

## **Appendix E**

### **Operational Definitions for all Tested QIs**

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>PHYSICAL FUNCTIONING</b> Late-Loss ADL worsening	<p><b>Numerator:</b> Residents with worsening (increasing item score) in Late-Loss ADL self-performance at target relative to prior assessment.</p> <p>Residents meet the definition of Late-Loss ADL worsening when at least two of the following are true:</p> <ol style="list-style-type: none"> <li>1. <math>G1a(A)[t]-G1a(A)[t-1] &gt; 0</math>, or</li> <li>2. <math>G1b(A)[t]-G1b(A)[t-1] &gt; 0</math>, or</li> <li>3. <math>G1h(A)[t]-G1h(A)[t-1] &gt; 0</math>, or</li> <li>4. <math>G1i(A)[t]-G1i(A)[t-1] &gt; 0</math>,</li> </ol> <p>OR at least one of the following is true:</p> <ol style="list-style-type: none"> <li>1. <math>G1a(A)[t]-G1a(A)[t-1] &gt; 1</math>, or</li> <li>2. <math>G1b(A)[t]-G1b(A)[t-1] &gt; 1</math>, or</li> <li>3. <math>G1h(A)[t]-G1h(A)[t-1] &gt; 1</math>, or</li> <li>4. <math>G1i(A)[t]-G1i(A)[t-1] &gt; 1</math>.</li> </ol> <p>Note: Late-Loss ADL items values of 8 are recoded to 4 for evaluation of change.</p> <p><b>Denominator:</b> All residents with a valid target and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents meeting any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. None of the four Late-Loss ADLs (G1a(A), G1b(A), G1h(A), and G1i(A)) can show decline because each of the four have a value of 4 (total dependence) or a value 8 (activity did not occur) on the prior assessment [t-1].</li> <li>2. The QM did not trigger (resident not included in the numerator) AND there is missing data on any one of the four Late-Loss ADLs (G1a(A), G1b(A), G1h(A), or G1i(A)) on the target assessment [t] or prior assessment [t-1].</li> <li>3. The resident is comatose (B1 = 1) or comatose status is unknown (B1 = missing) on the target assessment.</li> <li>4. The resident has end-stage disease (J5c = checked) or end-stage disease status is unknown (J5c = missing) on the target assessment.</li> <li>5. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>6. The resident is in a facility with a Chronic Care</li> </ol>		(CHSRA)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>PHYSICAL FUNCTIONING</b>	Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).		
ADL worsening following improvement (cumulative, longitudinal indicator over 3 assessments)	<p><b>Numerator:</b> Residents with ADL Long Form score (ADLLF) showing worsening (increasing ADLLF score) following improvement (decreasing ADLLF score): <math>ADLLF[t] &gt; ADLLF[t-1] &lt; ADLLF[t-2]</math>. The ADL Long Form Scale (ADLLF) is defined in Technical Comment #1 below.</p> <p><b>Denominator:</b> All residents with a valid target assessment, a valid prior assessment, and a valid prior-1 assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. The ADLLF score is missing on either the target [t] or the prior [t-1] assessment.</li> <li>2. The ADLLF score is missing on the prior-1 assessment [t-2] and the ADLLF score is below the ceiling on the prior assessment (<math>ADLLF[t-1] &lt; 28</math>).</li> <li>3. The ADLLF score is at the scale floor on the prior-1 assessment (<math>ADLLF[t-2] = 0</math>).</li> <li>4. The ADLLF score is at the scale ceiling on the prior assessment (<math>ADLLF[t-1] = 28</math>).</li> <li>5. The resident is comatose (<math>B1 = 1</math>) or comatose status is unknown (<math>B1 = \text{missing}</math>) on the target assessment.</li> <li>6. The resident has end-stage disease (<math>J5c = \text{checked}</math>) or status is unknown (<math>J5c = \text{missing}</math>) on the target assessment.</li> <li>7. The resident is receiving hospice care (<math>P1ao = \text{checked}</math>) or hospice status is unknown (<math>P1ao = \text{missing}</math>) on the target assessment or the most recent full assessment.</li> <li>8. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>		(MEGAQI)
ADL improvement: improvement in ADLs among residents who exhibited a capacity for improvement at the prior assessment.	<p><b>Numerator:</b> Residents with ADL Long Form scale (ADLLF) lower at target assessment relative to prior assessment, implying improvement (<math>ADLLF[t] &lt; ADLLF[t-1]</math>).</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment AND with any</p>		(MEGAQI)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<p><b>PHYSICAL FUNCTIONING</b></p> <p><i>Note: This is a 'good' QM. Higher values on this QM imply good quality of care relative to ADL improvement. This is different from most other QMs, where a high value implies the possibility of poorer care in that specific area.</i></p>	<p>one of the following <b>Inclusion Indicators</b> of ADL functional rehabilitation capacity in items G8a through G8d on the prior assessment OR on the most recent full assessment:</p> <ol style="list-style-type: none"> <li>1. Resident believes there is capability of increased independence (G8a = checked).</li> <li>2. Staff believes there is capability of increased independence (G8b = checked).</li> <li>3. Resident able to perform tasks/activity but is very slow (G8c = checked).</li> <li>4. Difference in ADL self -performance or support comparing mornings to evenings (G8d = checked).</li> </ol> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. The ADLLF score is missing on the target assessment [t].</li> <li>2. The ADLLF score is missing on the prior assessment [t-1] and the ADLLF score is below the ceiling on the target assessment (ADLLF[t] &lt; 28).</li> <li>3. The ADLLF score is at the scale floor on the prior assessment (ADLLF[t-1] = 0).</li> <li>4. The resident is comatose (B1 = 1) or comatose status is unknown (B1 = missing) on the target assessment.</li> <li>5. The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</li> <li>6. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>7. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>		
Locomotion worsening	<p><b>Numerator:</b> Total number of residents whose value for locomotion self-performance is greater at target relative to prior assessment (G1e(A)[t]&gt;G1e(A)[t-1]).</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. The G1e(A) value is missing on the target</li> </ol>	<p><b>Facility admission profile FAP_MOB01:</b> mean level of mobility (G1e(A), treating 8's (activity did not occur) as 4's (total dependence)) among facility admissions (AA8a = 01) over previous 12 months.</p> <p><b>Exclusions:</b> Admission assessments (AA8a = 01) with missing data on G1e(A).</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>1. Indicator of recent falls on the prior assessment: Covariate = 1 if J4a checked OR J4b checked. Covariate = 0 if J4a not checked AND J4b not checked.</li> </ol>	(LTCQ)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>PHYSICAL FUNCTIONING</b>	<p>assessment [t].</p> <ol style="list-style-type: none"> <li>The G1e(A) value is missing on the prior assessment [t-1] and the G1e(A) value shows some dependence on the target assessment (G1e(A)[t]&gt; 0).</li> <li>The G1e(A) value on the prior assessment is 4 (total dependence) or 8 (activity did not occur).</li> <li>The resident is comatose (B1 = 1) or comatose status is unknown (B1 = missing) on the target assessment.</li> <li>The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</li> <li>The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	<ol style="list-style-type: none"> <li>Indicator of extensive support or more dependence in eating on the prior assessment: Covariate = 1 if G1h(A) = 3, 4, or 8. Covariate = 0 if G1h(A) = 0, 1, or 2.</li> <li>Indicator of extensive support or more dependence in toileting on the prior assessment: Covariate = 1 if G1i(A) = 3, 4, or 8. Covariate = 0 if G1i(A) = 0, 1, or 2.</li> </ol>	
<p>Maintenance or improvement in walking performance in persons with walking capacity.</p> <p><i>Note: This is a 'good' QM. Higher values on this QM imply good quality of care relative to ADL improvement. This is different from most other QMs, where a high value implies the possibility of poorer care in that specific area.</i></p>	<p><b>Numerator:</b> Residents with walking in corridor performance scores at the target assessment equal to or less than at the prior assessment (G1d(A)[t]&lt;=G1d(A)[t-1]).</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment AND one of the following <b>Inclusion Indicators</b>:</p> <ol style="list-style-type: none"> <li>Capacity to stand (G3a[t-1] = 0, 1, or 2) on the prior assessment or the most recent full assessment.</li> <li>Capacity to walk (G1d(A)[t-1] = 0, 1, 2, or 3) on the prior assessment.</li> </ol> <p><b>Exclusions:</b> Residents satisfying the following condition:</p> <ol style="list-style-type: none"> <li>The G1d(A) value is missing on the target assessment [t] or the prior assessment [t-1].</li> <li>The resident is comatose (B1 = 1) or comatose status is unknown (B1 = missing) on the target assessment.</li> <li>The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</li> <li>The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most</li> </ol>	<p><b>Facility admission profile FAP_WAL0X:</b> mean locomotion level (G1d(A), treating 8's (activity did not occur) as 4's (total dependence)) among facility admissions (AA8a = 01) over previous 12 months. Exclusions: Admission assessments (AA8a = 01) with missing data on G1d(A).</p>	(MEGAQI)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>PHYSICAL FUNCTIONING</b>			
	<p>recent full assessment.</p> <p>5. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</p>		

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>COGNITIVE AND PSYCHOSOCIAL FUNCTIONING</b>			
Cognition worsening	<p><b>Numerator:</b> Residents with score on cognitive performance scale (CPS, Morris et al. 1994, defined below) that is higher on target relative to prior assessment (CPS[t]&gt;CPS[t-1]). (See CPS definition under Technical Comment #1 below.)</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>The CPS score has a missing value on the target assessment [t].</li> <li>The CPS score has a missing value on the prior assessment [t-1] and the CPS score shows some impairment on the target assessment (CPS[t] &gt; 0).</li> <li>The CPS score on the prior assessment [t-1] is at the maximum value of 6.</li> <li>The resident is comatose (B1 = 1) or comatose status is unknown (B1= missing) on the target assessment.</li> <li>The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</li> <li>The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no</li> </ol>	<p><b>Facility admission profile FAP_COG01:</b> mean CPS score among admissions (AA8a = 01) over previous 12 months. (See CPS definition under Technical Comment #1 in the Numerator and Denominator column.)</p> <p>Exclusions: Admission assessments (AA8a = 01) with a missing value on the CPS.</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>Indicator that resident has bowel incontinence on the prior assessment: Covariate = 1 if H1a = 4. Covariate = 0 if H1a = 0, 1, 2, or 3.</li> <li>Indicator that resident fell in the past 30 days on the prior assessment. Covariate = 1 if J4a is checked. Covariate = 0 if J4a is not checked.</li> <li>Indicator that resident has weight loss on the prior assessment: Covariate = 1 if K3a = 1. Covariate = 0 if K3a = 0.</li> <li>Indicator that resident age (see definition below) is greater than 76 on the assessment reference date (A3a) of the prior assessment: Covariate = 1 if age &gt; 76. Covariate = 0 if age &lt;= 76. (See age definition under Technical Comment #1 below.)</li> </ol>	(LTCQ)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
COGNITIVE AND PSYCHOSOCIAL FUNCTIONING	admission assessments with AA8a = 01 in the facility over the previous 12 months).		
Worsening Communication	<p><b>Numerator:</b> Residents with a Communication Scale score (sum of 'ability to understand others' (C6) and 'making self understood' (C4)) that is greater at the target assessment relative to the prior assessment (<math>C4[t]+C6[t] &gt; C4[t-1]+C6[t-1]</math>).</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>The Communication Scale score is missing on the target assessment [t].</li> <li>The Communication Scale score is missing on the prior assessment [t-1] and the Communication Scale score shows some impairment on the target assessment (<math>Communication\ Scale[t] &gt; 0</math>).</li> <li>The Communication Scale score on the prior assessment [t-1] is at the maximum value of 6.</li> <li>The resident is comatose (<math>B1 = 1</math>) or comatose status is unknown (<math>B1 = \text{missing}</math>) on the target assessment.</li> <li>The resident has end-stage disease (<math>J5c = \text{checked}</math>) or status is unknown (<math>J5c = \text{missing}</math>) on the target assessment.</li> <li>The resident is receiving hospice care (<math>P1ao = \text{checked}</math>) or hospice status is unknown (<math>P1ao = \text{missing}</math>) on the target assessment or the most recent full assessment.</li> <li>The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	<p><b>Facility admission profile FAP_COM01:</b> mean Communication Scale score among facility admissions (AA8a= 01) over previous 12 months. (See Communication Scale definition under Technical Comment #1 in the Numerator and Denominator column.)</p> <p>Exclusions: Admission assessments (AA8a = 01) with a missing value on the Communication Scale.</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>Indicator that resident requires extensive assistance or is totally dependent in eating on the prior assessment: Covariate = 1 if <math>G1h(A) = 3, 4, \text{ or } 8</math>. Covariate = 0 if <math>G1h(A) = 0, 1, \text{ or } 2</math>.</li> <li>Indicator that resident has a short term memory problem on the prior assessment: Covariate = 1 if <math>B2a = 1</math>. Covariate = 0 if <math>B2a = 0</math>.</li> </ol>	(LTCQ)
Delirium: failure to prevent new delirium or recurrence of delirium	<p><b>Numerator:</b> Residents satisfying any of the following 3 conditions:</p> <ol style="list-style-type: none"> <li>Any delirium symptom that departs from usual functioning (<math>B5a[t]</math> through <math>B5f[t] = 2</math>) on target assessment.</li> <li>Any delirium symptom (<math>B5a</math> through <math>B5f</math>) that departs from usual functioning on the prior assessment AND is present on the target assessment (e.g., for <math>B5a: B5a[t-1] = 2</math> and <math>B5a[t] =</math></li> </ol>	<p><b>Facility admission profile FAP_DELOX:</b> prevalence of any delirium symptom representing a departure from usual functioning (<math>B5a</math> through <math>B5f=2</math>) among admissions (AA8a = 01) over previous 12 months.</p> <p>Numerator: Admission assessments (AA8a = 01) with a value of 2 on any item <math>B5a</math> through <math>B5f</math>.</p> <p>Denominator: All admission assessments (AA8a = 01).</p> <p>Exclusions: Admission assessments (AA8a = 01) that do not satisfy the numerator condition AND that have missing data</p>	(MEGAQI)

Items refer to MDS 2.0.

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For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>COGNITIVE AND PSYCHOSOCIAL FUNCTIONING</b>	<p>1).</p> <p>3. Any delirium symptom (B5a through B5f) that was not present on the prior assessment AND is present on the target assessment (e.g., for B5a: B5a[t-1] = 0 and B5a[t] =1) AND the Cognitive Performance Scale (CPS) score indicates that cognitive impairment is not severe (CPS = 0, 1, 2, or 3) on the target assessment. (CPS is defined in the Technical Comments for COG01 in the Numerator and Denominator column.)</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents satisfying the following condition:</p> <ol style="list-style-type: none"> <li>The QM did not trigger (resident not included in the numerator) and there is a missing value on any of the items B5a through B5f on the target assessment [t].</li> <li>The QM did not trigger (resident not included in the numerator) and, for any of the items B5a through B5f, there is missing data on the prior assessment [t-1] for an item and the value for the same item on the target assessment [t] is &gt; 0 showing delirium (e.g., for B5a: B5a[t-1] = missing AND B5a[t-1] &gt;0).</li> <li>The resident is comatose (B1 = 1) or comatose status is unknown (B1= missing) on the target assessment.</li> <li>The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</li> <li>The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	<p>on any item B5a through B5f.</p>	
Behavior symptoms affecting others  (BEH01, CHSRA; high & low	<p><b>Numerator:</b> Residents with behavioral symptoms affecting others on target assessment, including any verbally abusive behavior (E4b(A)&gt;0), physically abusive behavior (E4c(A)&gt;0) or socially inappropriate behavior</p>	<p><b>Facility admission profile FAP_BEH01:</b> mean of the sum of behavior item scores (E4a(A), E4b(A), E4c(A), E4d(A)) among facility admissions (AA8a = 01) over previous 12 months. Exclusions: Admission assessments (AA8a = 01) with missing</p>	(CHSRA)

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<p>risk) (BEH02, CHSRA; high risk) (BEH03, CHSRA; low risk)</p> <p><i>Three separate QMs are calculated. BEH01 includes all residents regardless of risk ("Denominator, high &amp; low risk" criteria). BEH02 is limited to residents with high risk ("Denominator, high risk" criteria). BEH03 is limited to residents with low risk ("Denominator, low risk" criteria).</i></p>	<p>(E4d(A)&gt;0).</p> <p><b>Denominator, high &amp; low risk:</b> All residents with a valid target assessment.</p> <p><b>Denominator, high risk:</b> All residents with a valid target assessment and one of the following Inclusion Criteria:</p> <ol style="list-style-type: none"> <li>1. Cognitive impairment on the target assessment as indicated by B4 &gt; 0 AND B2a = 1.</li> <li>2. A psychotic disorder on the target assessment or most recent full assessment as indicated by any of the following conditions: <ol style="list-style-type: none"> <li>2.1. An ICD9 diagnosis code of 295.00 through 295.95 on items I3a through I3e.</li> <li>2.2. An ICD9 diagnosis code of 297.00 through 298.9 on items I3a through I3e.</li> <li>2.3. Schizophrenia (I1gg = checked).</li> </ol> </li> <li>3. A bipolar disorder on the target assessment or most recent full assessment as indicated by any of the following conditions: <ol style="list-style-type: none"> <li>3.1. An ICD9 diagnosis code of 296.00 through 296.99 on items I3a through I3e.</li> <li>3.2. Manic depression (I1ff = checked).</li> </ol> </li> </ol> <p><b>Denominator, low risk:</b> All residents with a valid target assessment and not qualifying as high risk.</p> <p><b>Exclusions:</b></p> <ol style="list-style-type: none"> <li>1. Residents satisfying any of the following conditions are excluded from all risk groups (high &amp; low, high, and low) <ol style="list-style-type: none"> <li>1.1. The target assessment is an admission (AA8a = 01) assessment.</li> <li>1.2. The resident is comatose (B1 = 1) or comatose status is unknown (B1= missing) on the target assessment.</li> <li>1.3. The QM did not trigger (resident is not included in the QM numerator) AND the value of E4b(A), E4c(A), or E4d(A) is missing on the target assessment.</li> <li>1.4. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol> </li> </ol>	<p>data on any item E4a(A), E4b(A), E4c(A), or E4d(A).</p> <p>Note: FAP_BEH01 is used for all three risk groupings: high &amp; low (BEH01), high (BEH02), and low (BEH03).</p>	

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Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<p><b>COGNITIVE AND PSYCHOSOCIAL FUNCTIONING</b></p>	<p>2. Residents satisfying any of the following conditions are excluded from the high risk group and the low risk group (but not the combined high &amp; low risk group):</p> <p>2.1. The resident does not qualify as high risk and the value of B2a or B4 is missing on the target assessment.</p> <p>2.2. The resident does not qualify as high risk and the value of I1gg is missing on both the target assessment and the most recent full assessment.</p> <p>2.3. The resident does not qualify as high risk and the value of I1ff is missing on both the target assessment and the most recent full assessment.</p>		
<p>Worsening behavioral symptoms</p>	<p><b>Numerator:</b> Residents with more behavioral symptoms present at target assessment ([t]) relative to prior assessment ([t-1]). Included symptoms are Wandering (E4a(A)&gt;0), Verbally abusive behavior (E4b(A)&gt;0), Physically abusive behavior (E4c(A)&gt;0), and Socially inappropriate behavior (E4d(A)&gt;0). Specifically: Count(E4a(A) &gt; 0, E4b(A) &gt; 0, E4c(A) &gt; 0, E4d(A) &gt; 0) at time [t] &gt; Count(E4a(A) &gt; 0, E4b(A) &gt; 0, E4c(A) &gt; 0, E4d(A) &gt; 0) at time [t-1]</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>All four behavior symptoms are present on the prior assessment: E4a(A) &gt; 0 AND E4b(A) &gt; 0 AND E4c(A) &gt; 0 AND E4d(A) &gt; 0.</li> <li>Any of the four behavior items (E4a(A), E4b(A), E4c(A), E4d(A)) are missing on the target assessment [t] or prior assessment [t-1].</li> <li>The resident is comatose (B1 = 1) or comatose status is unknown (B1= missing) on the target assessment.</li> <li>The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	<p><b>Facility admission profile FAP_BEH04:</b> mean of the sum of behavior item scores (E4a(A), E4b(A), E4c(A), E4d(A)) among facility admissions (AA8a = 01) over previous 12 months.</p> <p>Exclusions: Admission assessments (AA8a = 01) with missing data on any item E4a(A), E4b(A), E4c(A), or E4d(A).</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>Indicator of modes of expression including speech on the prior assessment OR the most recent full assessment: Covariate = 1 if C3a = checked. Covariate = 0 if C3a = not checked.</li> <li>Indicator of moderately or severely impaired cognitive skills on the prior assessment: Covariate = 1 if B4 &gt; 1. Covariate = 0 if B4 = 0 or 1.</li> <li>Indicator of motor agitation on the prior assessment: Covariate = 1 if E1n = 1 or 2. Covariate = 0 if E1n = 0.</li> </ol>	<p>(LTCQ)</p>

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<p><b>COGNITIVE AND PSYCHOSOCIAL FUNCTIONING</b></p> <p>Depressed/Anxious mood worsening</p>	<p><b>Numerator:</b> The total number of residents whose Mood Scale score is greater on target assessment relative to prior assessment (Mood Scale [t] &gt; Mood Scale [t-1]. (The Mood Scale is defined in the Technical Comments below.)</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. The Mood Scale score is missing on the target assessment [t].</li> <li>2. The Mood Scale score is missing on the prior assessment [t-1] and the Mood Scale score indicates symptoms present on the target assessment (Mood Scale[t] &gt; 0).</li> <li>3. The Mood Scale score is at a maximum (value 8) on the prior assessment.</li> <li>4. The resident is comatose (B1=1) or comatose status is unknown (B1=missing) on the target assessment.</li> <li>5. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	<p><b>Facility admission profile FAP_MOD03:</b> mean Depression Rating Scale score (DRS; Burrows et al. 2001) among facility admissions (AA8a = 01) over previous 12 months. (The definition for the DRS is given in Technical Comment #1 below.)</p> <p>Exclusions: Admission assessments (AA8a = 01) with a missing value for the Depression Rating Scale.</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>1. Indicator of independent through extensive assistance transferring on the prior assessment: Covariate = 1 if G1b(A) = 0, 1, 2, or 3. Covariate = 0 if G1b(A) = 4 or 8.</li> <li>2. Indicator of pain on the prior assessment: Covariate = 1 if J2a = 1 or 2. Covariate = 0 if J2a = 0.</li> <li>3. Indicator of discharge planned in 3 months on the prior assessment or most recent full assessment: Covariate = 1 if Q1c = 1 or 2. Covariate = 0 if Q1c = 0 or 3.</li> </ol>	(LTCQ)
<p>Little or no activity</p>	<p><b>Numerator:</b> Residents with little or no activity (N2&gt;1) on target assessment.</p> <p><b>Denominator:</b> All residents with a valid target assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. The target assessment is an admission (AA8a = 01) assessment.</li> <li>2. The value of N2 is missing on the target assessment.</li> <li>3. The resident is comatose (B1 = 1) or comatose status is unknown (B1 = missing) on the target assessment.</li> <li>4. The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</li> </ol>		(CHSRA)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>COGNITIVE AND PSYCHOSOCIAL FUNCTIONING</b>			
	<p>5. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</p> <p>6. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</p>		

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>CATHETER &amp; CONTINENCE</b>			
New insertion of indwelling catheter	<p><b>Numerator:</b> Residents with an indwelling catheter (H3d[t]=checked) on the target assessment that did not have an indwelling catheter at prior assessment (H3d[t-1]= not checked).</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents satisfying the following condition:</p> <ol style="list-style-type: none"> <li>H3d is missing on either the target assessment or the prior assessment.</li> <li>The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</li> <li>The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	<p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>Indicator of bowel incontinence on the prior assessment: Covariate = 1 if H1a = 4. Covariate = 0 if H1a = 0, 1, 2, or 3.</li> <li>Indicator of pressure ulcers on the prior assessment: Covariate = 1 if M2a = 3 or 4. Covariate = 0 if M2a = 0.</li> </ol>	(LTCQ)
Prevalence of indwelling catheters	<p><b>Numerator:</b> Indwelling catheter on target assessment (H3d=checked).</p>	<p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>Indicator of bowel incontinence on the prior assessment: Covariate = 1 if H1a = 4.</li> </ol>	(CHSRA)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>CATHETER &amp; CONTINENCE</b>	<p><b>Denominator:</b> All residents with a valid target assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. The target assessment is an admission (AA8a = 01) assessment.</li> <li>2. H3d is missing on the target assessment.</li> <li>3. The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</li> <li>4. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>5. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	<ol style="list-style-type: none"> <li>2. Covariate = 0 if H1a = 0, 1, 2, or 3. Indicator of pressure ulcers on the prior assessment: Covariate = 1 if M2a = 3 or 4. Covariate = 0 if M2a = 0.</li> </ol>	
<p>Bladder or bowel incontinence prevalence</p> <p>(CNT01, CHSRA: High &amp; Low risk) (CNT05, CHSRA: High risk) (CNT06, CHSRA: Low risk)</p> <p><i>Three separate QMs are calculated. CNT01 includes all residents regardless of risk ("Denominator, high &amp; low risk" criteria). CNT05 is limited to residents with high risk ("Denominator, high risk" criteria). CNT06 is limited to residents with low risk ("Denominator, low risk" criteria).</i></p>	<p><b>Numerator:</b> Residents who were frequently incontinent or fully incontinent on target assessment (H1a=3 or 4, or H1b=3 or 4).</p> <p><b>Denominator, high &amp; low risk:</b> All residents with a valid target assessment.</p> <p><b>Denominator, high risk:</b> All residents with a valid target assessment and any one of the following Inclusion Criteria:</p> <ol style="list-style-type: none"> <li>1. Severe cognitive impairment on the target assessment as indicated by B4 = 3 AND B2a = 1.</li> <li>2. Totally dependent in mobility ADLs on the target assessment: G1a(A) = 4 or 8 AND G1b(A) = 4 or 8 AND G1e(A) = 4 or 8.</li> </ol> <p><b>Denominator, low risk:</b> All residents with a valid target assessment and not qualifying as high risk.</p> <p><b>Exclusions:</b></p> <ol style="list-style-type: none"> <li>1. Residents satisfying any of the following conditions are excluded from all risk groups (high &amp; low, high, and low): <ol style="list-style-type: none"> <li>1.1. The target assessment is an admission (AA8a = 01) assessment.</li> <li>1.2. The QM did not trigger (resident is not</li> </ol> </li> </ol>	<p><b>Facility admission profile FAP_CNT01:</b> prevalence of residents who are frequently or fully incontinent in either bowel or bladder (H1a=3 or 4, or H1b=3 or 4) among facility admissions (AA8a = 01) over previous 12 months.</p> <p>Numerator: Admission assessments (AA8a = 01) with H1a = 3 or 4 OR H1b = 3 or 4).</p> <p>Denominator: All admission assessments (AA8a = 01).</p> <p>Exclusions: Admission assessments (AA8a = 01) that do not satisfy the numerator condition AND that have missing data on either H1a or H1b.</p> <p>Note: FAP_CNT01 is used for all 3 risk groupings: high &amp; low (CNT01), high (CNT05), and low (CNT06).</p>	(CHSRA)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>CATHETER &amp; CONTINENCE</b>	<p>included in the QM numerator) AND the value of H1a or H1b is missing on the target assessment.</p> <ol style="list-style-type: none"> <li>1.3. The resident is comatose (B1 = 1) or comatose status is unknown (B1 = missing) on the target assessment.</li> <li>1.4. The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</li> <li>1.5. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>1.6. The resident has an indwelling catheter (H3d = checked) or indwelling catheter status is unknown (H3d = missing) on the target assessment.</li> <li>1.7. The resident has an ostomy (H3i = checked) or ostomy status is unknown (H3i = missing) on the target assessment.</li> <li>1.8. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol> <p>2. Residents satisfying any of the following conditions are excluded from the high risk group and the low risk group (but not the combined high &amp; low risk group):</p> <ol style="list-style-type: none"> <li>2.1. The resident does not qualify as high risk and the value of B2a or B4 is missing on the target assessment.</li> <li>2.2. The resident does not qualify as high risk and any of the mobility ADLs (G1a(A), G1b(A), and G1e(A)) is missing on the target assessment.</li> <li>2.3. The resident does not qualify as high risk and any of the mobility ADLs (G1a(A), G1b(A), and G1e(A)) is missing on the target assessment.</li> </ol>		
Worsening bowel continence	<p><b>Numerator:</b> Residents with a value for bowel incontinence greater at target assessment relative to prior assessment (H1a[t]&gt;H1a[t-1]).</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p>	<p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>1. Indicator of short term memory problem on the prior assessment: Covariate = 1 if B2a = 1. Covariate = 0 if B2a = 0.</li> <li>2. Indicator of dressing problem or dressing did not occur on the</li> </ol>	(LTCQ)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>CATHETER &amp; CONTINENCE</b>	<p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>The value of H1a on the prior assessment is the maximum value (<math>H1a[t-1] = 4</math>).</li> <li>The H1a value is missing on the target assessment [t].</li> <li>The H1a value is missing on the prior assessment [t-1] and the H1a value shows some impairment on the target assessment (<math>H1a[t] &gt; 0</math>).</li> <li>The resident is comatose (<math>B1 = 1</math>) or comatose status is unknown (<math>B1 = \text{missing}</math>) on the target assessment.</li> <li>The resident has end-stage disease (<math>J5c = \text{checked}</math>) or status is unknown (<math>J5c = \text{missing}</math>) on the target assessment.</li> <li>The resident is receiving hospice care (<math>P1ao = \text{checked}</math>) or hospice status is unknown (<math>P1ao = \text{missing}</math>) on the target assessment or the most recent full assessment.</li> <li>The resident has an ostomy present (<math>H3i</math> checked) or ostomy status is unknown (<math>H3i = \text{missing}</math>) on the target assessment.</li> <li>The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with <math>AA8a = 01</math> in the facility over the previous 12 months).</li> </ol>	<p>prior assessment: Covariate = 1 if <math>G1g(A) = 3, 4, \text{ or } 8</math>. Covariate = 0 if <math>G1g(A) = 0, 1, \text{ or } 2</math>.</p> <ol style="list-style-type: none"> <li>Indicator of bladder incontinence on the prior assessment: Covariate = 1 if <math>H1b = 3 \text{ or } 4</math>. Covariate = 0 if <math>H1b = 0, 1, \text{ or } 2</math>.</li> </ol>	
Worsening bladder continence	<p><b>Numerator:</b> Residents with a value for bladder incontinence greater at target assessment relative to prior assessment (<math>H1b[t] &gt; H1b[t-1]</math>).</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>The value of H1b on the prior assessment is the maximum value (<math>H1b[t-1] = 4</math>).</li> <li>The H1b value is missing on the target assessment [t].</li> <li>The H1b value is missing on the prior assessment [t-1] and the H1b value shows some impairment on the target assessment (<math>H1b[t] &gt; 0</math>).</li> <li>The resident is comatose (<math>B1 = 1</math>) or comatose status is unknown (<math>B1 = \text{missing}</math>) on the target</li> </ol>	<p><b>Facility admission profile FAP_CNT03:</b> mean bladder incontinence (H1b) level among admissions (<math>AA8a = 01</math>) over previous 12 months.</p> <p><b>Exclusions:</b></p> <ol style="list-style-type: none"> <li>Admission assessments (<math>AA8a = 01</math>) with any catheter (<math>H3c, H3d, \text{ or } H3e</math>) checked.</li> <li>Admission assessments (<math>AA8a = 01</math>) with missing data on <math>H1b, H3c, H3d, \text{ or } H3e</math>.</li> </ol> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>Indicator of short term memory problem on the prior assessment: Covariate = 1 if <math>B2a = 1</math>. Covariate = 0 if <math>B2a = 0</math>.</li> <li>Indicator of dressing problem or dressing did not occur on the prior assessment: Covariate = 1 if <math>G1g(A) = 3, 4, \text{ or } 8</math>. Covariate = 0 if <math>G1g(A) = 0, 1, \text{ or } 2</math>.</li> </ol>	(LTCQ)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>CATHETER &amp; CONTINENCE</b>	<p>assessment.</p> <p>5. The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</p> <p>6. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</p> <p>7. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</p>	<p>3. Indicator of severe decision making problem on the prior assessment: Covariate = 1 if B4 = 3. Covariate = 0 if B4 = 0, 1, or 2.</p> <p>4. Indicator of weight loss on the prior assessment: Covariate = 1 if K3a = 1. Covariate = 0 if K3a = 0.</p>	
Prevalence of urinary tract infections	<p><b>Numerator:</b> Residents with urinary tract infection on target assessment (I2j = checked).</p> <p><b>Denominator:</b> All residents with a valid target assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>The target assessment is an admission (AA8a = 01) assessment.</li> <li>I2j is missing on the target assessment.</li> <li>The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</li> <li>The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> </ol>		(CHSRA)

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>CLINICAL COMPLEXITY</b>			
Falls prevalence among those without recent history of falls	<p><b>Numerator:</b> Residents who had a fall in the last 30 days recorded on the target assessment (J4a[t]=checked).</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>The prior assessment indicates a fall in the last 30 days (J4a[t-1] = checked).</li> </ol>	<p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>Indicator that resident is not bedfast on the prior assessment: Covariate = 1 if G6a not checked. Covariate = 0 if G6a is checked.</li> <li>Indicator that resident wanders on the prior assessment: Covariate = 1 if E4a(A) = 1, 2, or 3. Covariate = 0 if E4a(A) = 0.</li> <li>Indicator that resident has an unsteady gait and is cognitively impaired on the prior assessment. Covariate = 1 if J1n checked (value 1) AND CPS &gt;=2.</li> </ol>	(LTCQ)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
CLINICAL COMPLEXITY	2. The value of J4a is missing on the target assessment [t] or prior assessment [t-1].	(CPS is defined in the Technical Comments for COG01 in the Numerator and Denominator column.) Covariate = 0 if J1n not checked (value 0) OR CPS < 2.	
Infections prevalence	<p><b>Numerator:</b> Residents with any of the following infections or health conditions noted on the target or most recent full assessment (only if the most recent full assessment is a non-admission assessment with AA8a = 02, 03, or 04):</p> <ol style="list-style-type: none"> <li>1. Pneumonia (I2e=checked) on the target assessment or most recent full assessment (if the most recent full is a non-admission assessment),</li> <li>2. Respiratory infection (I2f=c checked) on the target assessment or most recent full assessment (if the most recent full is a non-admission assessment),</li> <li>3. Septicemia (I2g=checked) on the target assessment or most recent full assessment (if the most recent full is a non-admission assessment),</li> <li>4. Urinary tract infection (I2j=checked) on the target assessment only,</li> <li>5. Viral hepatitis (I2k=checked) on the target assessment or most recent full assessment (if the most recent full is a non-admission assessment),</li> <li>6. Wound infection (I2l=checked) on the target assessment or most recent full assessment (if the most recent full is a non-admission assessment),</li> <li>7. Fever (J1h=checked) on the target assessment or most recent full assessment (if the most recent full is a non-admission assessment),</li> <li>8. Recurrent lung aspiration (J1k=checked) on the target assessment or most recent full assessment (if the most recent full is a non-admission assessment).</li> </ol> <p><b>Denominator:</b> All residents with a valid target assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. The target assessment is an admission (AA8a = 01) assessment.</li> <li>2. The QM did not trigger (resident is not included in the QM numerator) AND the urinary tract infection item (I2j) is missing on the target assessment.</li> <li>3. The QM did not trigger and the value of any of the other infections or health conditions (I2e, I2f, I2g, I2k, I2l, J1h, or J1k) selected from the target</li> </ol>	<p><b>Facility admission profile FAP_INF0X:</b> Mean proportion of residents with any one of a set of selected infections and health conditions (I2e, I2f, I2g, I2j, I2k, I2l, J1h, and J1k) checked among facility admissions (AA8a = 01) over previous 12 months.</p> <p>Numerator: Admission assessments (AA8a = 01) with I2e, I2f, I2g, I2j, I2k, I2l, J1h, or J1k checked (value 1).</p> <p>Denominator: All admission assessments (AA8a = 01).</p> <p>Exclusions: Admission assessments (AA8a = 01) that do not satisfy the numerator conditions AND that have missing data on any item I2e, I2f, I2g, I2j, I2k, I2l, J1h, and J1k.</p>	(MEGAQI)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>CLINICAL COMPLEXITY</b>	<p>assessments or most recent full assessment is missing.</p> <p>4. The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</p> <p>5. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</p> <p>6. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</p>		
Prevalence of feeding tubes	<p><b>Numerator:</b> All residents with a feeding tube at target assessment (K5b=checked).</p> <p><b>Denominator:</b> All residents with a valid target assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>The target assessment is an admission (AA8a = 01) assessment.</li> <li>K5b is missing on the target assessment.</li> <li>The resident is comatose (B1 = 1) or comatose status is unknown (B1 = missing) on the target assessment.</li> <li>The resident has end-stage disease (J5c = checked) or status is unknown (J5c = missing) on the target assessment.</li> <li>The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	<p><b>Facility admission profile FAP_NUT01:</b> feeding tube prevalence (K5b=checked) among admissions (AA8a = 01) over previous 12 months.</p> <p>Numerator: Admission assessments (AA8a = 01) with K5b = checked (value 1).</p> <p>Denominator: All admission assessments (AA8a = 01).</p> <p>Exclusions: Admission assessments (AA8a = 01) with missing data on K5b.</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>Indicator of swallowing problem AND cerebrovascular accident on the prior assessment or most recent full assessment: Covariate = 1 if K1b checked (value 1) for swallowing problem AND I1t checked (value 1) for CVA. Covariate = 0 if K1b not checked (value 0) OR I1t not checked (value 0).</li> <li>Indicator of Amyotropic Lateral Sclerosis, Multiple Sclerosis OR Huntington's disease on the prior assessment or most recent full assessment: Covariate = 1 if I3a through I3e = 335.20 for amyotropic lateral sclerosis OR if I1w checked (value 1) for multiple sclerosis) OR I3a through I3e = 333.4 for Huntington's. Covariate = 0 if covariate not = 1 AND I1w not checked (value 0).</li> </ol>	(Ramsey)
Low body mass index (BMI) prevalence	<p><b>Numerator:</b> Total number of residents with Body Mass Index (BMI) less than or equal to 19kg/m<sup>2</sup> on the target assessment or most recent full assessment (only if the most recent full assessment is a non-admission assessment with AA8a = 02, 03, or 04).</p> $BMI = \text{weight (Kg)} / \text{height}^2 (\text{m}^2) = ((K2b * 0.45) / (((K2a) * .0254)^2))$	<p><b>Facility admission profile FAP_BMI0X:</b> mean BMI among facility admissions (AA8a = 01) over previous 12 months.</p> $BMI = \text{weight (Kg)} / \text{height}^2 (\text{m}^2) = ((K2b * 0.45) / (((K2a) * .0254)^2))$ <p>Exclusions:</p> <ol style="list-style-type: none"> <li>Admission assessments (AA8a = 01) with missing data on either K2a or K2b.</li> <li>Admission assessments (AA8a = 01) with an implausible</li> </ol>	(MEGAQI)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>CLINICAL COMPLEXITY</b>	<p><b>Denominator:</b> All residents with a valid target assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. The target assessment is an admission (AA8a = 01) assessment.</li> <li>2. The selected value for either K2a or K2b from the target assessment or most recent full assessment is missing.</li> <li>3. The computed BMI value is outside of a plausible range. The BMI value is &lt; 12 OR &gt; 40.</li> <li>4. Resident has end-stage disease (J5c = checked) or the status of end-stage disease is unknown (J5c = missing) on the target assessment.</li> <li>5. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>6. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	BMI value (<12 or > 40).	
Weight loss prevalence	<p><b>Numerator:</b> Residents with weight loss (K3a=1) on target assessment.</p> <p><b>Denominator:</b> All residents with a valid target assessment.</p> <p><b>Exclusions:</b> Residents satisfying the following condition:</p> <ol style="list-style-type: none"> <li>1. The target assessment is an admission (AA8a = 01) assessment.</li> <li>2. The value of K3a is missing on the target assessment.</li> <li>3. Resident has end-stage disease (J5c = checked) or the status of end-stage disease is unknown (J5c = missing) on the target assessment.</li> <li>4. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>5. The resident is on a planned weight loss program (K5h = checked) or planned weight loss status is unknown (K5h = missing) on the target assessment.</li> <li>6. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no</li> </ol>	<p><b>Facility admission profile FAP_WGT01:</b> prevalence of recent weight loss (K3a=1) among admissions (AA8a = 01) over previous 12 months.</p> <p>Numerator: Admission assessments (AA8a = 01) with K3a = 1. Denominator: All admission assessments (AA8a = 01). Exclusions: Admission assessments (AA8a = 01) with missing data on K3a.</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>1. Indicator of long term memory problem on the prior assessment: Covariate = 1 if B2b = 1. Covariate = 0 if B2b = 0.</li> <li>2. Indicator of bed mobility problem on the prior assessment: Covariate = 1 if G1a(A) = 3, 4, or 8. Covariate = 0 if G1a(A) = 0, 1, or 2.</li> <li>3. Indicator of physically abusive behavior on the prior assessment: Covariate = 1 if E4c(A) = 2 or 3. Covariate = 0 if E4c(A) = 0 or 1.</li> </ol>	(LTCQ)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>CLINICAL COMPLEXITY</b>	admission assessments with AA8a = 01 in the facility over the previous 12 months).		
Pain, inadequate management	<p><b>Numerator:</b> Residents with moderate pain at least daily (J2a=2 AND J2b=2) OR horrible/excruciating pain at any frequency (J2b=3) on the target assessment.</p> <p><b>Denominator:</b> All residents with a valid target assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. The target assessment is an admission (AA8a = 01) assessment.</li> <li>2. Either J2a or J2b is missing on the target assessment.</li> <li>3. The values of J2a and J2b are inconsistent on the target assessment.</li> <li>4. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	<p><b>Facility admission profile FAP_PA10X:</b> mean Pain Scale score among admissions (AA8a = 01) over previous 12 months. (The Pain Scale is defined in the Technical Comments below.)</p> <p>Exclusions: Admission assessments (AA8a = 01) with a missing value on the Pain Scale.</p> <p><b>Covariates:</b> Indicator of independence or modified independence in daily decision making on the prior assessment: Covariate = 1 if B4 = 0 or 1. Covariate = 0 if B4 = 2 or 3.</p>	(MEGAQI)
Pain, worsening	<p><b>Numerator:</b> Residents with greater pain at target assessment relative to prior assessment, defined by greater score on the Pain Scale. (The Pain Scale is defined in the Technical Comments for the Covariate column for PA10X.)</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. The Pain Scale value is missing on the target assessment [t].</li> <li>2. The Pain Scale value is missing on the prior assessment [t-1] and the Pain Scale value shows presence of pain on the target assessment (Pain Scale[t] &gt; 0).</li> <li>3. The Pain Scale score is a maximum (value 3) on the prior assessment.</li> <li>4. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	<p><b>Facility admission profile FAP_PAN01:</b> mean Pain Scale score among admissions over previous 12 months. (The Pain Scale is defined in the Technical Comments for the Covariate column for PA10X.)</p> <p>Exclusions: Admission assessments (AA8a = 01) with a missing value on the Pain Scale.</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>1. Indicator of independence or modified independence in daily decision making on the prior assessment: Covariate = 1 if B4 = 0 or 1. Covariate = 0 if B4 = 2 or 3.</li> </ol>	(LTCQ)
Pressure ulcer (stage 1-4) prevalence	<b>Numerator:</b> Residents with pressure ulcers (Stage 1-4) on target assessment (M2a >0 OR I3a-e = 707.0)	<b>Facility admission profile FAP_PRU01:</b> prevalence of stage1-4 pressure ulcers (M2a >0 OR I3a-e = 707.0) among admissions	(CHSRA)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<p><b>CLINICAL COMPLEXITY</b></p> <p>(PRU01, CHSRA : High &amp; Low Risk)            (PRU02, CHSRA: High Risk)            (PRU03, CHSRA: Low Risk)</p> <p><i>Three separate QMs are calculated. PRU01 includes all residents regardless of risk ("Denominator, high &amp; low risk" criteria). PRU02 is limited to residents with high risk ("Denominator, high risk" criteria). PRU03 is limited to residents with low risk ("Denominator, low risk" criteria).</i></p>	<p><b>Denominator, high &amp; low risk:</b> All residents with a valid target assessment.</p> <p><b>Denominator, high risk:</b> All residents with a valid target assessment and any one of the following Inclusion Criteria:</p> <ol style="list-style-type: none"> <li>1. Impaired in mobility or transfer on the target assessment as indicated by G1a(A) = 3, 4, or 8 OR G1b(A) = 3, 4, or 8.</li> <li>2. Comatose on the target assessment as indicated by B1 = 1.</li> <li>3. Suffer malnutrition on the target assessment as indicated by I3a through I3e = 260, 261, 262, 263.0, 263.1, 263.2, 263.8, or 263.9.</li> <li>4. End stage disease on the target assessment as indicated by J5c = checked (value 1).</li> </ol> <p><b>Denominator, low risk:</b> All residents with a valid target assessment and not qualifying as high risk.</p> <p><b>Exclusions:</b></p> <ol style="list-style-type: none"> <li>1. Residents satisfying any of the following conditions are excluded from all risk groups (high &amp; low, high, and low):               <ol style="list-style-type: none"> <li>1.1. The target assessment is an admission (AA8a = 01) assessment.</li> <li>1.2. The QM did not trigger (resident is not included in the QM numerator) AND the value of M2a is missing on the target assessment.</li> <li>1.3. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol> </li> <li>2. Residents satisfying any of the following conditions are excluded from the high risk group and the low risk group (but not the combined high &amp; low risk group):               <ol style="list-style-type: none"> <li>2.1. The resident does not qualify as high risk AND the value of G1a(A) or G1b(A) is missing on the target assessment.</li> <li>2.2. The resident does not qualify as high risk AND the value of B1 is missing on the target assessment.</li> <li>2.3. The resident does not qualify as high risk AND the value of J5c is missing on the target</li> </ol> </li> </ol>	<p>(AA8a = 01) occurring over previous 12 months.            Numerator: Admission assessments (AA8a = 01) with M2a &gt; 0 OR I3a-e = 707.0.            Denominator: All admission assessments (AA8a = 01).            Exclusions: Admission assessments (AA8a = 01) that do not satisfy the numerator condition AND that have missing data on M2a.</p> <p>Note: FAP_PRU01 is used for all 3 risk groupings (high &amp; low, high, and low).</p>	

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>CLINICAL COMPLEXITY</b>	assessment.		
Worsening pressure ulcers	<p><b>Numerator:</b> Total number of residents evidencing more severe pressure ulcers on the target assessment versus the prior assessment (M2a[t] is greater than M2a[t-1]).</p> <p><b>Denominator:</b> All residents with a valid target assessment and a valid prior assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>The M2a value is missing on the target assessment [t].</li> <li>The M2a value is missing on the prior assessment [t-1] and the M2a value shows presence of ulcers on the target assessment (M2a[t]&gt; 0).</li> <li>Item M2a is a maximum (value 4) on the prior assessment.</li> <li>The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>	<p><b>Facility admission profile FAP_PRU04:</b> prevalence of stage 1-4 pressure ulcers (M2a &gt; 0 OR I3a-e = 707.0) among admissions (AA8a = 01) occurring over previous 12 months.</p> <p>Numerator: Admission assessments (AA8a = 01) with M2a &gt; 0 OR I3a-e = 707.0.</p> <p>Denominator: All admission assessments (AA8a = 01).</p> <p>Exclusions: Admission assessments (AA8a = 01) that do not satisfy the numerator condition AND that have missing data on M2a.</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>Indicator of transfer problem or transfer did not occur on the prior assessment: Covariate = 1 if G1b(A) = 3, 4, or 8. Covariate = 0 if G1b(A) = 0, 1, or 2.</li> <li>Indicator of unstable functional status on the prior assessment: Covariate = 1 if J5a = checked (value 1). Covariate = 0 if J5a = not checked (value 0).</li> <li>Indicator of bed mobility problem or activity did not occur on the prior assessment: Covariate = 1 if G1a(A) = 3, 4, or 8. Covariate = 0 if G1a(A) = 0, 1, or 2.</li> <li>Indicator of locomotion problem or activity did not occur on the prior assessment: Covariate = 1 if G1e(A) = 3, 4, or 8. Covariate = 0 if G1e(A) = 0, 1, or 2.</li> </ol>	(LTCQ)
Burns, skin tears or cuts prevalence	<p><b>Numerator:</b> Total number of residents who have burns, skin tears, or cuts (M4b = checked OR M4f = checked) on the target or most recent full assessment (only if the most recent full assessment is a non-admission assessment with AA8a = 02, 03, or 04).</p> <p><b>Denominator:</b> All residents with a valid target assessment.</p> <p><b>Exclusions:</b> Residents satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>The target assessment is an admission assessment (AA8a = 01).</li> <li>The QI is not triggered (numerator condition not satisfied) AND M4b or M4f has a missing value on the target assessment or most recent full assessment.</li> <li>The resident is in a facility with a Chronic Care</li> </ol>	<p><b>Facility admission profile FAP_BUR0X:</b> prevalence of burns, skin tears or cuts (M4b = checked or M4f = checked) among facility admissions (AA8a = 01) over previous 12 months.</p> <p>Numerator: Admission assessments (AA8a = 01) with M4b = checked (value 1) OR M4f = checked (value 1).</p> <p>Denominator: All admission assessments (AA8a = 01).</p> <p>Exclusions: Admission assessments (AA8a = 01) that do not satisfy the numerator condition AND that have missing data on M4b or M4f.</p>	(MEGAQI)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>CLINICAL COMPLEXITY</b>			
	Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).		
Restraints (physical) used daily, prevalence	<p><b>Numerator:</b> Residents who were physically restrained daily (P4c or P4d or P4e = 2) on target assessment.</p> <p><b>Denominator:</b> All residents with a valid target assessment.</p> <p><b>Exclusions:</b> Residents satisfying the following condition:</p> <ol style="list-style-type: none"> <li>1. The target assessment is an admission (AA8a = 01) assessment.</li> <li>2. The QM is not triggered (numerator condition not satisfied) AND P4c, P4d, or P4e has a missing value.</li> <li>3. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol>		(CHSRA)

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>DRUGS</b>			
Prevalence of antipsychotic use in the absence of psychotic and related conditions	<p><b>Numerator:</b> Residents receiving antipsychotics (O4a&gt;0) on target assessment.</p> <p><b>Denominator, high &amp; low risk:</b> All residents with a valid target assessment.</p> <p><b>Denominator, high risk:</b> All residents with a valid target assessment and BOTH of the following Inclusion Criteria:</p> <ol style="list-style-type: none"> <li>1. Behavior problems on the target assessment as indicated by verbal abuse (E4b(A) &gt; 0) OR physical abuse (E4c(A) &gt; 0) OR socially inappropriate/ disruptive behavior (E4d(A) &gt; 0). AND</li> <li>2. Cognitive impairment on the target assessment as indicated by decision problems (B4 &gt; 0) AND short-term memory problems (B2a = 1).</li> </ol> <p><b>Denominator, low risk:</b> All residents with a valid target assessment and not qualifying as high risk.</p>	<p><b>Facility admission profile FAP_DRG01:</b> prevalence of antipsychotic use (O4a&gt;0) among admissions (AA8a = 01) over previous 12 months.</p> <p>Numerator: Admission assessments (AA8a = 01) with O4a &gt; 0. Denominator: All admission assessments (AA8a = 01). Exclusions: Admission assessments (AA8a = 01) that have missing data on O4a.</p> <p>Note: FAP_DRG01 is used for all 3 risk groupings (high &amp; low, high, and low).</p>	(CHSRA)
(DRG01, CHSRA; high and low risk) (DRG02, CHSRA; high risk) (DRG03, CHSRA; low risk)			
<i>Three separate QMs are calculated. DRG01 includes all residents regardless of risk ("Denominator, high &amp; low risk" criteria). DRG02 is limited to residents with high risk ("Denominator, high risk" criteria). DRG03 is limited to residents with low risk ("Denominator, low risk"</i>			

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>DRUGS</b> <i>criteria).</i>	<p><b>Exclusions:</b></p> <ol style="list-style-type: none"> <li>1. Residents satisfying any of the following conditions are excluded from all risk groups (high &amp; low, high, and low):               <ol style="list-style-type: none"> <li>1.1. The target assessment is an admission (AA8a = 01) assessment.</li> <li>1.2. A psychiatric disorder is indicated by ICD9 diagnosis code on the target assessment or most recent full assessment: I3a through I3e = 295.00-295.95 or 297.00-298.9.</li> <li>1.3. Schizophrenia is indicated on the target assessment or most recent full assessment by I1gg = checked or the value of I1gg is missing.</li> <li>1.4. Tourette syndrome is indicated by ICD9 diagnosis code on the target assessment or most recent full assessment: I3a through I3e=307.23.</li> <li>1.5. Huntington's syndrome is indicated by ICD9 diagnosis code on the target assessment or most recent full assessment: I3a through I3e=333.4.</li> <li>1.6. Hallucinations are present on the target assessment only: J1i = checked (value 1) or the value of J1i is missing.</li> <li>1.7. The value of Q4a is missing on the target assessment.</li> <li>1.8. Resident has end-stage disease (J5c = checked) or the status of end-stage disease is unknown (J5c = missing) on the target assessment.</li> <li>1.9. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the target assessment or the most recent full assessment.</li> <li>1.10. The resident is in a facility with a Chronic Care Admission Sample size of 0 (i.e., there are no admission assessments with AA8a = 01 in the facility over the previous 12 months).</li> </ol> </li> <li>2. Residents satisfying any of the following conditions are excluded from the high risk group and the low risk group (but not the combined high &amp; low risk group):               <ol style="list-style-type: none"> <li>2.1. The resident does not qualify as high risk</li> </ol> </li> </ol>		

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>DRUGS</b>	AND the value of B4 or B2a is missing on the target assessment. 2.2. The resident does not qualify as high risk AND the value of E4b(A), E4c(A), or E4d(A) is missing on the target assessment.		

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>POST ACUTE CARE</b>			
Failure to improve and manage delirium symptoms / Post-Acute Care	<p><b>Numerator:</b> Patients at SNF PPS 14-day assessment with at least one symptom of delirium that represents a departure from usual functioning (at least one B5a through B5f = 2).</p> <p><b>Denominator:</b> All patients with a valid SNF PPS 14-day assessment (AA8b = 7).</p> <p><b>Exclusions:</b> Patients satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>Comatose (B1=1) or comatose status unknown (B1 = missing) on the SNF PPS 14-day assessment.</li> <li>Patients with end-stage disease (J5c=checked (value 1)) or end-stage disease status unknown (J5c = missing) on the SNF PPS 14-day assessment.</li> <li>The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the SNF PPS 14-day assessment.</li> <li>The QM did not trigger (patient not included in the numerator) and there is a missing value on any of the items B5a through B5f on the SNF PPS 14-day assessment.</li> <li>The patient is in a facility with a Post Acute Care Admission Sample size of 0 (i.e., there are no SNF PPS 5-day assessments with AA8b = 1 in the facility over the previous 12 months).</li> </ol>	<p><b>Facility admission (5-day) profile FAP_PAC_DELOX:</b> Proportion of residents with at least one symptom of delirium that represents a departure from normal functioning demonstrated on SNF PPS 5-day assessments (AA8b = 1) over previous 12 months (one or more of the items B5a through B5f = 2).</p> <p>Numerator: SNF PPS 5-day assessments (AA8b = 1) with at least one B5a through B5f = 2.</p> <p>Denominator: All SNF PPS 5-day assessments (AA8b = 1).</p> <p>Exclusion: SNF PPS 5-day assessments (AA8b = 1) that do not satisfy the numerator condition AND that have missing data on any item B5a through B5f.</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>Indicator of prior residential history preceding the current SNF stay for the patient: Covariate = 1 if there is NO prior residential history indicated by the following condition being satisfied: 1) There is a recent admission assessment (AA8a = 01) available for the patient AND AB5a through AB5e are not checked (value 0) AND AB5f is checked (value 1) on that assessment. Covariate = 0 if there is prior residential history indicated by either of the following conditions being satisfied: 1) There is a recent admission assessment (AA8a = 01) AND any of the items AB5a through AB5e are checked (value 1) OR AB5f is not checked (value 0) on that assessment. 2) There is no recent admission assessment (AA8a = 01).</li> </ol>	(MEGAQI)
Failure to improve during early post-acute period / Post-Acute Care	<p><b>Numerator:</b> SNF PPS patients who satisfy one of the following three conditions based on the ADL Long Form scale (ADLLF) defined in the Technical Comments below:</p> <ol style="list-style-type: none"> <li>The patient was fully independent on the ADLLF at the SNF PPS 5-day assessment AND failed to remain independent at the SNF PPS 14-day</li> </ol>	<p><b>Facility admission profile FAP_PAC_ADLOX:</b> No FAP is used for this QM.</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>Indicator of NO prior residential history preceding the current SNF stay for the patient: Covariate = 1 if there is NO prior residential history</li> </ol>	(MEGAQI)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>POST ACUTE CARE</b>	<p>assessment (ADLLF[t-1]=0 AND ADLLF[t]&gt;0).</p> <ol style="list-style-type: none"> <li>When only 1 point improvement is possible, the patient failed to improve 1 point from the SNF PPS 5-day assessment to the SNF PPS 14-day assessment (ADLLF[t-1] = 1 AND ADLLF[t] &gt; 0.</li> <li>When 2 points or more improvement is possible, the patient failed to improve at least 2 points on ADLLF scale from the SNF PPS 5-day assessment to the SNF PPS 14-day assessment (ADLLF[t-1]&gt;1 AND ADLLF[t-1]-ADLLF[t]&lt;2).</li> </ol> <p><b>Denominator:</b> All patients with a valid SNF PPS 14-day assessment (AA8b = 7) AND a valid preceding SNF PPS 5-day assessment (AA8b = 1).</p> <p><b>Exclusions:</b> Patients satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>Patients in coma (B1=1) or coma status unknown (B1 = missing) on the SNF PPS 14-day assessment.</li> <li>Patients with end-stage disease (J5c=checked (value 1)) or end-stage disease status unknown (J5c = missing) on the SNF PPS 14-day assessment.</li> <li>The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the SNF PPS 14-day assessment.</li> <li>The ADLLF score is missing on the 14-day assessment [t].</li> <li>The ADLLF score is missing on the 5-day assessment [t-1] and the ADLLF score shows some dependence on the 14-day assessment (ADLLF[t] &gt; 0).</li> <li>The patient is in a facility with a Post Acute Care Admission Sample size of 0 (i.e., there are no SNF PPS 5-day assessments with AA8b = 1 in the facility over the previous 12 months).</li> </ol>	<p>indicated by the following condition being satisfied:</p> <ol style="list-style-type: none"> <li>There is a recent admission assessment (AA8a = 01) available for the patient AND AB5a through AB5e are not checked (value 0) AND AB5f is checked (value 1) on that assessment.</li> </ol> <p>Covariate = 0 if there is prior residential history indicated by either of the following conditions being satisfied:</p> <ol style="list-style-type: none"> <li>There is a recent admission assessment (AA8a = 01) AND any of the items AB5a through AB5e are checked (value 1) OR AB5f is not checked (value 0) on that assessment.</li> <li>There is no recent admission assessment (AA8a = 01).</li> </ol>	
Failure to improve bladder incontinence / Post-Acute Care	<p><b>Numerator:</b> SNF PPS patients who satisfy any of the following three conditions:</p> <ol style="list-style-type: none"> <li>On the SNF PPS 5-day assessment, the patient did not have a catheter (H3d[t-1] not checked (value 0)) AND was fully bladder continent (H1b[t-1] = 0). AND On the SNF PPS 14-day assessment, the patient had a catheter (H3d[t] checked (value 1)) OR was less than fully bladder continent (H1b[t] &gt;0).</li> </ol>	<p><b>Facility admission profile FAP_PAC_CNT0X:</b> proportion of residents fully continent (H1b = 0) and with no catheter (H3d = not checked (value 0)) among SNF PPS 5-day assessments (AA8b = 1) over previous 12 months.</p> <p>Numerator: SNF PPS 5-day assessments (AA8b = 1) with H1b = 0 AND H3d = not checked (value 0).</p> <p>Denominator: All SNF PPS 5-day assessments (AA8b = 1).</p> <p>Exclusion: SNF PPS 5-day assessments with missing data on H1b OR H3d.</p>	(MEGAQI)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>POST ACUTE CARE</b>	<p>2. On the SNF PPS 5-day assessment (AA8b = 1), the patient did not have a catheter (H3d[t-1] not checked (value 0)) AND was less than fully bladder continent (H1b[t-1] &gt; 0). AND On the SNF PPS 14-day assessment (AA8b = 7), the patient had a new catheter (H3d[t] = checked (value 1)) OR was the same or worse on bladder continence (H1b[t] &gt;= H1b[t-1])</p> <p>3. On the SNF PPS 5-day assessment (AA8b = 1), the patient did have a catheter (H3d[t-1] checked (value 1)). AND On the SNF PPS 14-day assessment (AA8b = 7), the patient still had a catheter (H3d[t] = checked (value 1)) OR had no catheter but was frequently or fully incontinent (H3d[t] not checked (value 0) AND H1b[t] &gt; 2)</p> <p><b>Denominator:</b> All patients with a valid SNF PPS 14-day assessment (AA8b = 7) AND a valid preceding SNF PPS 5-day assessment (AA8b = 1).</p> <p><b>Exclusions:</b> Patients satisfying the following condition:</p> <ol style="list-style-type: none"> <li>1. There are missing values for H1b or H3d on either the SNF PPS 5-day or 14-day assessment.</li> <li>2. The resident is comatose (B1 = 1) or comatose status is unknown (B1= missing) on the SNF PPS 14-day assessment.</li> <li>3. Patients with end-stage disease (J5c=checked (value 1)) or end-stage disease status unknown (J5c = missing) on the SNF PPS 14-day assessment.</li> <li>4. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the SNF PPS 14-day assessment.</li> <li>5. The resident has paraplegia (I1x = 1) or paraplegia status unknown (I1x missing) on the SNF PPS 14-day assessment.</li> <li>6. The resident has quadriplegia (I1z = 1) or quadriplegia status unknown (I1z missing) on the SNF PPS 14-day assessment.</li> <li>7. The patient is in a facility with a Post Acute Care Admission Sample size of 0 (i.e., there are no SNF PPS 5-day assessments with AA8b = 1 in the facility over the previous 12 months).</li> </ol>		

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>POST ACUTE CARE</b>			
Inadequate Pain Management / Post-Acute Care	<p><b>Numerator:</b> Patients at SNF PPS 14-day assessment with moderate pain at least daily (J2a=2 and J2b=2) OR horrible/excruciating pain at any frequency (J2b=3).</p> <p><b>Denominator:</b> All patients with a valid SNF PPS 14-day assessment (AA8b = 7).</p> <p><b>Exclusions:</b> Patients satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. Either J2a or J2b is missing on the 14-day assessment.</li> <li>2. The values of J2a and J2b are inconsistent on the 14-day assessment.</li> <li>3. The patient is in a facility with a Post Acute Care Admission Sample size of 0 (i.e., there are no SNF PPS 5-day assessments with AA8b = 1 in the facility over the previous 12 months).</li> </ol>	<p><b>Facility admission profile FAP_PAC_PA10X:</b> mean Pain Scale score among SNF PPS 5-day assessments (AA8b = 1) over previous 12 months.</p> <p>The Pain Scale is defined in the technical comments below.</p> <p>Exclusions: SNF PPS 5-day assessments (AA8b = 1) with a missing value on the Pain Scale.</p>	(MEGAQI)
Failure to prevent pressure ulcers or improve existing pressure ulcers / Post-Acute Care	<p><b>Numerator:</b> SNF PPS patients who satisfy either of the following conditions:</p> <ol style="list-style-type: none"> <li>1. On the SNF PPS 5-day assessment, the patient had no pressure ulcers (M2a[t-1] = 0) AND, on the SNF PPS 14-day assessment, the patient has at least a stage 1 pressure ulcer (M2a[t] = 1, 2, 3, or 4).</li> <li>2. On the SNF PPS 5-day assessment, the patient had a pressure ulcer (M2a[t-1] = 1, 2, 3, or 4) AND on the SNF PPS 14-day assessment, pressure ulcers worsened or failed to improve (M2a[t] &gt;= M2a[t-1]).</li> </ol> <p><b>Denominator:</b> All patients with a valid SNF PPS 14-day assessment (AA8b = 7) AND a valid preceding SNF PPS 5-day assessment (AA8b = 1).</p> <p><b>Exclusions:</b> Patients satisfying the following condition:</p> <ol style="list-style-type: none"> <li>1. M2a is missing on the 14-day assessment [t].</li> <li>2. M2a is missing on the 5-day assessment [t-1] and M2a shows presence of ulcers on the 14-day assessment (M2a = 1, 2, 3, or 4).</li> <li>3. The patient is in a facility with a Post Acute Care Admission Sample size of 0 (i.e., there are no SNF PPS 5-day assessments with AA8b = 1 in the facility over the previous 12 months).</li> </ol>	<p><b>Facility admission profile FAP_PAC_PRU0X:</b> prevalence of stage 1-4 pressure ulcers (M2a&gt;0 OR I3a-e = 707.0) among SNF PPS 5-day assessments (AA8b = 1) over previous 12 months.</p> <p>Numerator: SNF PPS 5-day assessments (AA8b = 1) with M2a &gt;= 0 OR I3a through I3e = 707.0.</p> <p>Denominator: All SNF PPS 5-day assessments (AA8b = 1).</p> <p>Exclusions: SNF PPS 5-day assessments (AA8b = 1) that do not satisfy the numerator condition AND have a missing value on M2a.</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>1. Indicator of history of unresolved pressure ulcer on the SNF PPS 5-day assessment: Covariate = 1 if M3 = 1. Covariate = 0 if M3 = 0.</li> <li>2. Indicator of requiring limited or more assistance in bed mobility on the SNF PPS 5-day assessment: Covariate = 1 if G1a(A) = 2, 3, 4, or 8. Covariate = 0 if G1a(A) = 0 or 1.</li> <li>3. Indicator of bowel incontinence at least one/week on the SNF PPS 5-day assessment: Covariate = 1 if H1a 2, 3, or 4. Covariate = 0 if H1a = 0 or 1.</li> <li>4. Indicator of diabetes or peripheral vascular disease on the SNF PPS 5-day assessment: Covariate = 1 if I1a checked (value 1) OR I1j checked (value 1). Covariate = 0 if I1a not checked (value 0) AND I1j not checked (value 0).</li> </ol>	(MEGAQI)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<b>POST ACUTE CARE</b>		5. Indicator of low Body Mass Index (BMI) on the SNF PPS 5-day assessment: Covariate = 1 if BMI >= 12 AND <= 19. Covariate = 0 if BMI > 19 AND <= 40. Where: $\text{BMI} = \frac{\text{weight (Kg)}}{\text{height}^2 (\text{m}^2)} = \frac{((\text{K2b} * 0.45) / (((\text{K2a}) * .0254)^2))}{}$ (Note: An implausible BMI value < 12 or > 40 will be treated as a missing value on this covariate.)	
Failure to improve or prevent respiratory problems / Post-Acute Care	<p><b>Numerator:</b> SNF PPS patients who have the same or a higher count of selected respiratory conditions on the SNF PPS 14-day assessment than on the SNF PPS 5-day assessment (Respiratory_Count[t] &gt;= Respiratory_Count[t-1]).</p> <p>The respiratory conditions included in the count (range 0 to 4) are:</p> <ol style="list-style-type: none"> <li>1. Pneumonia (I2e=checked (value 1)).</li> <li>2. Inability to lie flat due to shortness of breath (J1b=checked (value 1)).</li> <li>3. Shortness of breath (J1l=checked (value 1)).</li> <li>4. Recurrent aspirations (J1k=checked (value 1)).</li> </ol> <p><b>Denominator:</b> All patients with a valid SNF PPS 14-day assessment (AA8b = 7) AND a valid preceding SNF PPS 5-day assessment (AA8b = 1).</p> <p><b>Exclusions:</b> Patients satisfying the following condition:</p> <ol style="list-style-type: none"> <li>1. I2e, J1b, J1l, or J1k is missing on the 5-day OR the 14-day assessment.</li> <li>2. Patients with end-stage disease (J5c=checked (value 1)) or end-stage disease status unknown (J5c = missing) on the SNF PPS 14-day assessment.</li> <li>3. The patient is in a facility with a Post Acute Care Admission Sample size of 0 (i.e., there are no SNF PPS 5-day assessments with AA8b = 1 in the facility over the previous 12 months).</li> </ol>	<p><b>Facility admission profile FAP_PAC_RSP0X:</b> mean count of number of selected respiratory conditions among SNF PPS 5-day assessments (AA8b = 1) over previous 12 months.</p> <p>The respiratory conditions included in the count (range 0 to 4) are:</p> <ol style="list-style-type: none"> <li>1. Pneumonia (I2e=checked (value 1)).</li> <li>2. Inability to lie flat due to shortness of breath (J1b=checked (value 1)).</li> <li>3. Shortness of breath (J1l=checked (value 1)).</li> <li>4. Recurrent aspirations (J1k=checked (value 1)).</li> </ol> <p>Exclusions: SNF PPS 5-day assessments (AA8b = 1) with a missing value on I2e, J1b, J1l, or J1k.</p> <p><b>Covariates:</b></p> <ol style="list-style-type: none"> <li>1. Indicator of asthma on the SNF PPS 5-day assessment: Covariate = 1 if I1hh checked (value 1). Covariate = 0 if I1hh not checked (value 0).</li> <li>2. Indicator of Emphysema/COPD on the SNF PPS 5-day assessment: Covariate = 1 if I1ii checked (value 1). Covariate = 0 if I1ii not checked (value 0).</li> </ol>	(MEGAQI)
Improvement in Walking / Post-Acute Care	<p><b>Numerator:</b> SNF PPS patients who satisfy either of the following conditions:</p> <ol style="list-style-type: none"> <li>1. Independence in walking is maintained from the SNF PPS 5-day assessment to the SNF PPS 14-day assessment: (G1c(A)[t-1]=0 AND G1d(A)[t-1]=0) AND</li> </ol>	<p><b>Facility admission profile FAP_PAC_WAL0X:</b> mean sum of walking in room (G1c(A)) and walking in corridor (G1d(A)) among SNF PPS 5-day assessments (AA8b = 1) over previous 12 months.</p> <p>Note: Convert 8's (activity did not occur) to 4's (total dependence) on G1d(A) and G1c(A) before summing</p>	(MEGAQI)

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment

Indicator	Numerator & Denominator Definition(s) and Exclusions	Covariate(s)	Developer
<p><b>POST ACUTE CARE</b></p> <p><i>Note: This is a 'good' QM. Higher values on this QM imply good quality of care relative to ADL improvement. This is different from most other QMs, where a high value implies the possibility of poorer care in that specific area.</i></p>	<p>(G1c(A)[t]=0 AND G1d(A)[t]=0).</p> <p>2. Improvement in walking ability is evidenced from the SNF PPS 5-day assessment to the SNF PPS 14-day assessment:  <math>(G1c(A)[t-1] + G1d(A)[t-1]) &gt; (G1c(A)[t] + G1d(A)[t])</math>.            Note: Convert 8's (activity did not occur) to 4's (total dependence) on G1d(A) and G1c(A) for this comparison.</p> <p><b>Denominator:</b> All patients with a valid SNF PPS 14-day assessment (AA8b = 7) and a valid preceding SNF PPS 5-day assessment (AA8b = 1).</p> <p><b>Exclusions:</b> Patients satisfying any of the following conditions:</p> <ol style="list-style-type: none"> <li>1. Comatose (B1=1) or comatose status unknown (B1 = missing) on the SNF PPS 14-day assessment.</li> <li>2. End-stage disease (J5c=checked (value 1)) or end-stage disease status unknown (J5c = missing) on the SNF PPS 14-day assessment.</li> <li>3. The resident is receiving hospice care (P1ao = checked) or hospice status is unknown (P1ao = missing) on the SNF PPS 14-day assessment.</li> <li>4. Ventilator dependent (P1al checked (value 1)) or ventilator status is unknown (P1al = missing) on the SNF PPS 14-day assessment.</li> <li>5. Quadriplegic (I1z = checked (value 1)) or quadriplegic status is unknown (I1z = missing) on the SNF PPS 14-day assessment.</li> <li>6. Paraplegic (I1x = checked (value 1)) or paraplegic status is unknown (I1x = missing) on the SNF PPS 14-day assessment.</li> <li>7. G1c(A) or G1d(A) is missing on either the 5-day or 14-day assessment.</li> <li>8. The patient is in a facility with a Post Acute Care Admission Sample size of 0 (i.e., there are no SNF PPS 5-day assessments with AA8b = 1 in the facility over the previous 12 months).</li> </ol>	<p>these items.</p> <p>Exclusions: SNF PPS 5-day assessments (AA8b = 1) with a missing value on G1c(A) or G1d(A).</p>	

Items refer to MDS 2.0.

For Chronic Care QMs: [t] indicates target assessment, [t-1] prior assessment, and [t-2] assessment preceding the prior assessment (prior-1 assessment)

For Post Acute Care QMs: [t] indicates SNF PPS 14-day assessment and [t-1] SNF PPS 5-day assessment