

# Unnecessary Medications Sampling Algorithm for QIS

## Overview

ASE-Q selects five Census Sample residents for the Unnecessary Medications sample. The sampling algorithm is based on surveyor responses to selected questions in the Census Sample resident observation, record review, and staff interview components of the QIS. The algorithm also uses some responses from the Most Recent (MR) MDS. Each Census Sample resident receives a score based on the sampling algorithm. Scores range from 0 to 18. The five residents with the highest scores are included in the sample subject to the final sampling rules.

## Sampling Rules

Criteria	Score
<p><b>Rule 1</b></p> <p>If the resident receives an antipsychotic <b>AND</b> MR MDS assessment I4200 (Active Diagnoses in the Last 7 Days) = <u>Alzheimer's is marked</u></p> <p><b>OR</b></p> <p>If the resident receives an antipsychotic <b>AND</b> MR assessment I4800 (Active Diagnoses in the Last 7 Days) = <u>Non-Alzheimer's Dementia is marked</u></p>	<p>3 points</p>
<p><b>Rule 2</b></p> <p>If the resident is in the Criteria Met category for QP301, QP302, QP303 or QP304 (fall with or without an injury in the last 30 days) <b>AND</b> is marked for <u>at least one</u> of the following medication classifications:</p> <ul style="list-style-type: none"> <li>- Antipsychotic</li> <li>- Antianxiety</li> <li>- Antidepressant</li> <li>- Hypnotic</li> <li>- Mood Stabilizer</li> <li>- Diuretic</li> </ul>	<p>2 points</p>
<p><b>Rule 3</b></p> <p>If the resident meets any of the following criteria, the resident will get <b>1 point for each of the following medications:</b></p> <ol style="list-style-type: none"> <li>1. Antipsychotic (excluding Alzheimer's/dementia diagnosis)</li> <li>2. Antianxiety</li> <li>3. Antidepressant</li> <li>4. Hypnotic</li> <li>5. Mood Stabilizer</li> <li>6. Anticoagulant</li> <li>7. Insulin</li> </ol>	<p>Up to 7 points</p>

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Criteria	Score
<p><b>Rule 4</b></p> <p>If the resident is in the Criteria Met category for the Census Sample resident observation question for overly sedated <b>AND</b> has <u>at least one</u> of the following medication classifications marked:</p> <ul style="list-style-type: none"> <li>- Antipsychotic</li> <li>- Antianxiety</li> <li>- Antidepressant</li> <li>- Hypnotic</li> <li>- Mood Stabilizer</li> </ul>	1 point
<p><b>Rule 5</b></p> <p>If the resident is in the Criteria Met category for QP081 (significant weight loss) <b>AND</b> has <u>at least one</u> of the following medication classifications marked:</p> <ul style="list-style-type: none"> <li>- Antidepressant</li> <li>- Mood Stabilizer</li> </ul>	1 point
<p><b>Rule 6</b></p> <p>If the resident is in the Criteria Met category for QP013 (prevalence of weight loss) <b>AND</b> has <u>at least one</u> of the following medication classifications marked:</p> <ul style="list-style-type: none"> <li>- Antidepressant</li> <li>- Mood Stabilizer</li> </ul>	1 point
<p><b>Rule 7</b></p> <p>If the resident has <u>2 or more</u> of the following psychotropic medications marked:</p> <ul style="list-style-type: none"> <li>- Antipsychotic</li> <li>- Antianxiety</li> <li>- Antidepressant</li> <li>- Hypnotic</li> <li>- Mood stabilizer</li> </ul>	1 point
<p><b>Rule 8</b></p> <p>If the resident has an Antipsychotic <b>AND</b> Alzheimer's/dementia diagnosis from the MR MDS <b>AND</b> another psychotropic med which includes:</p> <ul style="list-style-type: none"> <li>- Antianxiety</li> <li>- Antidepressant</li> <li>- Hypnotic</li> <li>- Mood stabilizer</li> </ul>	1 point
<p><b>Rule 9</b></p> <p>If the resident has an Antipsychotic <b>AND</b> Alzheimer's/dementia from the MR MDS <b>AND</b> Criteria Met category for falls (QP301, QP302, QP303 or</p>	1 point

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QP304) or sedation.	
<b>Rule 10</b> If the resident meets the following criteria, the resident will get 0.5 point for each of the following: <ul style="list-style-type: none"><li>- Diuretic</li><li>- Antibiotic <b><u>AND</u></b> Anticoagulant</li></ul>	0.5 point 0.5 point

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Once surveyors have entered all the relevant Stage 1 data and have calculated QCLIs the software selects residents based on their unnecessary medications score using the following rules.

### **FINAL SAMPLING RULE 1**

ASE-Q will confirm that the following are represented in the sample:

- Antipsychotic with Alzheimer's/dementia diagnosis
- Anticoagulant
- Insulin

Each of these must be included in the sample, whether just one resident takes all three medications, each of three residents takes a different medication on the list, or any other combination, as long as all three of the medications are represented.

If any of these three medications is NOT in the sample, ASE-Q will add and remove residents until all three medications are included. For example, if there are no residents with insulin in the sample, ASE-Q will identify all Census Sample residents who take insulin and then select the one who has the highest overall Unnecessary Medication sampling score and add him/her to the sample. ASE-Q will then remove from the sample the resident who has the lowest overall score (as long as losing that resident will not lose representation of one of the other necessary medications). All of these calculations are done automatically in ASE-Q. Surveyors only see the final sample.

### **FINAL SAMPLING RULE 2**

If residents have the same score, selection is random. For example, let's say three residents (Residents A – C) have a score of 10 and three residents have a score of 8 (Residents D – F). Only five residents are needed for the sample. ASE-Q therefore would include Residents A – C and randomly select two additional residents from Residents D – F.

### **FINAL SAMPLING RULE 3**

If there are fewer than five residents with a score of 0.5 or higher, the selection is based on the scoring methodology formerly used to select residents for the Unnecessary Medication review (i.e., select the resident(s) in the most QCLI Criteria Met categories).

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### Exclusions

If a resident meets the following criteria, the applicable medication should be excluded and that medication will not receive any points.

- If a resident is marked for an antipsychotic and has any of the following MDS codes, the resident is excluded from any points associated with the antipsychotic:
  - I5250 (Active Diagnoses in the Last 7 Days) = Huntington's syndrome
  - I5350 (Active Diagnoses in the Last 7 Days) = Tourette's Syndrome
  - I5900 (Active Diagnoses in the last 7 Days) = Manic Depression (bipolar disease)
  - I6000 (Active Diagnoses in the Last 7 Days) = Schizophrenia
  
- If a resident is marked for an antianxiety and has any of the following MDS codes, the resident is excluded from any points associated with the antianxiety medication:
  - I4400 (Active Diagnoses in the Last 7 Days) = Cerebral Palsy
  - I5200 (Active Diagnoses in the Last 7 Days) = Multiple Sclerosis
  - I5400 (Active Diagnoses in the Last 7 Days) = Seizure Disorder/Epilepsy
  - J1400 (Prognosis) = 1 (Yes, 6 months or fewer to live) (taken from the Census Record review item A1)

## Unnecessary Medications Sampling Algorithm for QIS

The table below shows the Unnecessary Medications sample selected by the new sampling algorithm, using illustrative Census Sample Stage 1 results. In this example, the resident named Cindy (last on the list, with an overall score of 2) was selected so that Insulin would be represented in the sample. One of the residents with a score of 6 (i.e., Dana, Michelle or Jack) was dropped from the sample when Cindy was pulled in.

Score	Sampled	Name	Active Diagnosis (from MDS)	Antipsychotic	Antianxiety	Antidepressant	Hypnotic	Mood Stabilizer	Anticoagulant	Antibiotic	Diuretic	Insulin	Sedated	Falls QP301- QP304	Weight Loss QP081	Weight Loss QP013
9.5	✓	Oscar	dementia	X	X						X			X	X	
8.5	✓	Dennis	Alzheimer's	X		X	X		X		X					
8	✓	Rick	Alzheimer's	X		X			X						X	
6		Dana		X		X	X		X						X	
6	✓	Ryan	dementia	X		X										
6		Michelle	dementia	X				X		X						
6		Jack			X	X								X	X	
2	✓	Cindy				X						X				