



## 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 subcriterion 1b).

### Brief Measure Information

**NQF #: 0690**

**Corresponding Measures:**

**De.2. Measure Title:** [Percent of Residents Who Have Depressive Symptoms \(Long-Stay\)](#)

**Co.1.1. Measure Steward:** [Centers for Medicare & Medicaid Services](#)

**De.3. Brief Description of Measure:** This measure is based on data from MDS 3.0 assessments of nursing home residents. Either a resident interview measure or a staff assessment measure will be reported. The preferred version is the resident interview measure. The resident interview measure will be used unless either there are three or more missing sub-items needed for calculation or the resident is rarely or never understood, in which cases the staff assessment measure will be calculated and used. These measures use those questions in MDS 3.0 that comprise the Patient Health Questionnaire (PHQ-9) depression instrument. The PHQ-9 is based on the diagnostic criteria for a major depressive disorder in the DSM-IV.

**1b.1. Developer Rationale:** Facilities can use information from this measure to identify the extent to which their long-stay residents have symptoms of major depression and to develop quality improvement initiatives to ensure adequate care planning. Fewer residents with symptoms of major depression and fewer symptoms of major depression in individual residents are the expected quality improvements.

**S.4. Numerator Statement:** Using the PHQ-9 items in the MDS 3.0, for the Resident Interview Measure (Item D0200), the numerator is based on the residents' little interest in doing things or feelings of depression, and the total sum severity score (D0300) on the target MDS assessment in the selected quarter (OBRA, PPS, discharge). The total severity score reflects resident responses to questions asking about the frequency of nine symptoms over the last 2 weeks, including interest, mood, energy, appetite, self-value, ability to concentrate, change in responsiveness, or patience. The Staff Assessment Measure (Item D0500) is similar, except the judgment is being made by observers rather than the residents themselves. The numerator is calculated by using data from item D0300, the total self-reported depression severity score. While the self-report data are preferred, if data from D0300 are incomplete or unavailable then the numerator will be calculated using data from item D0600 (staff assessment total severity score).

**S.7. Denominator Statement:** The denominator is the total number of all long-stay residents in the nursing home who have received an MDS assessment (OBRA, PPS or discharge) during the selected quarter (3-month period) and who do not meet the exclusion criteria.

**S.10. Denominator Exclusions:** A long-stay resident is excluded from the denominator if the resident is comatose, or if there are missing data in the relevant section of the MDS. Facilities are excluded from public reporting if they have fewer than 30 residents in the sample.

**De.1. Measure Type:** [Outcome](#)

**S.23. Data Source:** [Electronic Health Records](#)

**S.26. Level of Analysis:** [Facility, Other](#)

**IF Endorsement Maintenance – Original Endorsement Date:** [Mar 03, 2011](#) **Most Recent Endorsement Date:** [Mar 03, 2011](#)

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

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

**De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results?**

## 1. Evidence, Performance Gap, Priority – 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 subcriteria to pass this criterion and be evaluated against the remaining criteria.**

### 1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form

0690\_Evidence\_MSF5.0\_Data.doc

### 1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- disparities in care across population groups.

#### 1b.1. Briefly explain the rationale for this measure (e.g., the benefits or improvements in quality envisioned by use of this measure)

Facilities can use information from this measure to identify the extent to which their long-stay residents have symptoms of major depression and to develop quality improvement initiatives to ensure adequate care planning. Fewer residents with symptoms of major depression and fewer symptoms of major depression in individual residents are the expected quality improvements.

#### 1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis. (This is required for endorsement maintenance. Include mean, std dev, min, max, interquartile range, 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 included). This information also will be used to address the subcriterion on improvement (4b.1) under Usability and Use.

Depression in short-stay residents may result from a number of temporary factors based on recent acute inpatient admission that may recede with time, and treatment for depression may not have had sufficient time to become effective.

Depression is a treatable condition. As summarized by Saliba and Buchanan:

Research conducted before the national implementation of the MDS demonstrated that the prevalence of major depression among cognitively intact or moderately impaired nursing facility NH residents was 20-25%. In addition, another 30% of residents had less severe, but nevertheless clinically significant depression.(1) However . . . only about 10% of residents with recognized depression were treated.(2) More recent studies reveal that, despite an emphasis on depression in the MDS and associated quality indicators, as well as an almost 3 fold increase in the number of residents prescribed antidepressants,(3) 34% of residents may have clinically significant depressive symptoms.(4)

The MDS 3.0 items are expected to better identify depression in the nursing facility populations than the MDS 2.0 items. Much of the following information presented in this section is taken from Saliba and Buchanan (2008), which presents the results of the CMS-initiated project to create version 3.0 of the MDS.(5) In that project, the research team engaged in an iterative process to incorporate provider and consumer input, expert consultation, scientific advances in clinical knowledge about screening and assessment, CMS experience, and intensive item development and testing. This process resulted in national testing of MDS 3.0 in 71 community nursing facilities and 19 Veterans Affairs (VA) nursing homes. The national test directly examined: agreement between assessors (reliability); validity of new items; response rates for interview items; user satisfaction and feedback on changes; time to complete the assessment; and comparison of item distributions between MDS 3.0 and MDS 2.0.

This MDS 3.0 Development Project oversampled short-stay residents (those who are discharged within 100 days of admission). It is therefore likely that their sample includes fewer residents with serious cognitive impairment than would typically be present in the long-stay nursing facility population.(5)

Saliba and Buchanan note the following about MDS 2.0:

- The current MDS 2.0 list of 15 observed indicators of depression has poor sensitivity for identifying persons with depressive symptoms or depression.(6, 7, 8, 9, 10, 11)
- A consensus statement from the American Geriatrics Society (AGS) and the American Association for Geriatric Psychiatry (AAGP) concluded that the MDS alone, as currently used, is not adequate for depression screening and recommended that additional instruments be used.(12)

- Only 22% of nurses in their survey reported that the MDS 2.0 mood items are easy to complete accurately.(5)

Concerns about the currently used measure focus on two areas. The first is that screening specifically for depression would be valuable and that anxiety and depression should not be collapsed into a single construct. The second is that some of these indicators may have causes unrelated to depression or anxiety. In particular, negative statements, repetitive verbalizations, crying, tearfulness, and repetitive physical movements may result from other factors, such as bereavement or cognitive impairment. Also, leaving food uneaten may be caused in part by Federal regulations related to meal frequency and nutritional adequacy, which lead many nursing homes to be reluctant to allow residents to select their own food portions; as a result, residents may leave food uneaten because the portions provided are too large.

**1b.3. If no or limited performance data on the measure as specified is reported in 1b2, 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.**

1. Parmelee PA, Katz IR, Lawton MP. Depression among institutionalized aged: assessment and prevalence estimation. *J Gerontol.* 1989;44(1):M22-9.
  2. Heston LL, Garrard J, Makris L, et al. Inadequate treatment of depressed nursing home elderly. *J Am Geriatr Soc.* 1992;40(11):1117-22.
  3. Weintraub D, Datto CJ, Streim JE, et al. Second-generation issues in the management of depression in nursing homes. *J Am Geriatr Soc.* 2002;50(12):2100-1; author reply, 2101.
  4. Datto CJ, Oslin DW, Streim JE, et al. Pharmacologic treatment of depression in nursing home residents: a mental health services perspective. *J Geriatr Psychiatry Neurol.* 2002;15(3):141-
  5. Saliba D, Buchanan J. 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, Apr 2008. Available from <http://www.cms.hhs.gov/NursingHomeQualityInits/Downloads/MDS30FinalReport.pdf>.
  6. Teresi J, Abrams R, Holmes D, et al. Prevalence of depression and depression recognition in nursing homes. *Soc Psychiatry Psychiatr Epidemiol.* 2001;36(12):613-20.
  7. Anderson RL, Buckwalter KC, Buchanan RJ, et al. Validity and reliability of the Minimum Data Set Depression Rating Scale (MDSDRS) for older adults in nursing homes. *Age Ageing.* 2003;32(4):435-8.
  8. Horgas AL, Tsai PF. Analgesic Drug prescription and use in cognitively impaired nursing home residents. *Nurs Res.* 1998;47(4):235-42.
  9. McCurren C. Assessment for depression among nursing home elders: evaluation of the MDS mood assessment. *Geriatric Nurs.* 2002;23(2):103-8.
  10. Lawton MP, Casten R, Parmelee PA, et al. Psychometric characteristics of the Minimum Data Set II: validity. *J Am Geriatr Soc.* 1998;46(6):736-44.
  11. Snowden M, Sato K, Roy-Byrne P. Assessment and treatment of nursing home residents with depression or behavioral symptoms associated with dementia: a review of the literature. *J Am Geriatr Soc.* 2003;51(9):1305-17.
  12. American Geriatrics Society and American Association for Geriatric Psychiatry. Consensus statement on improving the quality of mental health care in U.S. nursing homes: management of depression and behavioral symptoms associated with dementia. *J Am Geriatr Soc.* 2003;51(9):1287-98.
- 1b.4. 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. (This is required for endorsement maintenance. 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 subcriterion on improvement (4b.1) under Usability and Use.**

Several studies have analyzed racial differences in depression in nursing homes. One study found that African American residents were less likely to be diagnosed and less likely to receive treatment.(1) Another study also found African Americans were less likely to be diagnosed, but found no significant racial differences in recorded mood or behavior symptomatology or in the pharmacologic treatment of mental illness.(2) Among community-dwelling older persons, studies have largely shown a greater incidence of depression and depressive symptoms in blacks than in whites, although some of this difference is due to intervening socioeconomic factors.(3, 4, 5 ,6) However, some studies found lower rates of depression for blacks than for whites and Hispanics, or no differences, including one study of nursing home residents.(7, 8, 9)

**1b.5. If no or limited data on disparities from the measure as specified is reported in 1b4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations.**

1. Levin CA, Wei W, Akincigil A, Lucas JA, Bilder S, Crystal S. Prevalence and treatment of diagnosed depression among elderly nursing home residents in Ohio. J Am Med Dir Assoc. 2007 Nov;8(9):585-94. Epub 2007 Oct 22.
2. Zisselman M, Smith R, Smith S, Daskalakis C, Sanchez F. Racial and socioeconomic differences in psychiatric symptoms in nursing home residents: a Minimum Data Set-based pilot study. J Am Med Dir Assoc. 2006;7(1):17-22.
3. Cohen CI, Magai C, Yaffee R, Walcott-Brown L. Racial differences in syndromal and subsyndromal depression in an older urban population. Psychiatr Serv. 2005 Dec;56(12):1556-63.
4. Dunlop DD, Song J, Lyons JS, Manheim LM, Chang RW. Racial/ethnic differences in rates of depression among preretirement adults. Am J Public Health. 2003 Nov;93(11):1945-52.
5. Sachs-Ericsson N, Plant EA, Blazer DG. Racial differences in the frequency of depressive symptoms among community dwelling elders: the role of socioeconomic factors. Aging Ment Health. 2005 May;9(3):201-9.
6. Skarupski KA, Mendes de Leon CF, Bienias JL, Barnes LL, Everson-Rose SA, Wilson RS, Evans DA. Black-white differences in depressive symptoms among older adults over time. J Gerontol B Psychol Sci Soc Sci. 2005 May;60(3):P136-42.
7. Cohen CI, Hyland K, Magai C. Depression among African American nursing home patients with dementia. Am J Geriatr Psychiatry. 1998 Spring;6(2):162-75.
8. Fyffe DC, Sirey JA, Heo M, Bruce ML. Late-life depression among black and white elderly homecare patients. Am J Geriatr Psychiatry. 2004 Sep-Oct;12(5):531-5.
9. Steffens DC, Fisher GG, Langa KM, Potter GG, Plassman BL. Prevalence of depression among older Americans: the Aging, Demographics and Memory Study. Int Psychogeriatr. 2009 Oct;21(5):879-88. Epub 2009 Jun 12.

**1c. High Priority** (previously referred to as High Impact)

The measure addresses:

- a specific national health goal/priority identified by DHHS or the National Priorities Partnership convened by NQF;  
OR
- a demonstrated high-priority (high-impact) aspect of healthcare (e.g., affects large numbers of patients and/or has a substantial impact for a smaller population; leading cause of morbidity/mortality; high resource use (current and/or future); severity of illness; and severity of patient/societal consequences of poor quality).

**1c.1. Demonstrated high priority aspect of healthcare**

Affects large numbers, Severity of illness, Patient/societal consequences of poor quality

**1c.2. If Other:**

**1c.3. Provide epidemiologic or resource use data that demonstrates the measure addresses a high priority aspect of healthcare.**

List citations in 1c.4.

Depression is a very expensive, complicating, and treatable factor for nursing facility residents. The total economic cost of depression in the U.S. in CY 2000 was \$83.1 billion, including \$26.1 billion in direct medical costs.(1) In the nursing facility environment, depression can be triggered by a number of elements of physical or cognitive decline, and by the circumstances of nursing home residence itself (in addition to other causes), but can be under diagnosed and under treated.(2)

As summarized by Saliba and Buchanan:

Research conducted before the national implementation of the MDS demonstrated that the prevalence of major depression among cognitively intact or moderately impaired nursing facility residents was 20-25%. In addition, another 30% of residents had less severe, but nevertheless clinically significant depression.(3) However . . . only about 10% of residents with recognized depression were treated.(4) More recent studies reveal that, despite an emphasis on depression in the MDS and associated quality indicators, as well as an almost 3 fold increase in the number of residents prescribed antidepressants,(5) 34% of residents may have clinically significant depressive symptoms.(6)

For the second quarter of 2008, the current measure ("Percent of Residents Who Have Become More Depressed or Anxious") based on MDS 2.0 data averages 14.9% nationally, with statewide averages ranging from 9.2% to 30%. Therefore, depression among the nursing home residents is a significant clinical issue.

**1c.4. Citations for data demonstrating high priority provided in 1a.3**

1. Greenberg PE, Kessler RC, Birnbaum HG, Leong SA, Lowe SW, Berglund PA, Corey-Lisle PK. The economic burden of depression in the United States: how did it change between 1990 and 2000. *J Clin Psychiatr.* 2003;64(12):1465-75.
2. Simmons SF, Cadogan MP, Cabrera GR, et al. The Minimum Data Set depression quality indicator: does it reflect differences in care processes? *Gerontologist.* 2004;44:554-64.
3. Parmelee PA, Katz IR, Lawton MP. Depression among institutionalized aged: assessment and prevalence estimation. *J Gerontol.* 1989;44(1):M22-9.
4. Heston LL, Garrard J, Makris L, et al. Inadequate treatment of depressed nursing home elderly. *J Am Geriatr Soc.* 1992;40(11):1117-22.
5. Weintraub D, Datto CJ, Streim JE, et al. Second-generation issues in the management of depression in nursing homes. *J Am Geriatr Soc.* 2002;50(12):2100-1; author reply, 2101.
6. Datto CJ, Oslin DW, Streim JE, et al. Pharmacologic treatment of depression in nursing home residents: a mental health services perspective. *J Geriatr Psychiatry Neurol.* 2002;15(3):141-6.

**1c.5. If a PRO-PM (e.g. HRQoL/functional status, symptom/burden, experience with care, health-related behaviors), provide evidence that the target population values the measured PRO and finds it meaningful. (Describe how and from whom their input was obtained.)**

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

**2a.1. Specifications** The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

**De.5. Subject/Topic Area** (check all the areas that apply):  
Behavioral Health, Behavioral Health : Depression

**De.6. Non-Condition Specific** (check all the areas that apply):

**S.1. Measure-specific Web Page** (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.)

<http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIQualityMeasures.html>

**S.2a. If this is an eMeasure**, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

**O:URL Attachment:**

**S.2b. Data Dictionary, Code Table, or Value Sets** (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)

**No data dictionary Attachment:**

**S.3. For endorsement maintenance**, please briefly describe any changes to the measure specifications since last endorsement date and explain the reasons.

**S.4. Numerator Statement** (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)

IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm.

Using the PHQ-9 items in the MDS 3.0, for the Resident Interview Measure (Item D0200), the numerator is based on the residents' little interest in doing things or feelings of depression, and the total sum severity score (D0300) on the target MDS assessment in the selected quarter (OBRA, PPS, discharge). The total severity score reflects resident responses to questions asking about the frequency of nine symptoms over the last 2 weeks, including interest, mood, energy, appetite, self-value, ability to concentrate, change in responsiveness, or patience. The Staff Assessment Measure (Item D0500) is similar, except the judgment is being made by observers rather than the residents themselves. The numerator is calculated by using data from item D0300, the total self-reported depression severity score. While the self-report data are preferred, if data from D0300 are incomplete or unavailable then the numerator will be calculated using data from item D0600 (staff assessment total severity score).

**S.5. Time Period for Data** (What is the time period in which data will be aggregated for the measure, e.g., 12 mo, 3 years, look back to August for flu vaccination? Note if there are different time periods for the numerator and denominator.)

For every quarter (3-month period), the Centers for Medicare & Medicaid Services (CMS) selects assessments conducted during that quarter from each nursing home. For the residents with multiple episodes of care during the quarter, only the latest episode will be counted.

**S.6. 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, 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 S.2b)

IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm.

Residents are counted if they are long-stay residents, defined as residents whose length of stay is greater than 100 days. Residents who return to the nursing home following a hospital discharge will not have their stay reset to zero. A resident with little interest or pleasure in doing things half or more days over the last two weeks (D0200A2 = 02, 03), or feeling down, depressed or hopeless half or more days over the last two weeks (D0200B2 = 02, 03), can be eligible for inclusion in the numerator in one of two ways for the MDS 3.0: the Resident Mood Interview or Staff Assessment of Resident Mood. The critical score is equal to or greater than 10 and equal to or less than 27 for either the Resident Mood Interview or Staff Assessment of Resident Mood. A total score is calculated from Column 2, Symptom Frequency. The Staff Assessment of mood (item D0500) should be used if a long-stay resident is missing data for three or more of the sub-items of data elements D0200 for the Resident Assessment AND has valid data for seven or more of sub-items A through I of item D0500 for the Staff Assessment, as described below. When the Resident Mood Interview is conducted, the resident must have a score of two or greater for either D0200A or D0200B AND a score of two or more for five of the following items D0200A-I (i.e., the sum, D0300 = 10 and D0300 <= 27). When the Staff Assessment for Resident Mood is necessary, the resident must have a score of two or greater for either D0200A or D0200B AND a score of two or more for five of the following items D0200A-I (i.e., the sum, D0300 = 10 and D0300 <= 27).



Note MDS 3.0 items are defined as:

D0200A2 is defined as resident interview regarding 'little interest or pleasure in doing things' (symptom frequency);

D0200B2 is defined as resident interview regarding 'feeling down, depressed or hopeless' (symptom frequency);

D0300 is defined as resident interview regarding 'Total Severity Score';

D0500A is defined as staff assessment regarding 'little interest or pleasure in doing things' (symptom frequency);

D0500B2 is defined as staff assessment regarding 'feeling or appearing down, depressed, or hopeless' (symptom frequency);

^ is defined as skipped; and

- is defined as missing.

**S.7. Denominator Statement** *(Brief, narrative description of the target population being measured)*

The denominator is the total number of all long-stay residents in the nursing home who have received an MDS assessment (OBRA, PPS or discharge) during the selected quarter (3-month period) and who do not meet the exclusion criteria.

**S.8. Target Population Category** *(Check all the populations for which the measure is specified and tested if any):*

Elderly

**S.9. Denominator Details** *(All information required to identify and calculate the target population/denominator such as definitions, 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 S.2b)*

Residents are counted if they are long-stay residents, defined as residents whose length of stay is greater than 100 days. Residents who return to the nursing home following a hospital discharge will not have their stay reset to zero. The target population for the denominator is the total number of all long-stay residents in the nursing home who have received an MDS target assessment (A0310A = 01, 02, 03, 04, 05, 06 or A0310B = 01, 02, 03, 04, 05, 06 or A0310F = 10, 11) during the selected quarter (3-month period) and who do not meet the exclusion criteria.

Note MDS 3.0 items are defined as:

A0310A = 01 = Federal OBRA reason for assessment – admission;

A0310A = 02 = Federal OBRA reason for assessment – quarterly;

A0310A = 03 = Federal OBRA reason for assessment – annual;

A0310A = 04 = Federal OBRA reason for assessment – significant change in status assessment;

A0310A = 05 = Federal OBRA reason for assessment – significant correction to prior comprehensive assessment;

A0310A = 06 = Federal OBRA reason for assessment – significant correction to prior quarterly assessment;

A0310B = 01 = PPS Scheduled Assessments for a Medicare Part A Stay – 5-day scheduled assessment;

A0310B = 02 = PPS Scheduled Assessments for a Medicare Part A Stay – 14-day scheduled assessment;

A0310B = 03 = PPS Scheduled Assessments for a Medicare Part A Stay – 30-day scheduled assessment;

A0310B = 04 = PPS Scheduled Assessments for a Medicare Part A Stay – 60-day scheduled assessment;

A0310B = 05 = PPS Scheduled Assessments for a Medicare Part A Stay – 90-day scheduled assessment;

A0310B = 06 = PPS Scheduled Assessments for a Medicare Part A Stay – readmission/return assessment;

A0310F = 10 = Entry/Discharge reporting – discharge assessment-return not anticipated

A0310F = 11 = Entry/Discharge reporting – discharge assessment-return anticipated

**S.10. Denominator Exclusions** *(Brief narrative description of exclusions from the target population)*

A long-stay resident is excluded from the denominator if the resident is comatose, or if there are missing data in the relevant section of the MDS. Facilities are excluded from public reporting if they have fewer than 30 residents in the sample.

**S.11. Denominator Exclusion Details** *(All information required to identify and calculate exclusions from the denominator such as definitions, 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 S.2b)*

B0100 (comatose) = 01 (yes) or missing

OR

The resident is not included in the numerator (the resident did not meet the depression symptom conditions in the numerator)

AND

Both of the following are true:

a. D0200A2 = ^, - OR D0200B2 = ^, - OR D0300 = 99, -, ^

b. D0500A2 = ^,- OR D0500B2 = ^,- OR D0600 = ^,-

where:

D0200A2 is defined as resident interview regarding 'little interest or pleasure in doing things' (symptom frequency);

D0200B2 is defined as resident interview regarding 'feeling down, depressed or hopeless' (symptom frequency);

D0300 is defined as resident interview regarding 'Total Severity Score';

D0500A is defined as staff assessment regarding 'little interest or pleasure in doing things' (symptom frequency);

D0500B2 is defined as staff assessment regarding 'feeling or appearing down, depressed, or hopeless' (symptom frequency);

^ is defined as skipped; and

- is defined as missing.

**S.12. Stratification Details/Variables** (All information required to stratify the measure results including the stratification variables, definitions, 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 with at S.2b)

This is not applicable.

**S.13. Risk Adjustment Type** (Select type. Provide specifications for risk stratification in S.12 and for statistical model in S.14-15)

No risk adjustment or risk stratification

If other:

**S.14. Identify the statistical risk model method and variables** (Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development and testing should be addressed with measure testing under Scientific Acceptability)

This is not applicable.

**S.15. Detailed risk model specifications** (must be in attached data dictionary/code list Excel or csv file. Also indicate if available at measure-specific URL identified in S.1.)

Note: Risk model details (including coefficients, equations, codes with descriptors, definitions), should be provided on a separate worksheet in the suggested format in the Excel or csv file with data dictionary/code lists at S.2b.

**S.15a. Detailed risk model specifications** (if not provided in excel or csv file at S.2b)

**S.16. Type of score:**

Ratio

If other:

**S.17. 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

**S.18. 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.)

For each facility, the number of long-stay residents meeting the numerator criteria and the number of long-stay residents meeting the denominator criteria are counted. The facility prevalence score is calculated as the number of long-stay residents in the facility during the selected quarter in the numerator divided by all long-stay residents during the selected quarter in the denominator (excluding residents for whom there are missing data).

**S.19. Calculation Algorithm/Measure Logic Diagram URL or Attachment** (You also may provide a diagram of the Calculation Algorithm/Measure Logic described above at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

**S.20. Sampling** (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)



IF a PRO-PM, identify whether (and how) proxy responses are allowed.

[This is not applicable.](#)

**S.21. Survey/Patient-reported data** (If measure is based on a survey, provide instructions for conducting the survey and guidance on minimum response rate.)

IF a PRO-PM, specify calculation of response rates to be reported with performance measure results.

**S.22. Missing data** (specify how missing data are handled, e.g., imputation, delete case.)

Required for Composites and PRO-PMs.

**S.23. Data Source** (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.24.

[Electronic Health Records](#)

**S.24. Data Source or Collection Instrument** (Identify the specific data source/data collection instrument e.g. name of database, clinical registry, collection instrument, etc.)

IF a PRO-PM, identify the specific PROM(s); and standard methods, modes, and languages of administration.

[Nursing Home Minimum Data Set 3.0](#)

**S.25. Data Source or Collection Instrument** (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

[URL](#)

**S.26. Level of Analysis** (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

[Facility, Other](#)

**S.27. Care Setting** (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

[Post-Acute Care](#)

If other:

**S.28. COMPOSITE Performance Measure** - Additional Specifications (Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)

**2a. Reliability** – See attached Measure Testing Submission Form

**2b. Validity** – See attached Measure Testing Submission Form

[0690\\_MeasureTesting\\_MSF5.0\\_Data.doc](#)

### 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.

#### 3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

##### 3a.1. Data Elements Generated as Byproduct of Care Processes.

[generated by and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition](#)

If other:

#### 3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

**3b.1. To what extent are the specified data elements available electronically in defined fields?** (*i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields*)

No

**3b.2. 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 other than electronic sources.**

Not applicable.

**3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL.**

Attachment:

### 3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

**3c.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.**

**IF a PRO-PM, consider implications for both individuals providing PROM data (patients, service recipients, respondents) and those whose performance is being measured.**

The data collection method is already in operational use and there are no issues with these areas.

**3c.2. Describe 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*).

## 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.

### 4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

#### 4.1. Current and Planned Use

*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 performance improvement.*

| Planned   | Current Use (for current use provide URL) |
|---|---|
| Public Reporting  |   |
| Quality Improvement (Internal to the specific organization) |   |

**4a.1. For each CURRENT use, checked above, provide:**

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included

**4a.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons?** (e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?)

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

#### **4b. Improvement**

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

**4b.1. Progress on Improvement. (Not required for initial endorsement unless available.)**

Performance results on this measure (current and over time) should be provided in 1b.2 and 1b.4. Discuss:

- Progress (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

**4b.2. If no improvement was demonstrated, what are the reasons? 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.**

#### **4c. Unintended Consequences**

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

**4c.1. Were any unintended negative consequences to individuals or populations identified during testing; OR has evidence of unintended negative consequences to individuals or populations been reported since implementation? If so, identify the negative unintended consequences and describe how benefits outweigh them or actions taken to mitigate them.**

During the public comment period during which the nursing home quality measures were under review, the public raised a concern that resident's cognitive status may be associated with depressive symptoms self-reported or determined through resident assessment. This potential association may adversely impact the validity of the quality measure. RTI compared the numerator triggering rates for this QM stratified by cognitive status. When the self-report BIMS was used, the difference in the numerator triggering rate between residents with and without cognitive impairment was statistically significant but very small (5.89% vs. 5.29%). When the staff assessment of cognitive status was used, the difference was greater (10.31% for cognitive impaired vs. 6.82% for not cognitive impaired residents). However, RTI's facility-level analysis indicated no significant difference in the percentage of facilities in each quartile with a lower prevalence of residents with poor cognitive status, suggesting that the resident-level relationship between cognitive status and depressive symptoms may not have a systematic effect on facility scores for this QM. (1) Research regarding transitioning MDS 2.0 measures to MDS 3.0 item-based measures found that while the PHQ-9 resident-interview and PHQ-9(OV) staff observation of the resident are very similar, a key difference was the latter included observation of a resident's attempt to harm self. (2) The report concluded two separate measures might be appropriate. However, preliminary testing indicated that PHQ-9 resident self report was modestly, but significantly correlated with the staff version of the PHQ-9 developed for this pilot study. (3) Additionally, given the identical constructs between the resident interview item (PHQ-9 D0200 'thoughts that you would be better off dead, or of hurting yourself in some way') and the staff assessment item (PHQ-9-OV D0500I, 'states that life isn't worth living, wishes for death, or attempts to harm self'), creating two separate depression measures would not yield the most parsimonious list of quality measures. Analyses of MDS 3.0 data for Quarter 3, 2011 show the measure was based on staff assessment for 22.5% of the included sample. Stratifying by resident interview versus staff assessment, 10.4% of residents

evaluated using staff assessment displayed symptoms of major depression, compared to 5.6% of residents evaluated using the interview. (4)

1. RTI analysis, presented in Nursing Home MDS 3.0 Quality Measures: Initial Analytic Report, October 2011, Deliverables 25-27 to Centers for Medicare & Medicaid Services.
2. Brega A, Goodrich G, Nuccio E, Hittle D. Transition of publicly reported nursing home quality measures to MDS 3.0—draft. Denver: Division of Health Care Policy and Research University of Colorado at Denver, 2008.
3. Saliba D, Buchanan J. 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, Apr 2008. Available from <http://www.cms.hhs.gov/NursingHomeQualityInits/Downloads/MDS30FinalReport.pdf>.
4. RTI analysis of MDS 3.0 data, unpublished (program: ls26\_request.log)

## 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.

### 5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.

**5.1a. List of related or competing measures (selected from NQF-endorsed measures)**

**5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.**

### 5a. Harmonization

The measure specifications are harmonized with related measures;

**OR**

The differences in specifications are justified

**5a.1. If this measure conceptually addresses 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 Measures

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);

**OR**

Multiple measures are justified.

**5b.1. If this measure conceptually addresses 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.)**

**Related Measures:** This measure is intended to replace NQF#0197 Residents with worsening of a depressed or anxious mood, as the

data source has changed; the MDS 2.0 is being replaced with the MDS 3.0. Other related measures are NQF # 0103 Major Depressive Disorder: Diagnostic Evaluation Status: Endorsed on: DEC 01, 2006 Steward(s): American Medical Association–Physician Consortium for Performance Improvement / Percentage of patients with a diagnosis of major depressive disorder who met the DSM-IV criteria during the visit in which the new diagnosis or recurrent episode was identified; NQF#0418 Screening for Clinical Depression; NQF#0518 Depression assessment conducted (home health).

## Appendix

**A.1 Supplemental materials may be provided in an appendix.** All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

**Attachment:**

## Contact Information

**Co.1 Measure Steward (Intellectual Property Owner):** Centers for Medicare & Medicaid Services

**Co.2 Point of Contact:** Corette, Byrd, [corette.byrd@cms.hhs.gov](mailto:corette.byrd@cms.hhs.gov), 410-786-8532-

**Co.3 Measure Developer if different from Measure Steward:** Centers for Medicare & Medicaid Services

**Co.4 Point of Contact:** Cheryl, Wiseman, [Cheryl.Wiseman2@CMS.hhs.gov](mailto:Cheryl.Wiseman2@CMS.hhs.gov), 410-786-6738-

## Additional Information

**Ad.1 Workgroup/Expert Panel involved in measure development**

**Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.**

[See attached Table 1: Nursing Home Quality Measures Technical Expert Panel \(January 2009\).](#)

[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.](#)

**Measure Developer/Steward Updates and Ongoing Maintenance**

**Ad.2 Year the measure was first released:** [2002](#)

**Ad.3 Month and Year of most recent revision:** [02, 2010](#)

**Ad.4 What is your frequency for review/update of this measure?** [Every 3 years](#)

**Ad.5 When is the next scheduled review/update for this measure?** [02, 2013](#)

**Ad.6 Copyright statement:**

**Ad.7 Disclaimers:**

**Ad.8 Additional Information/Comments:**