the percentages with and without a high school diploma, and the unemployment rate, although the magnitudes of the coefficients are small (0.26 or less for the unemployment rate and less than 0.20 for the other SES variables). The overall measure and the submeasure indicating contraindications were not correlated with SES factors.

We emphasize that these SES variables are characteristics of the facilities' counties, not the residents' permanent residences. Furthermore, it cannot be determined here if these coefficients reflect an effect on care from the resident's geography, the facility's geography, or the staff's geography, if the coefficients are reflecting socioeconomic influences at all. We also note that, because our sample size of nursing facilities is so large, many correlations will be statistically significant (different from zero), even if the coefficients are very small.

Racial segregation among nursing facilities has been shown to be a major factor driving racial disparities in the nursing home population, primarily for African Americans. In 2000, a study drawing on national MDS and Online Survey, Certification, and Reporting (OSCAR) data found that two-thirds of all black residents were living in just 10% of all facilities (Smith et al., 2007). A 2002 survey of a stratified sample of 39 nursing facilities and 181 residential care/assisted living facilities in four states had similar findings (Howard et al., 2002). Facilities caring for predominately African American residents have demonstrated a lower level of quality care than those serving predominately whites, with lower staff to resident ratios and higher deficiency ratings (Grabowski, 2007). Minority groups in general, and African Americans in particular, have also had more limited access to nursing home care than whites (National Center for Health Statistics, 1997).

A search of PubMed did not reveal any recently published research studies related to racial and ethnic disparities for influenza immunization in post-acute care facilities; however, differences in influenza vaccination between whites and non-white Medicare beneficiaries and Medicare beneficiaries in general have been documented. Two

studies of influenza vaccinations among nursing home residents concluded that racial disparities exist in vaccination coverage among U.S. nursing home residents (Li & Mukamel, 2010; Bardenheier et al., 2012). Bardenheier and colleagues previously conducted a study to identify nursing home resident characteristics associated with vaccination coverage. Bivariate analysis showed that residents with cognitive, psychiatric, or neurologic problems were more likely to be vaccinated than those without these conditions. (Bardenheier et al., 2004).

These differences have been found in Medicare beneficiaries and are likely found in IRFs and LTCHs as well (Flowers et al., 2008). According to the 2011 MedPAC report examining Medicare beneficiaries' use of LTCHs in 2009, LTCHs have a slight overrepresentation of minority patients, particularly African American patients, compared the Medicare population as a whole. Across all Medicare beneficiaries in 2009, 17% were minorities (10% African American, 3% Hispanic, and 4% other). In the same year LTCHs consisted of approximately 26% minority patients (19% African American, 4% Hispanic, and 4% other) (MedPAC, 2011, ch.10). Minority rates in IRFs ranged from 15% to 20%, depending on the payer. Between May and June 2010 approximately 10-13% of IRF patients were African American and 5-7 % were Hispanic (MedPAC, 2011, Ch. 9).

Bardenheier B, Shefer A, Mckibben L, Roberts, H., & Bratzler, D. (2004). Characteristics of long-term-care facility residents associated with receipt of influenza and pneumococcal vaccinations. Infect Control Hosp Epidemiol, 25:946–954.

Bardenheier, B., Wortley, P., Shefer, A., McCauley, M. M., & Gravenstein, S. (2012). Racial inequities in receipt of influenza vaccination among nursing home residents in the United States, 2008-2009: a pattern of low overall coverage in facilities in which most residents are black. J Am Med Dir Assoc, 13(5), 470-476.

Flowers F, Sinclair S, & Figueiredo C. (2008). Racial and ethnic disparities in influenza and pneumococcal immunization rates among Medicare beneficiaries. Washington, DC: AARP Public Policy Institute.

Grabowski D. (2004). The admission of blacks to high-deficiency nursing homes. Med Care, 42(5), 456–464.

Howard D, Sloane P, Zimmerman S, Eckert, J.K., Welsh, J., Buie, V., Taylor, P. & Koch, G. . (2002). Distribution of African Americans in residential care/assisted living and nursing homes: more evidence of racial disparity? American Journal of Public Health, 92(8), 1272–1277.

Li Y, & Mukamel DB (2010). Racial disparities in receipt of influenza and pneumococcus vaccinations among US nursing-home residents. American Journal of Public Health, 100(S1), S256-262.

Medicare Payment Advisory Commission (MedPAC). (2011a, March). Inpatient rehabilitation facility services. In Report to the Congress: Medicare payment policy (pp. 203–227). Washington, DC: Author. Retrieved from http://medpac.gov/documents/Mar11_EntireReport.pdf

Medicare Payment Advisory Commission (MedPAC). (2011b, March). Long-term care hospital services. In Report to the Congress: Medicare payment policy (pp. 231–256). Washington, DC: Author. Retrieved from http://medpac.gov/documents/Mar11_EntireReport.pdf

Smith D, Feng Z, Fennell M, Zinn, J.S. & Mor V. (2007). Separate and unequal: racial segregation and disparities in quality across U.S. nursing homes. Health Affairs, 26(5), 1448–1558.

[Response Ends]

1b.05. If no or limited data on disparities from the measure as specified is reported above, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in above.

[Response Begins]

Not necessary if disparities data provided in 1b.4

[Response Ends]

2. 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. Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.

---

spma.01. Indicate whether there are changes to the specifications since the last updates/submission. If yes, update the specifications in the Measure Specifications section of the Measure Submission Form, and explain your reasoning for the changes below.

[Response Begins]

[Response Ends]

spma.02. Briefly describe any important changes to the measure specifications since the last measure update and provide a rationale.

For annual updates, please explain how the change in specifications affects the measure results. If a material change in specification is identified, data from re-testing of the measure with the new specifications is required for early maintenance review.

For example, specifications may have been updated based on suggestions from a previous NQF CDP review.

[Response Begins]

Since last endorsement, the quality measure specification was changed from a quarterly calculation, in which scores for each facility are calculated each calendar quarter, to an annual calculation in which scores for each facility are calculated for each influenza vaccination season. Additionally, the specification was changed to exclude residents whose age is less than 180 days in order to align with exclusion specifications with NQF #0680 Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (short-stay).

[Response Ends]

sp.01. Provide the measure title.

Measure titles should be concise yet convey who and what is being measured (see What Good Looks Like).

[Response Begins]

Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (long stay)

[Response Ends]

sp.02. Provide a brief description of the measure.

Including type of score, measure focus, target population, timeframe, (e.g., Percentage of adult patients aged 18-75 years receiving one or more HbA1c tests per year).

[Response Begins]

This measure reports the percentage of long-stay residents, 180 days of age and older, who were in a nursing facility for at least one day during the most recently completed influenza vaccination season (IVS), and who were assessed and appropriately given the seasonal influenza vaccine . The IVS is defined as beginning on October 1 and ends on March 31 of the following year. The measure is the aggregate of three separately calculated submeasures to reflect the process by which a resident is assessed and appropriately given the influenza vaccination during the

current or most recent influenza season.

The three submeasures are as follows:
• resident received the influenza vaccine during the current or most recent influenza season, either in the facility or outside the facility (NQF #0681a);
• resident was offered and declined the seasonal influenza vaccine (NQF #0681b); and
• resident was ineligible to receive the seasonal influenza vaccine due to contraindication(s) (e.g., anaphylactic hypersensitivity to eggs or other components of the vaccine, see http://www.cdc.gov/flu/professionals/vaccination/vax-summary.htm) (NQF #0681c).

The denominator consists of long-stay residents 180 days of age or older on the target date of assessment who were in the facility for at least one day during the most recently-completed influenza vaccination season (IVS). This measure is based on data from the Minimum Data Set (MDS 3.0) OBRA, PPS, and/or discharge assessments during the selected influenza season. Long-stay residents are identified as those who have had 101 or more cumulative days of nursing facility care.

A separate measure (NQF #0680, Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (short stay)) is to be used for residents who have had 100 or fewer cumulative days of nursing facility care.

[Response Ends]

sp.04. Check all the clinical condition/topic areas that apply to your measure, below.

Please refrain from selecting the following answer option(s). We are in the process of phasing out these answer options and request that you instead select one of the other answer options as they apply to your measure.

Please do not select:

- *Surgery: General*

[Response Begins]

[Response Ends]

sp.05. Check all the non-condition specific measure domain areas that apply to your measure, below.

[Response Begins]

Primary Prevention

[Response Ends]

sp.06. Select one or more target population categories.

Select only those target populations which can be stratified in the reporting of the measure's result.

Please refrain from selecting the following answer option(s). We are in the process of phasing out these answer options and request that you instead select one of the other answer options as they apply to your measure.

Please do not select:

- *Populations at Risk: Populations at Risk*

[Response Begins]

Elderly (Age >= 65)

[Response Ends]

sp.07. Select the levels of analysis that apply to your measure.

Check ONLY the levels of analysis for which the measure is SPECIFIED and TESTED.

Please refrain from selecting the following answer option(s). We are in the process of phasing out these answer options and request that you instead select one of the other answer options as they apply to your measure.

Please do not select:

- *Clinician: Clinician*
- *Population: Population*

[Response Begins]

Facility

[Response Ends]

sp.08. Indicate the care settings that apply to your measure.

Check ONLY the settings for which the measure is SPECIFIED and TESTED.

[Response Begins]

Post-Acute Care

[Response Ends]

sp.09. Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials.

Do not enter a URL linking to a home page or to general information. If no URL is available, indicate "none available".

[Response Begins]

Nursing Home Quarterly Item Set from MDS Version 3.0 Item Subsets V1.13.0 October 1, 2015 Release.Downloaded from: http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIMDS30TechnicalInformation.html

[Response Ends]

sp.11. Attach the data dictionary, code table, or value sets (and risk model codes and coefficients when applicable). Excel formats (.xlsx or .csv) are preferred.

Attach an excel or csv file; if this poses an issue, contact staff. Provide descriptors for any codes. Use one file with multiple worksheets, if needed.

[Response Begins]

No data dictionary/code table – all information provided in the submission form

[Response Ends]

sp.12. State the numerator.

Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome).

DO NOT include the rationale for the measure.

[Response Begins]

The numerator is the number of long-stay residents with a target assessment (OBRA admission, quarterly, annual or significant change/correction assessments; PPS 5-,14-, 30-, 60-, 90-day, or readmission/return assessments; or discharge assessment with or without return anticipated) who were in the denominator sample, AND who meet any of the following criteria for the selected influenza season: (1) they received the influenza vaccine during the most recent influenza season, either in the facility or outside the facility (NQF #0681a), (2) they were offered and declined the influenza vaccine (NQF #0681b), or (3) they were ineligible due to medical contraindication(s) (NQF #0681c) . The influenza season is defined as July 1 of the current year to June 30 of the following year. The IVS begins on October 1 and ends on March 31 of the following year.

Each of the three submeasure numerators described above will be computed and reported separately, alongside the overall numerator calculated as the aggregate of the three submeasure numerators.

[Response Ends]

sp.13. Provide details needed to calculate the numerator.

All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets.

Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at sp.11.

[Response Begins]

Residents are counted if they are long-stay residents, defined as residents who have had 101 or more cumulative days of nursing facility care, are 180 days of age and older and who were in a nursing facility for at least one day during the most recently completed IVS. Residents who return to the nursing home following a hospital discharge will not have their stay reset to zero. The numerator is the number of long-stay residents in the denominator sample with a selected target assessment (OBRA admission, quarterly, annual or significant change/correction assessments; PPS 5-, 14-, 30-, 60-, 90-day, or readmission/return assessments; or discharge assessment with or without return anticipated) during the most recently selected influenza season who meet any of the following criteria:

(1) Resident received the influenza vaccine during the most recent influenza season, either in the facility (O0250A= [1]) or outside the facility (O0250C = [2]) (NQF #0681a, computed separately); or
(2) Resident was offered and declined the influenza vaccine (O0250C = [4]) (NQF #0681b, computed separately); or
(3) Resident was ineligible due to contraindication(s) (O0250C = [3]) (NQF #0681c, computed separately) (e.g., anaphylactic hypersensitivity to eggs or other components of the vaccine).

[Response Ends]

sp.14. State the denominator.

Brief, narrative description of the target population being measured.

[Response Begins]

The denominator is the total number of long-stay residents 180 days of age or older on the target date of the assessment who were in the nursing facility who were in a nursing facility for at least one day during the most recently completed IVS that have an OBRA, PPS, or discharge assessment and who did not meet the exclusion criteria.

[Response Ends]

sp.15. Provide details needed to calculate the denominator.

All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets.

Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at sp.11.

[Response Begins]

Residents are counted if they are long-stay residents, defined as residents who have had 101 or more cumulative days of nursing facility care. Residents who return to the nursing home following a hospital discharge will not have their length of stay reset to zero. The target population includes all long-stay residents with a target assessment (assessments may be OBRA admission, quarterly, annual or significant change/correction assessments (A0310A = 01, 02, 03, 04, 05, 06) or PPS 5-, 14-, 30-, 60-, 90-day, or readmission/return assessments (A0310B = 01, 02, 03, 04, 05, 06) or discharge assessment with or without return anticipated (A0310F = 10, 11) who were in a nursing facility for at least one day during the most recently completed IVS, except for those who meet the exclusion criteria (specified in S.10 and S.11).

[Response Ends]

sp.16. Describe the denominator exclusions.

Brief narrative description of exclusions from the target population.

[Response Begins]

Residents whose age is 179 days or less on target date of selected influenza vaccination assessment are excluded.

If the facility sample includes fewer than 30 residents after all other resident-level exclusions are applied, then the facility is excluded from public reporting.

[Response Ends]

sp.17. Provide details needed to calculate the denominator exclusions.

All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at sp.11.

[Response Begins]

Residents whose age is 179 days or less are excluded, with age calculation based on the resident birthdate and the target date of the selected influenza vaccination assessment.

[Response Ends]

sp.18. Provide all information required to stratify the measure results, if necessary.

Include the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate. Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format in the Data Dictionary field.

[Response Begins]

This is not applicable.

[Response Ends]

sp.19. Select the risk adjustment type.

Select type. Provide specifications for risk stratification and/or risk models in the Scientific Acceptability section.

[Response Begins]

No risk adjustment or risk stratification

[Response Ends]

sp.20. Select the most relevant type of score.

Attachment: If available, please provide a sample report.

[Response Begins]

Rate/proportion

[Response Ends]

sp.21. Select the appropriate interpretation of the measure score.

Classifies interpretation of score according to whether better quality or resource use is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score

[Response Begins]

Better quality = Higher score

[Response Ends]

sp.22. Diagram or describe the calculation of the measure score as an ordered sequence of steps.

Identify the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period of data, aggregating data; risk adjustment; etc.

[Response Begins]

The calculation algorithm for the overall measure and submeasures a-c are:
Step 1: Identify the total number of residents meeting the denominator criteria.

For the first submeasure (NQF #0681a: Percent of Residents Who Received the Seasonal Influenza Vaccine (long stay)):

Step 2a: Identify the total number of long-stay residents who received the seasonal influenza vaccine during the current or most recently completed influenza season, either in the facility (O0250A= [1]) or outside the facility (O0250C = [2]).

Step 3a: Divide the results of Step 2a by the result of Step 1.

For the second submeasure (NQF #0681b: Percent of Residents Who Offered and Declined the Seasonal Influenza Vaccine (long stay)):

Step 2b: Identify the total number of long-stay residents who were offered and declined the seasonal influenza vaccine (O0250C = [4]).

Step 3b: Divide the results of Step 2b by the result of Step 1.

For the third submeasure (NQF #0681c: Percent of Residents Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (long stay)):

Step 2c: Identify the total number of long-stay residents who were ineligible due to medical contraindication(s) (O0250C = [3]).

Step 3c: Divide the results of Step 2c by the result of Step 1.
For the overall measure (NQF #0681: Percent of Residents Assessed and Appropriately Given the Seasonal Influenza Vaccine (long stay)):

Step 2d: Aggregate Step 2a, 2b, and 2c [Sum the total number of long-stay residents who met any of the following criteria: who received the seasonal influenza vaccine during the current or most recently completed influenza season, either in the facility (O0250A= [1]) or outside the facility (O0250C = [2]); OR who were offered and declined the seasonal influenza vaccine (O0250C = [4]); OR who were ineligible due to medical contraindication(s) (O0250C = [3]).]

Step 3d: Divide the results of Step 2d by the result of Step 1.

[Response Ends]

sp.25. If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.

[Response Begins]

This is not applicable.

[Response Ends]

sp.28. Select only the data sources for which the measure is specified.

[Response Begins]

Electronic Health Records

[Response Ends]

sp.29. Identify the specific data source or data collection instrument.

For example, provide the name of the database, clinical registry, collection instrument, etc., and describe how data are collected.

[Response Begins]

Nursing Home Minimum Data Set 3.0

[Response Ends]

sp.30. Provide the data collection instrument.

[Response Begins]

[Response Ends]

2ma.01. Indicate whether additional empirical reliability testing at the accountable entity level has been conducted. If yes, please provide results in the following section, Scientific Acceptability: Reliability - Testing. Include information on all testing conducted (prior testing as well as any new testing).

Please separate added or updated information from the most recent measure evaluation within each question response in the Scientific Acceptability sections. For example:

Current Submission:

Updated testing information here.

Previous Submission:

Testing from the previous submission here.

[Response Begins]

[Response Ends]

2ma.02. Indicate whether additional empirical validity testing at the accountable entity level has been conducted. If yes, please provide results in the following section, Scientific Acceptability: Validity - Testing. Include information on all testing conducted (prior testing as well as any new testing).

Please separate added or updated information from the most recent measure evaluation within each question response in the Scientific Acceptability sections. For example:

Current Submission:

Updated testing information here.

Previous Submission:

Testing from the previous submission here.

[Response Begins]

[Response Ends]

2ma.03. For outcome, patient-reported outcome, resource use, cost, and some process measures, risk adjustment/stratification may be conducted. Did you perform a risk adjustment or stratification analysis?

[Response Begins]

[Response Ends]

2ma.04. For maintenance measures in which risk adjustment/stratification has been performed, indicate whether additional risk adjustment testing has been conducted since the most recent maintenance evaluation. This may include updates to the risk adjustment analysis with additional clinical, demographic, and social risk factors.

Please update the Scientific Acceptability: Validity - Other Threats to Validity section.

Note: This section must be updated even if social risk factors are not included in the risk adjustment strategy.

[Response Begins]

[Response Ends]

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 fields in the Scientific Acceptability sections of the Measure Submission Form.

• Measures must be tested for all the data sources and levels of analyses that are specified. If there is more than one set of data specifications or more than one level of analysis, contact NQF staff about how to present all the testing information in one form.

• All required sections must be completed.

• For composites with outcome and resource use measures, Questions 2b.23-2b.37 (Risk Adjustment) also must be completed.

• If specified for multiple data sources/sets of specifications (e.g., claims and EHRs), Questions 2b.11-2b.13 also must be completed.

• An appendix for supplemental materials may be submitted (see Question 1 in the Additional section), but there is no guarantee it will be reviewed.

• Contact NQF staff with any questions. Check for resources at the Submitting Standards webpage.

• For information on the most updated guidance on how to address social risk factors variables and testing in this form refer to the release notes for the 2021 Measure Evaluation Criteria and Guidance.

Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the testing results for this measure meet NQF's evaluation criteria for testing.

2a. Reliability testing demonstrates the measure data elements are repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period and/or that the measure score is precise. For instrument-based measures (including PRO-PMs) and composite performance measures, reliability should be demonstrated for the computed performance score.

2b1. Validity testing demonstrates that the measure data elements are correct and/or the measure score correctly reflects the quality of care provided, adequately identifying differences in quality. For instrument based measures (including PRO-PMs) and composite performance measures, validity should be demonstrated for the computed performance score.

2b2. Exclusions are supported by the clinical evidence and are of sufficient frequency to warrant inclusion in the specifications of the measure;

AND

If patient preference (e.g., informed decision-making) is a basis for exclusion, there must be evidence that the exclusion impacts performance on the measure; in such cases, the measure must be specified so that the information about patient preference and the effect on the measure is transparent (e.g., numerator category computed separately, denominator exclusion category computed separately).

2b3. For outcome measures and other measures when indicated (e.g., resource use):

• an evidence-based risk-adjustment strategy (e.g., risk models, risk stratification) is specified; is based on patient factors (including clinical and social risk factors) that influence the measured outcome and are present at start of care; 14,15 and has demonstrated adequate discrimination and calibration

OR

• rationale/data support no risk adjustment/ stratification.

2b4. Data analysis of computed measure scores demonstrates that methods for scoring and analysis of the specified measure allow for identification of statistically significant and practically/clinically meaningful 16 differences in performance;

OR

there is evidence of overall less-than-optimal performance.

2b5. If multiple data sources/methods are specified, there is demonstration they produce comparable results.

2b6. Analyses identify the extent and distribution of missing data (or nonresponse) and demonstrate that performance results are not biased due to systematic missing data (or differences between responders and non-responders) and how the specified handling of missing data minimizes bias.

2c. For composite performance measures, empirical analyses support the composite construction approach and demonstrate that:

2c1. the component measures fit the quality construct and add value to the overall composite while achieving the related objective of parsimony to the extent possible; and

2c2. the aggregation and weighting rules are consistent with the quality construct and rationale while achieving the related objective of simplicity to the extent possible.

(if not conducted or results not adequate, justification must be submitted and accepted)

Definitions

Reliability testing applies to both the data elements and computed measure score. Examples of reliability testing for data elements include, but are not limited to: inter-rater/abstractor or intra-rater/abstractor studies; internal consistency for multi-item scales; test-retest for survey items. Reliability testing of the measure score addresses precision of measurement (e.g., signal-to-noise).

Validity testing applies to both the data elements and computed measure score. Validity testing of data elements typically analyzes agreement with another authoritative source of the same information. Examples of validity testing of the measure score include, but are not limited to: testing hypotheses that the measures scores indicate quality of care, e.g., measure scores are different for groups known to have differences in quality assessed by another valid quality measure or method; correlation of measure scores with another valid indicator of quality for the specific topic; or relationship to conceptually related measures (e.g., scores on process measures to scores on outcome measures). Face validity of the measure score as a quality indicator may be adequate if accomplished through a systematic and transparent process, by identified experts, and explicitly addresses whether performance scores resulting from the measure as specified can be used to distinguish good from poor quality. The degree of consensus and any areas of disagreement must be provided/discussed.

Examples of evidence that an exclusion distorts measure results include, but are not limited to: frequency of occurrence, variability of exclusions across providers, and sensitivity analyses with and without the exclusion.

Patient preference is not a clinical exception to eligibility and can be influenced by provider interventions.

Risk factors that influence outcomes should not be specified as exclusions.

With large enough sample sizes, small differences that are statistically significant may or may not be practically or clinically meaningful. The substantive question may be, for example, whether a statistically significant difference of one percentage point in the percentage of patients who received smoking cessation counseling (e.g., 74 percent v. 75 percent) is clinically meaningful; or whether a statistically significant difference of $25 in cost for an episode of

care (e.g., $5,000 v.$5,025) is practically meaningful. Measures with overall less-than-optimal performance may not demonstrate much variability across providers.

Please separate added or updated information from the most recent measure evaluation within each question response in the Importance to Scientific Acceptability sections. For example:

2021 Submission:

Updated testing information here.

2018 Submission:

Testing from the previous submission here.

2a.01. Select only the data sources for which the measure is tested.

[Response Begins]

[Response Ends]

2a.02. If an existing dataset was used, identify the specific dataset.

The dataset used for testing must be consistent with the measure specifications for target population and healthcare entities being measured; e.g., Medicare Part A claims, Medicaid claims, other commercial insurance, nursing home MDS, home health OASIS, clinical registry).

[Response Begins]

[Response Ends]

2a.03. Provide the dates of the data used in testing.

Use the following format: "MM-DD-YYYY - MM-DD-YYYY"

[Response Begins]

[Response Ends]

2a.04. Select the levels of analysis for which the measure is tested.

Testing must be provided for all the levels specified and intended for measure implementation, e.g., individual clinician, hospital, health plan.

Please refrain from selecting the following answer option(s). We are in the process of phasing out these answer options and request that you instead select one of the other answer options as they apply to your measure.

Please do not select:

- *Clinician: Clinician*
- *Population: Population*

[Response Begins]

[Response Ends]

2a.05. List the measured entities included in the testing and analysis (by level of analysis and data source).

Identify the number and descriptive characteristics of measured entities included in the analysis (e.g., size, location, type); if a sample was used, describe how entities were selected for inclusion in the sample.

[Response Begins]

[Response Ends]

2a.06. Identify the number and descriptive characteristics of patients included in the analysis (e.g., age, sex, race, diagnosis), separated by level of analysis and data source; if a sample was used, describe how patients were selected for inclusion in the sample.

If there is a minimum case count used for testing, that minimum must be reflected in the specifications.

[Response Begins]

[Response Ends]

2a.07. If there are differences in the data or sample used for different aspects of testing (e.g., reliability, validity, exclusions, risk adjustment), identify how the data or sample are different for each aspect of testing.

[Response Begins]

[Response Ends]

2a.08. List the social risk factors that were available and analyzed.

For example, patient-reported data (e.g., income, education, language), proxy variables when social risk data are not collected from each patient (e.g. census tract), or patient community characteristics (e.g. percent vacant housing, crime rate) which do not have to be a proxy for patient-level data.

[Response Begins]

[Response Ends]

Note: If accuracy/correctness (validity) of data elements was empirically tested, separate reliability testing of data elements is not required – in 2a.07 check patient or encounter-level data; in 2a.08 enter "see validity testing section of data elements"; and enter "N/A" for 2a.09 and 2a.10.

2a.09. Select the level of reliability testing conducted.

Choose one or both levels.

[Response Begins]

[Response Ends]

2a.10. For each level of reliability testing checked above, describe the method of reliability testing and what it tests.

Describe the steps—do not just name a method; what type of error does it test; what statistical analysis was used.

[Response Begins]

[Response Ends]

2a.11. For each level of reliability testing checked above, what were the statistical results from reliability testing?

For example, provide the percent agreement and kappa for the critical data elements, or distribution of reliability statistics from a signal-to-noise analysis. For score-level reliability testing, when using a signal-to-noise analysis, more than just one overall statistic should be reported (i.e., to demonstrate variation in reliability across providers). If a particular method yields only one statistic, this should be explained. In addition, reporting of results stratified by sample size is preferred (pg. 18, NQF Measure Evaluation Criteria).

[Response Begins]

[Response Ends]

2a.12. Interpret the results, in terms of how they demonstrate reliability.

(In other words, what do the results mean and what are the norms for the test conducted?)

[Response Begins]

[Response Ends]

2b.01. Select the level of validity testing that was conducted.

[Response Begins]

[Response Ends]

2b.02. For each level of testing checked above, describe the method of validity testing and what it tests.

Describe the steps—do not just name a method; what was tested, e.g., accuracy of data elements compared to authoritative source, relationship to another measure as expected; what statistical analysis was used.

[Response Begins]

[Response Ends]

2b.03. Provide the statistical results from validity testing.

Examples may include correlations or t-test results.

[Response Begins]

[Response Ends]

2b.04. Provide your interpretation of the results in terms of demonstrating validity. (i.e., what do the results mean and what are the norms for the test conducted?)

[Response Begins]

[Response Ends]

2b.05. Describe the method for determining if statistically significant and clinically/practically meaningful differences in performance measure scores among the measured entities can be identified.

Describe the steps—do not just name a method; what statistical analysis was used? Do not just repeat the information provided in Importance to Measure and Report: Gap in Care/Disparities.

[Response Begins]

[Response Ends]

2b.06. Describe the statistical results from testing the ability to identify statistically significant and/or clinically/practically meaningful differences in performance measure scores across measured entities.

Examples may include number and percentage of entities with scores that were statistically significantly different from mean or some benchmark, different from expected; how was meaningful difference defined.

[Response Begins]

[Response Ends]

2b.07. Provide your interpretation of the results in terms of demonstrating the ability to identify statistically significant and/or clinically/practically meaningful differences in performance across measured entities.

In other words, what do the results mean in terms of statistical and meaningful differences?

[Response Begins]

[Response Ends]

2b.08. Describe the method of testing conducted to identify the extent and distribution of missing data (or non-response) and demonstrate that performance results are not biased due to systematic missing data (or differences between responders and non-responders). Include how the specified handling of missing data minimizes bias.

Describe the steps—do not just name a method; what statistical analysis was used.

[Response Begins]

[Response Ends]

2b.09. Provide the overall frequency of missing data, the distribution of missing data across providers, and the results from testing related to missing data.

For example, provide results of sensitivity analysis of the effect of various rules for missing data/non-response. If no empirical sensitivity analysis was conducted, identify the approaches for handling missing data that were considered and benefits and drawbacks of each).

[Response Begins]

[Response Ends]

2b.10. Provide your interpretation of the results, in terms of demonstrating that performance results are not biased due to systematic missing data (or differences between responders and non-responders), and how the specified handling of missing data minimizes bias.

In other words, what do the results mean in terms of supporting the selected approach for missing data and what are the norms for the test conducted; if no empirical analysis was conducted, justify the selected approach for missing data.

[Response Begins]

[Response Ends]

Note: This item is directed to measures that are risk-adjusted (with or without social risk factors) OR to measures with more than one set of specifications/instructions (e.g., one set of specifications for how to identify and compute the measure from medical record abstraction and a different set of specifications for claims or eCQMs). It does not apply to measures that use more than one source of data in one set of specifications/instructions (e.g., claims data to identify the denominator and medical record abstraction for the numerator). Comparability is not required when comparing performance scores with and without social risk factors in the risk adjustment model. However, if comparability is not demonstrated for measures with more than one set of specifications/instructions, the different specifications (e.g., for medical records vs. claims) should be submitted as separate measures.

2b.11. Indicate whether there is more than one set of specifications for this measure.

[Response Begins]

[Response Ends]

2b.12. Describe the method of testing conducted to compare performance scores for the same entities across the different data sources/specifications.

Describe the steps—do not just name a method. Indicate what statistical analysis was used.

[Response Begins]

[Response Ends]

2b.13. Provide the statistical results from testing comparability of performance scores for the same entities when using different data sources/specifications.

Examples may include correlation, and/or rank order.

[Response Begins]

[Response Ends]

2b.14. Provide your interpretation of the results in terms of the differences in performance measure scores for the same entities across the different data sources/specifications.

In other words, what do the results mean and what are the norms for the test conducted.

[Response Begins]

[Response Ends]

2b.15. Indicate whether the measure uses exclusions.

[Response Begins]

[Response Ends]

2b.16. Describe the method of testing exclusions and what was tested.

Describe the steps—do not just name a method; what was tested, e.g., whether exclusions affect overall performance scores; what statistical analysis was used?

[Response Begins]

[Response Ends]

2b.17. Provide the statistical results from testing exclusions.

Include overall number and percentage of individuals excluded, frequency distribution of exclusions across measured entities, and impact on performance measure scores.

[Response Begins]

[Response Ends]

2b.18. Provide your interpretation of the results, in terms of demonstrating that exclusions are needed to prevent unfair distortion of performance results.

In other words, the value outweighs the burden of increased data collection and analysis. Note: If patient preference is an exclusion, the measure must be specified so that the effect on the performance score is transparent, e.g., scores with and without exclusion.

[Response Begins]

[Response Ends]

2b.19. Check all methods used to address risk factors.

[Response Begins]

[Response Ends]

2b.20. If using statistical risk models, provide detailed risk model specifications, including the risk model method, risk factors, risk factor data sources, coefficients, equations, codes with descriptors, and definitions.

[Response Begins]

[Response Ends]

2b.21. If an outcome or resource use measure is not risk-adjusted or stratified, provide rationale and analyses to demonstrate that controlling for differences in patient characteristics (i.e., case mix) is not needed to achieve fair comparisons across measured entities.

[Response Begins]

[Response Ends]

2b.22. Select all applicable resources and methods used to develop the conceptual model of how social risk impacts this outcome.

[Response Begins]

[Response Ends]

2b.23. Describe the conceptual and statistical methods and criteria used to test and select patient-level risk factors (e.g., clinical factors, social risk factors) used in the statistical risk model or for stratification by risk.

Please be sure to address the following: potential factors identified in the literature and/or expert panel; regression analysis; statistical significance of p<0.10 or other statistical tests; correlation of x or higher. Patient factors should be present at the start of care, if applicable. Also discuss any "ordering" of risk factor inclusion; note whether social risk factors are added after all clinical factors. Discuss any considerations regarding data sources (e.g., availability, specificity).

[Response Begins]

[Response Ends]

2b.24. Detail the statistical results of the analyses used to test and select risk factors for inclusion in or exclusion from the risk model/stratification.

[Response Begins]

[Response Ends]

2b.25. Describe the analyses and interpretation resulting in the decision to select or not select social risk factors.

Examples may include prevalence of the factor across measured entities, availability of the data source, empirical association with the outcome, contribution of unique variation in the outcome, or assessment of between-unit effects and within-unit effects. Also describe the impact of adjusting for risk (or making no adjustment) on providers at high or low extremes of risk.

[Response Begins]

[Response Ends]

2b.26. Describe the method of testing/analysis used to develop and validate the adequacy of the statistical model or stratification approach (describe the steps—do not just name a method; what statistical analysis was used). Provide the statistical results from testing the approach to control for differences in patient characteristics (i.e., case mix) below. If stratified ONLY, enter "N/A" for questions about the statistical risk model discrimination and calibration statistics.

Validation testing should be conducted in a data set that is separate from the one used to develop the model.

[Response Begins]

[Response Ends]

2b.27. Provide risk model discrimination statistics.

For example, provide c-statistics or R-squared values.

[Response Begins]

[Response Ends]

2b.28. Provide the statistical risk model calibration statistics (e.g., Hosmer-Lemeshow statistic).

[Response Begins]

[Response Ends]

2b.29. Provide the risk decile plots or calibration curves used in calibrating the statistical risk model.

The preferred file format is .png, but most image formats are acceptable.

[Response Begins]

[Response Ends]

2b.30. Provide the results of the risk stratification analysis.

[Response Begins]

[Response Ends]

2b.31. Provide your interpretation of the results, in terms of demonstrating adequacy of controlling for differences in patient characteristics (i.e., case mix).

In other words, what do the results mean and what are the norms for the test conducted?

[Response Begins]

[Response Ends]

2b.32. Describe any additional testing conducted to justify the risk adjustment approach used in specifying the measure.

Not required but would provide additional support of adequacy of the risk model, e.g., testing of risk model in another data set; sensitivity analysis for missing data; other methods that were assessed.

[Response Begins]

[Response Ends]

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3.01. Check all methods below that are used to generate the data elements needed to compute the measure score.

[Response Begins]

[Response Ends]

3.02. Detail to what extent the specified data elements are available electronically in defined fields.

In other words, indicate whether data elements that are needed to compute the performance measure score are in defined, computer-readable fields.

[Response Begins]

ALL data elements are in defined fields in a combination of electronic sources

[Response Ends]

3.03. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using data elements not from electronic sources.

[Response Begins]

[Response Ends]

3.04. Describe any efforts to develop an eCQM.

[Response Begins]

[Response Ends]

3.06. Describe difficulties (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.

[Response Begins]

[Response Ends]

Consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

3.07. Detail any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm),

Attach the fee schedule here, if applicable.

[Response Begins]

Not applicable.

[Response Ends]

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

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.

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement, in addition to demonstrating performance improvement.

4a.01. Check all current uses. For each current use checked, please provide:

Name of program and sponsor

URL

Purpose

Geographic area and number and percentage of accountable entities and patients included

Level of measurement and setting

[Response Begins]

Public Reporting

Quality Improvement with Benchmarking (external benchmarking to multiple organizations)

Quality Improvement (Internal to the specific organization)

[Response Ends]

4a.02. Check all planned uses.

[Response Begins]

Quality Improvement with Benchmarking (external benchmarking to multiple organizations)

[Response Ends]

4a.03. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing), explain why the measure is not in use.

For example, do policies or actions of the developer/steward or accountable entities restrict access to performance results or block implementation?

[Response Begins]

This is not applicable.

[Response Ends]

4a.04. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes: used in any accountability application within 3 years, and publicly reported within 6 years of initial endorsement.

A credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.

[Response Begins]

This is not applicable.

[Response Ends]

4a.05. Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.

Detail how many and which types of measured entities and/or others were included. If only a sample of measured entities were included, describe the full population and how the sample was selected.

[Response Begins]

[Response Ends]

4a.06. Describe the process for providing measure results, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.

[Response Begins]

[Response Ends]

4a.07. Summarize the feedback on measure performance and implementation from the measured entities and others. Describe how feedback was obtained.

[Response Begins]

[Response Ends]

4a.08. Summarize the feedback obtained from those being measured.

[Response Begins]

[Response Ends]

4a.09. Summarize the feedback obtained from other users.

[Response Begins]

[Response Ends]

4a.10. Describe how the feedback described has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.

[Response Begins]

[Response Ends]

4b.01. You may refer to data provided in Importance to Measure and Report: Gap in Care/Disparities, but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities

and patients included). If no improvement was demonstrated, provide an explanation. If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

[Response Begins]

Nursing home performance on this QM is consistently high and may be approaching a ceiling effect. Please also see 4b.1 for a discussion of the plausibility of inferring a causal effect of the quality measure on assessment and vaccination rates.

[Response Ends]

4b.02. Explain any unexpected findings (positive or negative) during implementation of this measure, including unintended impacts on patients.

[Response Begins]

DAVE 2 Project found that 13% of the time the current Influenza Immunization measure was triggered differently by different assessors (Abt Associates et al., 2007). Partly, this may occur because definitions for the currently reported measure are misunderstood, or the assessors leave the items blank when they should be completed. The changes made to the MDS 3.0 regarding the vaccine items were relatively minor; however, these minor changes improved the clarity of the items (Saliba & Buchanan, 2008). Further, in a reliability test of the revised MDS 3.0 items, Saliba and Buchanan reported that a kappa statistic for gold-standard nurse to gold-standard nurse agreement was 0.989 for influenza vaccine given, and the kappa for gold-standard nurse to facility nurse agreement was 0.941 (Saliba & Buchanan, 2008).

No published evidence of unintended consequences to the populations in implementation of this QM was identified, other than the very low rate of adverse reaction to the vaccine and potential for being vaccinated more than once. Subject matter experts interviewed in 2016 as part of endorsement maintenance reported no or minimal unintended consequences such as discomfort from the vaccine.

Abt Associates, Inc.; Stepwise Systems, Inc.; Qualidigm. (2007). Data Assessment and Verification (DAVE 2) project. MDS two-stage discrepancy findings, April-December 2006. Cambridge, MA: Abt Associates, Inc.

Medicare Payment Advisory Commission (MedPAC). (2011a, March). Inpatient rehabilitation facility services. In Report to the Congress: Medicare payment policy (pp. 203–227). Washington, DC. Retrieved from http://medpac.gov/documents/Mar11_EntireReport.pdf

Medicare Payment Advisory Commission (MedPAC). (2011b, March). Long-term care hospital services. In Report to the Congress: Medicare payment policy (pp. 231–256). Washington, DC. Retrieved from http://medpac.gov/documents/Mar11_EntireReport.pdf

National Quality Forum. (2008, December). National voluntary consensus standards for influenza and pneumococcal immunizations. Available from http://www.qualityforum.org/Publications/2008/12/National_Voluntary_Consensus_Standards_for_Influenza_and_Pneumococcal_Immunizations.aspx

Saliba, D. & Buchanan, J. (2008, April). Development and validation of a revised nursing home assessment tool: MDS 3.0. Contract No. 500-00-0027/Task Order #2. Santa Monica, CA: Rand Corporation. Available from https://www.cms.gov/NursingHomeQualityInits/25_NHQIMDS30.asp

[Response Ends]

4b.03. Explain any unexpected benefits realized from implementation of this measure.

[Response Begins]

[Response Ends]

5. Comparison to Related or 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.

If you are updating a maintenance measure submission for the first time in MIMS, please note that the previous related and competing data appearing in question 5.03 may need to be entered in to 5.01 and 5.02, if the measures are NQF endorsed. Please review and update questions 5.01, 5.02, and 5.03 accordingly.

5.01. Search and select all NQF-endorsed related measures (conceptually, either same measure focus or target population).

(Can search and select measures.)

[Response Begins]

[Response Ends]

5.02. Search and select all NQF-endorsed competing measures (conceptually, the measures have both the same measure focus or target population).

(Can search and select measures.)

[Response Begins]

[Response Ends]

5.03. If there are related or competing measures to this measure, but they are not NQF-endorsed, please indicate the measure title and steward.

[Response Begins]

NQF# 1659, Influenza Immunization, Centers for Medicare and Medicaid Services

[Response Ends]

5.04. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s), indicate whether the measure specifications are harmonized to the extent possible.

[Response Begins]

Yes

[Response Ends]

5.05. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.

[Response Begins]

[Response Ends]

5.06. Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality). Alternatively, justify endorsing an additional measure.

Provide analyses when possible.

[Response Begins]

NQF #0680 Percent of Residents or Patients Assessed and Appropriately Given the Seasonal Influenza Vaccine (SS) applies to short-stay nursing home residents as well as additional post-acute care settings (LTCHs and IRFs), and is based on different data sources for each setting (MDS 3.0 for nursing homes, IRF-PAI is the data source for IRFs, and the LTCH CARE Data Set is the data source for LTCHs). Both NQF #0680 and the current measure #0681 for long stay nursing home residents were developed together and harmonized to the NQF Voluntary Consensus Standards for Influenza Immunizations and each other as much as possible.

A possible competing measure is NQF #1659: Influenza Immunization for Hospital/Acute Care Facility AND Institute for Clinical Systems (ICS) suggest immunizations of adult patients 18 years and older, to be up to date with all immunization vaccines with follow up time periods. NQF #1659 targets a different population in a different setting and does not include those assessed but not given the vaccine. ICS is not NQF endorsed and has a different target population with a broader numerator (multiple other vaccines). NQF #0680 targets a different population in multiple settings.

Another possible competing measure is the National Committee for Quality Assurance (NCQA) measure titled: Flu vaccinations for adults ages 65 and older: percentage of Medicare members 65 years of age and older who received an influenza vaccination between July 1 of the measurement year and the date when Medicare CAHPS survey was completed.

This NCQA measure is based on the CAHPS Health Plan Survey and targets a different and non-institutionalized population, so NQF #0681 offers distinctive value.

[Response Ends]

Appendix

Supplemental materials may be provided in an appendix.:

Contact Information

Measure Steward (Intellectual Property Owner):

Measure Steward Point of Contact:

Measure Developer if different from Measure Steward:

Measure Developer Point(s) of Contact:

Additional Information

1. Provide any supplemental materials, if needed, as an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be collated one file with a table of contents or bookmarks. If material pertains to a specific criterion, that should be indicated.

[Response Begins]

[Response Ends]

2. List the workgroup/panel members' names and organizations.

Describe the members' role in measure development.

[Response Begins]

This technical expert panel met over 2 days in January 2009 to review the environmental scan of the current quality measures and make recommendations regarding their transition from MDS 2.0 to MDS 3.0. See attached Table 5 in the appendix: Nursing Home Quality Measures Technical Expert Panel (January 2009) showing a list of workgroup or panel member names and organizations.

[Response Ends]

3. Indicate the year the measure was first released.

[Response Begins]

[Response Ends]

4. Indicate the month and year of the most recent revision.

[Response Begins]

[Response Ends]

5. Indicate the frequency of review, or an update schedule, for this measure.

[Response Begins]

Every 3 years

[Response Ends]

6. Indicate the next scheduled update or review of this measure.

[Response Begins]

[Response Ends]

7. Provide a copyright statement, if applicable. Otherwise, indicate “N/A”.

[Response Begins]

[Response Ends]

8. State any disclaimers, if applicable. Otherwise, indicate “N/A”.

[Response Begins]

[Response Ends]

9. Provide any additional information or comments, if applicable. Otherwise, indicate "N/A".

[Response Begins]

[Response Ends]