

# Risk Adjustment Technical Steps and Risk Factor Specifications

*Effective January 1, 2021*

Last Updated: October 18, 2021

## I. Background

The Centers for Medicare & Medicaid Services (CMS) maintains, re-evaluates and implements changes to the OASIS data item set and also develops, implements, maintains and re-evaluates quality measures that are reflective of quality of care provided by home health agencies (HHAs) in the home setting. For outcome measures, the re-evaluation process includes evaluating and updating, as needed, the risk adjustment models used to adjust for patient characteristics at admission, to ensure they are adequately robust and allow for valid comparison across providers. OASIS-based home health outcome measures are risk adjusted using OASIS items that are statistically significant and clinically relevant predictors of the outcome.

The updated risk models in this document re-run the prior risk adjustment models after removing the following items. All other risk factors remain the same as the January 1, 2019 update. The next major update of the risk adjustment models is planned for the release of OASIS E. During that update, the risk adjustment models will be based on refreshed data and all risk factors will be re-tested for inclusion.

- M1030 (Therapies)
- M1242 (Frequency of Pain Interfering)
- M2030 (Management of Injectable Medications)
- M2200 (Therapy Need)

The latest risk adjustment update is applicable to home health quality episodes that begin January 1, 2021. The OASIS-based outcome measures for which the updated risk adjustment models apply starting January 1, 2021 are:

- Improvement in Ambulation/Locomotion
- Improvement in Bathing
- Improvement in Bed Transferring
- Improvement in Bowel Incontinence
- Improvement in Confusion Frequency
- Improvement in Dyspnea
- Improvement in Lower Body Dressing
- Improvement in Upper Body Dressing
- Improvement in Management of Oral Medications
- Improvement in Toilet Transferring
- Discharged to Community

Two measures are no longer risk adjusted and reported (Improvement in Pain Interfering with Activity [CY2020 HH Rule] and Improvement in the Status of Surgical Wounds [CY 2019 HH Rule]).

[Section II](#) describes the technical steps for calculating risk adjusted measures and describes the development of the risk adjustment models. [Section III](#) contains the detailed specifications for each of the risk factors used in the risk adjustment models. These remain the same as the January 1, 2019 update except the risk factors removed from the model.

[Appendix Table 1](#) and [Appendix Table 2](#) contains the list of risk factors and the estimated covariate coefficients for each measure, respectively.

NO CHANGES WERE MADE TO THIS DOCUMENT BEYOND THIS POINT COMPARED TO THE FEBRUARY 11, 2021 RELEASE

## II. Technical Approach

### Calculating Risk Adjusted Quality Measures

The following steps are used to calculate each quality measure:

A. Calculate the agency observed score (**steps 1 through 3**)

**Step 1.** Calculate the denominator count:

Calculate the total number of quality episodes with a selected target OASIS assessment each month that do not meet the exclusion criteria following each measure's specifications.<sup>1</sup>

**Step 2.** Calculate the numerator count:

Calculate the total number of quality episodes in the denominator whose OASIS assessments indicates meeting numerator criteria for each month, following each measure's specifications.

**Step 3.** Calculate the agency's observed rate:

Divide the agency's numerator count by its denominator count to obtain the agency's observed rate; that is, divide the result of **step 2** by the result of **step 1**.

B. Calculate the predicted rate for each quality episode (**steps 4 and 5**)

**Step 4.** Determine presence or absence of the risk factors for each patient (technical specifications for risk factors are in **Section III**):

If dichotomous risk factor covariates are used, assign covariate values, either '0' for covariate condition not present or '1' for covariate condition present, for each quality episode for each of the covariates as reported at SOC/ROC, as described in the section above.

**Step 5.** Calculate the predicted rate for each quality episode with the following formula:

$$[1] \text{ Episode-level predicted QM rate} = 1 / [1 + e^{-x}]$$

Where e is the base of natural logarithms and X is a linear combination of the constant and the logistic regression coefficients times the covariate scores (from Formula [2], below).

$$[2] \text{ Quality measure triggered (yes=1, no=0)} = B_0 + B_1 * COVA + B_2 * COVB + \dots B_N * COVN$$

Where B<sub>0</sub> is the logistic regression constant, B<sub>1</sub> is the logistic regression coefficient for the first covariate, COVA is the episode-level rate for the first covariate, B<sub>2</sub> is the logistic regression coefficient for the second covariate, and COVB is the episode-level rate for the second

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<sup>1</sup> Measure specifications are available in the Downloads section of the Home Health Quality Measures website: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/Home-Health-Quality-Measures.html>

covariate, etc. The regression constant and regression coefficients are provided in [Appendix Table 2](#).

C. Calculate the agency predicted rate **(step 6)**

**Step 6.** Once a predicted QM rate has been calculated for all quality episodes, calculate the mean agency-level predicted QM rate by averaging all episode-level predicted values for that agency for each month.

D. Calculate national predicted rate **(step 7)**

**Step 7.** Calculate the national predicted rate:

Once a predicted QM value has been calculated for all episodes, calculate the mean national-level predicted QM rate by averaging all episode-level predicted values for each month. Note that the sample will include only those quality episodes with non-missing data for the component covariates.

E. Calculate the agency's risk-adjusted rate **(step 8)**

**Step 8.** Calculate the agency-level monthly risk-adjusted rate based on the agency-level monthly observed quality measure rate **(step 3)**, agency-level monthly mean predicted quality measure rate **(step 6)**, and national monthly mean predicted QM rate **(step 7)**, using the following formula:

[3] agency risk adjusted rate = agency observed rate + national predicted rate – agency predicted rate

F. Calculate the agency's 12-month risk adjusted rate **(step 9)**

**Step 9.** Calculate the 12-month risk-adjusted rate by averaging the agency's monthly risk-adjusted rate **(step 8)** weighting by the HHA's number of episodes in each month over the 12 month period.

If the adjusted rate is greater than 100%, the adjusted rate is set to 100%. Similarly, if the result is a negative number, the adjusted rate is set to zero

## Identifying Risk Factors

The risk adjustment model was developed using OASIS national repository data from assessments submitted between January 1, 2016 and December 31, 2016 (~6.4 million episodes of care). The population of 6.4 million episodes for calendar year 2016 was split in half such that 3.2 million episodes were used as a developmental sample and 3.2 million episodes were used as a validation sample. The following process was used to identify unique contributing risk factors to the prediction model:

1. Risk factors were identified based on OASIS items that will remain following the OASIS-D transition. The statistical properties of the items were examined to specify risk factors (e.g., item responses were grouped when there was low prevalence of certain responses). Team clinicians then reviewed all risk factors for clinical relevance and redefined or updated risk factors as necessary. These risk factors were divided into 35 content focus groups (e.g., functional status, ICD 10-based conditions, etc.). Where possible, risk factors were defined such that they flagged mutually exclusive subgroups within each content focus group. When modelling these risk factors, the exclusion category was set to be either the risk factor flag for most independent or the most frequent within each content focus group.

2. A logistic regression specification was used to estimate coefficients among the full set of candidate risk factors. Those risk factors that are statistically significant at probability  $<0.001$  are kept for further review.
3. The list of risk factors that achieved the probability  $<0.001$  level were reviewed. For content focus groups that are explicitly tiered by increasing severity, either all risk factors are included within a content focus group or none of them. For example, if response option levels 1 and 2 for M1800 Grooming were statistically significant at probability  $<0.001$  for a particular outcome, then response option level 3 for M1800 Grooming was added to the list even if it was not statistically significant. If none of the risk factors within an explicitly tiered content focus group is statistically significant at  $<0.001$ , the entire content focus group is removed from the model.
4. A logistic regression was computed on the list of risk factors that had achieved probability  $<0.001$  in Step 3 above.
5. Goodness of fit statistics (McFadden's  $R^2$  and C-statistic) were calculated to measure how well the predicted values generated by the prediction model were related to the actual outcomes. Separate bivariate correlations were constructed between the risk factors and the outcomes to confirm the sign and strength of the estimated coefficients in the logistic model.
6. The initial model was reviewed by a team of at least three experienced home health clinicians. Each risk factor was reviewed for its clinical plausibility. Clinicians were asked about the direction indicated by the coefficient in the risk adjustment model and how it compares to their perceived bivariate relationship given their experience treating patients in the home. Risk factors that were not clinically plausible were revised or eliminated if revisions were not possible.
7. The risk factors that were deemed not clinically plausible were revised or eliminated, and Steps 3, 4, and 5 in this process were repeated. The resulting logistic regression equation was designated as the risk adjustment model for the outcome.
8. The risk adjustment model was applied to the validation sample and goodness of fit statistics were computed. The statistics were similar to the goodness of fit statistics computed with the development sample. As additional testing, HHAs were stratified across several observable characteristics, and the distributions of the risk-adjusted outcomes were checked to confirm that values remained similar across strata.
9. Updated for January 1, 2021: risk adjustment models were re-run after excluding risk factors based on voluntary OASIS items.

### III. Risk Factor Technical Specifications

OASIS data items are referred to in this documentation using field names specified in OASIS Data Submission Specifications published by CMS. "[1]" is appended to the field name if the value is taken from the beginning of episode assessment (Start or Resumption of Care), and "[2]" is appended if the value is to be taken from the assessment conducted at the end of the episode (Discharge, Transfer, or Death).

#### 1. Age

```
IF M0100_ASSMT_REASON[1] = 01
THEN
  IF MONTH(M0030_START_CARE_DT[1]) > MONTH(M0066_PAT_BIRTH_DT[1]) OR
  (MONTH(M0030_START_CARE_DT[1]) = MONTH(M0066_PAT_BIRTH_DT[1])
  AND DAY(M0030_START_CARE_DT[1]) >= DAY(M0066_PAT_BIRTH_DT[1]))
  THEN
    AGE = YEAR(M0030_START_CARE_DT[1]) – YEAR(M0066_PAT_BIRTH_DT[1])
  ELSE
    AGE = YEAR(M0030_START_CARE_DT[1]) – YEAR(M0066_PAT_BIRTH_DT[1])-1
  END IF
ELSE
  IF MONTH(M0032_ROC_DT[1]) > MONTH(M0066_PAT_BIRTH_DT[1])OR
  (MONTH(M0032_ROC_DT[1]) = MONTH(M0066_PAT_BIRTH_DT[1]) AND
  DAY(M0032_ROC_DT[1]) >= DAY(M0066_PAT_BIRTH_DT[1]))
  THEN
    AGE = YEAR(M0032_ROC_DT[1]) – YEAR(M0066_PAT_BIRTH_DT[1])
  ELSE
    AGE = YEAR(M0032_ROC_DT[1]) – YEAR(M0066_PAT_BIRTH_DT[1])-1
  END IF
END IF
```

#### Age: 0-54

```
IF (AGE >= 18 AND AGE <= 54)
THEN
  AGE_0_54 = 1
ELSE
  AGE_0_54 = 0
END IF
```

#### Age: 55-59

```
IF (AGE >= 55 AND AGE <= 59)
THEN
  AGE_55_59 = 1
ELSE
  AGE_55_59 = 0
END IF
```

Age: 60-64

```
IF (AGE >= 60 AND AGE <= 64)
THEN
    AGE_60_64 = 1
ELSE
    AGE_60_64 = 0
END IF
```

Age: 65-69

```
IF (AGE >= 65 AND AGE <= 69)
THEN
    AGE_65_69 = 1
ELSE
    AGE_65_69 = 0
END IF
```

Age: 70-74

```
IF (AGE >= 70 AND AGE <= 74)
THEN
    AGE_70_74 = 1
ELSE
    AGE_70_74 = 0
END IF
```

Age: 75-79

```
IF (AGE >= 75 AND AGE <= 79)
THEN
    AGE_75_79 = 1
ELSE
    AGE_75_79 = 0
END IF
```

Age: 80-84

```
IF (AGE >= 80 AND AGE <= 84)
THEN
    AGE_80_84 = 1
ELSE
    AGE_80_84 = 0
END IF
```

Age: 85-89

```
IF (AGE >= 85 AND AGE <= 89)
THEN
    AGE_85_89 = 1
ELSE
    AGE_85_89 = 0
END IF
```

Age: 90-94

```
IF (AGE >= 90 AND AGE <= 94)
THEN
    AGE_90_94 = 1
ELSE
    AGE_90_94 = 0
END IF
```

Age: 95+

```
IF (AGE >= 95)
THEN
    AGE_95PLUS = 1
ELSE
    AGE_95PLUS = 0
END IF
```

## 2. Gender

```
IF M0069_PAT_GENDER[1] = 2
THEN
    GENDER = 1
ELSE
    GENDER = 0
END IF
```

Patient is Female

```
IF GENDER = 1
THEN
    GENDER_FEMALE = 1
ELSE
    GENDER_FEMALE = 0
END IF
```

Patient is Male

```
IF GENDER = 0
THEN
    GENDER_MALE = 1
ELSE
    GENDER_MALE = 0
END IF
```

## 3. Payment Source

Payment Source: Medicare FFS only (%)

```
IF M0150_CPAY_MCARE_FFS[1] = 1 AND M0150_CPAY_NONE[1] = 0 AND
M0150_CPAY_MCARE_HMO[1] = 0 AND M0150_CPAY_MCAID_FFS[1] = 0 AND
M0150_CPAY_MCAID_HMO[1] = 0 AND M0150_CPAY_WRKCOMP[1] = 0 AND
```

**M0150\_CPAY\_TITLEPGMS[1] = 0 AND M0150\_CPAY\_OTH\_GOVT[1] = 0 AND  
 M0150\_CPAY\_PRIV\_INS[1] = 0 AND M0150\_CPAY\_PRIV\_HMO[1] = 0 AND  
 M0150\_CPAY\_SELFPAY[1] = 0 AND M0150\_CPAY\_OTHER[1] = 0 AND M0150\_CPAY\_UK [1] = 0  
 THEN**  
     PAY\_MCARE\_FFS = 1  
**ELSE**  
     PAY\_MCARE\_FFS = 0  
**END IF**

Payment Source: Medicare HMO only (%)

**IF M0150\_CPAY\_MCARE\_HMO[1] = 1 AND M0150\_CPAY\_NONE[1] = 0 AND  
 M0150\_CPAY\_MCARE\_FFS[1] = 0 AND M0150\_CPAY\_MCAID\_FFS[1] = 0 AND  
 M0150\_CPAY\_MCAID\_HMO[1] = 0 AND M0150\_CPAY\_WRKCOMP[1] = 0 AND  
 M0150\_CPAY\_TITLEPGMS[1] = 0 AND M0150\_CPAY\_OTH\_GOVT[1] = 0 AND  
 M0150\_CPAY\_PRIV\_INS[1] = 0 AND M0150\_CPAY\_PRIV\_HMO[1] = 0 AND  
 M0150\_CPAY\_SELFPAY[1] = 0 AND M0150\_CPAY\_OTHER[1] = 0 AND M0150\_CPAY\_UK[1] = 0  
 THEN**  
     PAY\_MCARE\_HMO = 1  
**ELSE**  
     PAY\_MCARE\_HMO = 0  
**END IF**

Payment Source: Medicare and Medicaid (%)

**IF ((M0150\_CPAY\_MCARE\_FFS[1] = 1 AND M0150\_CPAY\_MCAID\_FFS[1] = 1) OR  
 (M0150\_CPAY\_MCARE\_FFS[1] = 1 AND M0150\_CPAY\_MCAID\_HMO[1] = 1) OR  
 (M0150\_CPAY\_MCARE\_HMO[1] = 1 AND M0150\_CPAY\_MCAID\_FFS[1] = 1) OR  
 (M0150\_CPAY\_MCARE\_HMO[1] = 1 AND M0150\_CPAY\_MCAID\_HMO[1] = 1) OR  
 (M0150\_CPAY\_MCARE\_FFS[1] = 1 AND M0150\_CPAY\_MCARE\_HMO[1] = 1 AND  
 M0150\_CPAY\_MCAID\_FFS[1] = 1) OR (M0150\_CPAY\_MCARE\_FFS[1] = 1 AND  
 M0150\_CPAY\_MCARE\_HMO[1] = 1 AND M0150\_CPAY\_MCAID\_HMO[1] = 1) OR  
 (M0150\_CPAY\_MCARE\_FFS[1] = 1 AND M0150\_CPAY\_MCAID\_FFS[1] = 1 AND  
 M0150\_CPAY\_MCAID\_HMO[1] = 1) OR (M0150\_CPAY\_MCARE\_HMO[1] = 1 AND  
 M0150\_CPAY\_MCAID\_FFS[1] = 1 AND M0150\_CPAY\_MCAID\_HMO[1] = 1)) AND  
 M0150\_CPAY\_NONE[1] = 0 AND M0150\_CPAY\_WRKCOMP[1] = 0  
 THEN**  
     PAY\_MCAREANDMCAID = 1  
**ELSE**  
     PAY\_MCAREANDMCAID = 0  
**END IF**

Payment Source: Medicaid Only (%)

**IF (M0150\_CPAY\_MCAID\_FFS[1] = 1 OR M0150\_CPAY\_MCAID\_HMO[1] = 1) AND  
 M0150\_CPAY\_NONE[1] = 0 AND M0150\_CPAY\_MCARE\_FFS[1] = 0 AND  
 M0150\_CPAY\_MCARE\_HMO[1] = 0 AND M0150\_CPAY\_WRKCOMP[1] = 0 AND  
 M0150\_CPAY\_TITLEPGMS[1] = 0 AND M0150\_CPAY\_OTH\_GOVT[1] = 0 AND  
 M0150\_CPAY\_PRIV\_INS[1] = 0 AND M0150\_CPAY\_PRIV\_HMO[1] = 0 AND  
 M0150\_CPAY\_SELFPAY[1] = 0 AND M0150\_CPAY\_OTHER[1] = 0 AND M0150\_CPAY\_UK[1] = 0  
 THEN**

```
        PAY_MCAID_ONLY = 1
ELSE
        PAY_MCAID_ONLY = 0
END IF
```

Payment Source: Other Combinations (%)

```
IF PAY_MCARE_FFS = 0 AND PAY_MCARE_HMO = 0 AND PAY_MCAREANDMCAID = 0 AND
PAY_MCAID_ONLY = 0
THEN
        PAY_OTHER_COMBO = 1
ELSE
        PAY_OTHER_COMBO = 0
END IF
```

#### 4. SOC/ROC and Admission Source

Discharged from facility in past 14 days

```
IF (M1000_DC_IPPS_14_DA[1] = 01 OR M1000_DC_SNF_14_DA[1] = 01 OR M1000_DC_IRF_14_DA[1] = 01 OR
M1000_DC_LTC_14_DA[1] = 01 OR M1000_DC_LTCH_14_DA[1] = 01 OR M1000_DC_PSYCH_14_DA[1] = 01)
THEN
        INPT_FACILITY = 1
ELSE
        INPT_FACILITY = 0
END IF
```

Start of Care - Further visits planned : Discharged from facility in past 14 days

```
IF (M0100_ASSMT_REASON[1] = 01 AND INPT_FACILITY = 1)
THEN
        SOC_INPT = 1
ELSE
        SOC_INPT = 0
END IF
```

Start of Care - Further visits planned : Not Discharged from facility in past 14 days

```
IF (M0100_ASSMT_REASON[1] = 01 AND INPT_FACILITY = 0)
THEN
        SOC_COMM = 1
ELSE
        SOC_COMM = 0
END IF
```

Resumption of care (after inpatient stay)

```
IF (M0100_ASSMT_REASON[1] = 3)
THEN
        ROC = 1
ELSE
        ROC = 0
```

END IF

## 5. Post-Acute Facility Admission Source

Not discharged from post-acute facility past 14 days

IF M1000\_DC\_SNF\_14\_DA[1] = 1 OR M1000\_DC\_IRF\_14\_DA[1] = 1 OR M1000\_DC\_NF\_14\_DA[1] = 1 OR  
M1000\_DC\_LTCH\_14\_DA[1] = 1 OR M1000\_DC\_PSYCH\_14\_DA[1] = 1

THEN

INPT\_NOPOSTACUTE = 0

ELSE

INPT\_NOPOSTACUTE = 1

END IF

Discharged from post-acute facility past 14 days

IF M1000\_DC\_SNF\_14\_DA[1] = 1 OR M1000\_DC\_IRF\_14\_DA[1] = 1 OR M1000\_DC\_NF\_14\_DA[1] = 1 OR  
M1000\_DC\_LTCH\_14\_DA[1] = 1 OR M1000\_DC\_PSYCH\_14\_DA[1] = 1

THEN

INPT\_POSTACUTE = 1

ELSE

INPT\_POSTACUTE = 0

END IF

## 6. Risk of Hospitalization

Risk of Hospitalization: History of falls in past 12 months (%)

IF M1033\_HOSP\_RISK\_HSTRY\_FALLS[1] = 1

THEN

RISK\_HSTRY\_FALLS = 1

ELSE

RISK\_HSTRY\_FALLS = 0

END IF

Risk of Hospitalization: Unintentional weight loss in past 12 months (%)

IF M1033\_HOSP\_RISK\_WEIGHT\_LOSS[1] = 1

THEN

RISK\_WEIGHTLOSS = 1

ELSE

RISK\_WEIGHTLOSS = 0

END IF

Risk of Hospitalization: Multiple hospitalizations in past 6 months (%)

IF M1033\_HOSP\_RISK\_MLTPL\_HOSPZTN[1] = 1

THEN

RISK\_MLTPL\_HOSPZTN = 1

ELSE

RISK\_MLTPL\_HOSPZTN = 0

END IF

Risk of Hospitalization: Multiple ED visits in past 6 months (%)

```
IF M1033_HOSP_RISK_MLTPL_ED_VISIT[1] = 1
THEN
    RISK_ED = 1
ELSE
    RISK_ED = 0
END IF
```

Risk of Hospitalization: Recent decline mental/emotional decline in past 3 months (%)

```
IF M1033_HOSP_RISK_MNTL_BHV_DCLN[1] = 1
THEN
    RISK_RCNT_DCLN = 1
ELSE
    RISK_RCNT_DCLN = 0
END IF
```

Risk of Hospitalization: Difficulty complying with medical instruction in past 3 months (%)

```
IF M1033_HOSP_RISK_COMPLIANCE[1] = 1
THEN
    RISK_COMPLY = 1
ELSE
    RISK_COMPLY = 0
END IF
```

Risk of Hospitalization: Taking five or more medications (%)

```
IF M1033_HOSP_RISK_5PLUS_MDCTN[1] = 1
THEN
    RISK_5PLUS_MDCTN = 1
ELSE
    RISK_5PLUS_MDCTN = 0
END IF
```

Risk of Hospitalization: Reports Exhaustion (%)

```
IF M1033_HOSP_RISK_CRNT_EXHSTN[1] = 1
THEN
    RISK_EXHAUST = 1
ELSE
    RISK_EXHAUST = 0
END IF
```

Risk of Hospitalization: Other unlisted risk factors (%)

```
IF M1033_HOSP_RISK_OTHR_RISK[1] = 1
THEN
    RISK_OTHR = 1
ELSE
    RISK_OTHR = 0
END IF
```

Risk of Hospitalization: None of the Above (%)

```
IF M1033_HOSP_RISK_NONE_ABOVE[1] = 1
THEN
    RISK_NONE = 1
ELSE
    RISK_NONE = 0
END IF
```

## 7. Availability of Assistance

### Availability of Assistance

Around the clock (%)

```
IF M1100_PTNT_LVG_STUTN[1] = 01 OR M1100_PTNT_LVG_STUTN[1] = 06 OR
M1100_PTNT_LVG_STUTN[1] = 11
THEN
    ASSIST_ARND_CLOCK = 1
ELSE
    ASSIST_ARND_CLOCK = 0
END IF
```

Regular daytime (%)

```
IF M1100_PTNT_LVG_STUTN[1] = 02 OR M1100_PTNT_LVG_STUTN[1] = 07 OR
M1100_PTNT_LVG_STUTN[1] = 12
THEN
    ASSIST_REGDAY = 1
ELSE
    ASSIST_REGDAY = 0
END IF
```

Regular nighttime (%)

```
IF M1100_PTNT_LVG_STUTN[1] = 03 OR M1100_PTNT_LVG_STUTN[1] = 08 OR
M1100_PTNT_LVG_STUTN[1] = 13
THEN
    ASSIST_REGNITE = 1
ELSE
    ASSIST_REGNITE = 0
END IF
```

Occasional/None (%)

```
IF M1100_PTNT_LVG_STUTN[1] = 04 OR M1100_PTNT_LVG_STUTN[1] = 05 OR
M1100_PTNT_LVG_STUTN[1] = 09 OR M1100_PTNT_LVG_STUTN[1] = 10 OR
M1100_PTNT_LVG_STUTN[1] = 14 OR M1100_PTNT_LVG_STUTN[1] = 15
THEN
    ASSIST_OCC_NONE = 1
ELSE
    ASSIST_OCC_NONE = 0
```

**END IF**

### **Living Arrangement**

#### Lives alone (%)

**IF** M1100\_PTNT\_LVG\_STUTN[1] = 01 **OR** M1100\_PTNT\_LVG\_STUTN[1] = 02 **OR**  
M1100\_PTNT\_LVG\_STUTN[1] = 03 **OR** M1100\_PTNT\_LVG\_STUTN[1] = 04 **OR**  
M1100\_PTNT\_LVG\_STUTN[1] = 05

**THEN**

LIV\_ALONE = 1

**ELSE**

LIV\_ALONE = 0

**END IF**

#### Lives with Others (%)

**IF** M1100\_PTNT\_LVG\_STUTN[1] = 06 **OR** M1100\_PTNT\_LVG\_STUTN[1] = 07 **OR**  
M1100\_PTNT\_LVG\_STUTN[1] = 08 **OR** M1100\_PTNT\_LVG\_STUTN[1] = 09 **OR**  
M1100\_PTNT\_LVG\_STUTN[1] = 10

**THEN**

LIV\_OTHERS = 1

**ELSE**

LIV\_OTHERS = 0

**END IF**

#### Lives in a Congregate Situation (%)

**IF** M1100\_PTNT\_LVG\_STUTN[1] = 11 **OR** M1100\_PTNT\_LVG\_STUTN[1] = 12 **OR**  
M1100\_PTNT\_LVG\_STUTN[1] = 13 **OR** M1100\_PTNT\_LVG\_STUTN[1] = 14 **OR**  
M1100\_PTNT\_LVG\_STUTN[1] = 15

**THEN**

LIV\_CONGREGATE = 1

**ELSE**

LIV\_CONGREGATE = 0

**END IF**

## **8. Pressure Ulcers**

#### None or Stage I Present

**IF** M1306\_UNHLD\_STG2\_PRSR\_ULCR[1] = 00 **AND**  
(M1322\_NBR\_PRSULC\_STG1[1] = 00 **OR** M1322\_NBR\_PRSULC\_STG1[1] = 01 **OR**  
M1322\_NBR\_PRSULC\_STG1[1] = 02 **OR** M1322\_NBR\_PRSULC\_STG1[1] = 03 **OR**  
M1322\_NBR\_PRSULC\_STG1[1] = 04)

**THEN**

PU\_NONE\_STG1ONLY = 1

**ELSE**

PU\_NONE\_STG1ONLY = 0

**END IF**

#### Stage II or Higher and Unstageable Present

```

IF M1311_NBR_PRSULC_STG2_A1[1] > 0 OR M1311_NBR_PRSULC_STG3_B1[1] > 0 OR
M1311_NBR_PRSULC_STG4_C1[1] > 0 OR M1311_NSTG_DRSG_D1[1] > 0 OR
M1311_NSTG_CVRG_E1[1] > 0 OR M1311_DEEP_TSUE_F1[1] > 0
THEN
    PU_STG2PLUS_UNSTG = 1
ELSE
    PU_STG2PLUS_UNSTG = 0
END IF

```

## 9. Stasis Ulcers

*Stasis Ulcer: No observable stasis ulcers*

```

IF M1330_STAS_ULCR_PRSNT[1] = 00 OR M1330_STAS_ULCR_PRSNT[1] = 03
THEN
    STAS_ULCR_NONE = 1
ELSE
    STAS_ULCR_NONE = 0
END IF

```

*Stasis Ulcer: 1 observable stasis ulcer only*

```

IF M1332_NBR_STAS_ULCR[1] = 1
THEN
    STAS_ULCR_OBS_1 = 1
ELSE
    STAS_ULCR_OBS_1 = 0
END IF

```

*Stasis Ulcer: Multiple observable stasis ulcers*

```

IF M1332_NBR_STAS_ULCR[1] = 2 OR M1332_NBR_STAS_ULCR[1] = 3 OR M1332_NBR_STAS_ULCR[1] = 4
THEN
    STAS_ULCR_OBS_2PLUS = 1
ELSE
    STAS_ULCR_OBS_2PLUS = 0
END IF

```

## 10. Surgical Wounds

*Status of Surgical Wound: None*

```

IF M1342_STUS_PRBLM_SRGCL_WND[1] = MISSING
THEN
    SRG_WND_OBS_NONE = 1
ELSE
    SRG_WND_OBS_NONE = 0
END IF

```

*Status of Surgical Wound: Newly Epithelialized*

```

IF M1342_STUS_PRBLM_SRGCL_WND[1] = 00

```

**THEN**  
    SRG\_WND\_OBS\_EPI = 1  
**ELSE**  
    SRG\_WND\_OBS\_EPI = 0  
**END IF**

*Status of Surgical Wound: Fully granulating or early/partial granulation*

**IF** M1342\_STUS\_PRBLM\_SRGCL\_WND[1] = 01 **OR** M1342\_STUS\_PRBLM\_SRGCL\_WND[1] = 02  
**THEN**  
    SRG\_WND\_OBS\_GRAN = 1  
**ELSE**  
    SRG\_WND\_OBS\_GRAN = 0  
**END IF**

*Status of Surgical Wound: Not healing*

**IF** M1342\_STUS\_PRBLM\_SRGCL\_WND[1] = 03  
**THEN**  
    SRG\_WND\_OBS\_NOHEAL = 1  
**ELSE**  
    SRG\_WND\_OBS\_NOHEAL = 0  
**END IF**

## **11. Dyspnea**

*Dyspnea: Not short of breath*

**IF** (M1400\_WHEN\_DYSPNEIC[1] = 00)  
**THEN**  
    DYSP0 = 1  
**ELSE**  
    DYSP0 = 0  
**END IF**

*Dyspnea: Walking more than 20 feet, climbing stairs*

**IF** (M1400\_WHEN\_DYSPNEIC[1] = 01)  
**THEN**  
    DYSP1 = 1  
**ELSE**  
    DYSP1 = 0  
**END IF**

*Dyspnea: Moderate exertion*

**IF** (M1400\_WHEN\_DYSPNEIC[1] = 02)  
**THEN**  
    DYSP2 = 1  
**ELSE**  
    DYSP2 = 0  
**END IF**

Dyspnea: Minimal to no exertion

```
IF (M1400_WHEN_DYSPNEIC[1] = 03 OR M1400_WHEN_DYSPNEIC[1] = 04)
THEN
    DYS34 = 1
ELSE
    DYS34 = 0
END IF
```

## 12. Urinary Status

Urinary incontinence/catheter: None

```
IF M1610_UR_INCONT[1] = 00
THEN
    URINCONT_NONE = 1
ELSE
    URINCONT_NONE = 0
END IF
```

Urinary incontinence/catheter: Incontinent

```
IF M1610_UR_INCONT[1] = 01
THEN
    URINCONT_INCONT = 1
ELSE
    URINCONT_INCONT = 0
END IF
```

Urinary incontinence/catheter: Catheter

```
IF M1610_UR_INCONT[1] = 02
THEN
    URINCONT_CATH = 1
ELSE
    URINCONT_CATH = 0
END IF
```

## 13. Bowel Incontinence

Bowel incontinence Frequency: Never or Very Rare

```
IF M1620_BWL_INCONT[1] = 00 OR M1620_BWL_INCONT[1] = UK
THEN
    BWL_NONE_UK = 1
ELSE
    BWL_NONE_UK = 0
END IF
```

Bowel incontinence Frequency: Less than once a week

```
IF M1620_BWL_INCONT[1] = 01
```

**THEN**  
    BWL\_FR1 = 1  
**ELSE**  
    BWL\_FR1 = 0  
**END IF**

*Bowel incontinence Frequency: One to Three times a week*

**IF** M1620\_BWL\_INCONT[1] = 02

**THEN**  
    BWL\_FR2 = 1  
**ELSE**  
    BWL\_FR2 = 0  
**END IF**

*Bowel incontinence Frequency: Four to six times a week or more*

**IF** M1620\_BWL\_INCONT[1] = 03 **OR** M1620\_BWL\_INCONT[1] = 04 **OR** M1620\_INCONT[1] = 05

**THEN**  
    BWL\_FR345 = 1  
**ELSE**  
    BWL\_FR345 = 0  
**END IF**

*Bowel incontinence Frequency: Ostomy for bowel elimination*

**IF** M1620\_BWL\_INCONT[1] = NA

**THEN**  
    BWL\_OSTOMY = 1  
**ELSE**  
    BWL\_OSTOMY = 0  
**END IF**

## **14. Cognitive function**

*Cognitive Functioning: Alert and focused*

**IF** M1700\_COG\_FUNCTION[1] = 00

**THEN**  
    COGN0 = 1  
**ELSE**  
    COGN0 = 0  
**END IF**

*Cognitive Functioning: Requires prompting under stress*

**IF** M1700\_COG\_FUNCTION[1] = 01

**THEN**  
    COGN1 = 1  
**ELSE**  
    COGN1 = 0  
**END IF**

Cognitive Functioning: Requires assist in special circumstances

IF M1700\_COG\_FUNCTION[1] = 02

THEN

COGN2 = 1

ELSE

COGN2 = 0

END IF

Cognitive Functioning: Requires considerable assist/totally dependent

IF M1700\_COG\_FUNCTION[1] = 03 OR M1700\_COG\_FUNCTION[1] = 04

THEN

COGN34 = 1

ELSE

COGN34 = 0

END IF

## 15. Confusion

Confused: Never

IF M1710\_WHEN\_CONFUSED[1] = 0 OR M1710\_WHEN\_CONFUSED[1] = NA

THEN

CONF0 = 1

ELSE

CONF0 = 0

END IF

Confused: In new or complex situations

IF M1710\_WHEN\_CONFUSED[1] = 01

THEN

CONF1 = 1

ELSE

CONF1 = 0

END IF

Confused: Sometimes

IF M1710\_WHEN\_CONFUSED[1] = 02 OR M1710\_WHEN\_CONFUSED[1] = 03

THEN

CONF23 = 1

ELSE

CONF23 = 0

END IF

Confused: Constantly

IF M1710\_WHEN\_CONFUSED[1] = 04

THEN

CONF4 = 1

```
ELSE
    CONF4 = 0
END IF
```

## 16. Anxiety

*Anxiety: None of the time*

```
IF M1720_WHEN_ANXIOUS[1] = 00 OR M1720_WHEN_ANXIOUS[1] = NA
THEN
    ANX0 = 1
ELSE
    ANX0 = 0
END IF
```

*Anxiety: Less often than daily*

```
IF M1720_WHEN_ANXIOUS[1] = 01
THEN
    ANX1 = 1
ELSE
    ANX1 = 0
END IF
```

*Anxiety: Daily, but not constantly*

```
IF M1720_WHEN_ANXIOUS[1] = 02
THEN
    ANX2 = 1
ELSE
    ANX2 = 0
END IF
```

*Anxiety: All of the time*

```
IF M1720_WHEN_ANXIOUS[1] = 03
THEN
    ANX3 = 1
ELSE
    ANX3 = 0
END IF
```

## 17. Depression Screening (PHQ-2 Score)

*Set PHQ-2 scores to missing value for episodes without PHQ-2 Screenings*

```
IF M1730_STDZ_DPRSN_SCRNG[1] = 00 OR M1730_STDZ_DPRSN_SCRNG[1] = 02 OR
M1730_STDZ_DPRSN_SCRNG[1] = 03
THEN
    M1730_PHQ2_LACK_INTRST[1] = .
    M1730_PHQ2_DPRSN[1] = .
END IF
```

No PHQ-2 Screen or Unable to Respond

**IF** M1730\_STDZ\_DPRSN\_SCRNG[1] = 00 **OR** (M1730\_STDZ\_DPRSN\_SCRNG[1] = 01 **AND**  
(M1730\_PHQ2\_LACK\_INTRST[1] = NA **OR** M1730\_PHQ2\_DPRSN[1] = NA)

**THEN**

PHQ2\_NA = 1

**ELSE**

PHQ2\_NA = 0

**END IF**

PHQ-2 Score: 3-6

**IF** PHQ2\_NA = 1

**THEN**

PHQ2\_SCOR\_3PLUS = 0

**ELSE**

**IF** (VAL(M1730\_PHQ2\_DPRSN[1]) + VAL(M1730\_PHQ2\_LACK\_INTRST [1])) >= 3 **OR**  
M1730\_STDZ\_DPRSN\_SCRNG = 2

**THEN**

PHQ2\_SCOR\_3PLUS = 1

**ELSE**

PHQ2\_SCOR\_3PLUS = 0

**END IF**

**END IF**

PHQ-2 Score: 1 or 2

**IF** PHQ2\_NA = 1

**THEN**

PHQ2\_SCOR\_12 = 0

**ELSE**

**IF** (VAL(M1730\_PHQ2\_DPRSN[1]) + VAL(M1730\_PHQ2\_LACK\_INTRST [1])) = 1 **OR**  
(VAL(M1730\_PHQ2\_DPRSN[1]) + VAL(M1730\_PHQ2\_LACK\_INTRST [1])) = 2

**THEN**

PHQ2\_SCOR\_12 = 1

**ELSE**

PHQ2\_SCOR\_12 = 0

**END IF**

**END IF**

PHQ-2 Score: 0 or alt screen does not indicate further evaluation

**IF** PHQ2\_NA = 1

**THEN**

PHQ2\_SCOR\_0 = 0

**ELSE**

**IF** (VAL(M1730\_PHQ2\_DPRSN[1]) + VAL(M1730\_PHQ2\_LACK\_INTRST [1])) = 0 **OR**  
M1730\_STDZ\_DPRSN\_SCRNG[1] = 03

**THEN**

PHQ2\_SCOR\_0 = 1

**ELSE**

```
                PHQ2_SCOR_0 = 0
            END IF
    END IF
```

## 18. Behavioral Symptoms

### Behavioral: None

```
IF M1740_BD_NONE[1] = 01
THEN
    BEHAV_NONE = 1
ELSE
    BEHAV_NONE = 0
END IF
```

### Behavioral: Memory Deficit

```
IF M1740_BD_MEM_DEFICIT[1] = 01
THEN
    BEHAV_MEM_DEFICIT = 1
ELSE
    BEHAV_MEM_DEFICIT = 0
END IF
```

### Behavioral: Impaired decision making

```
IF M1740_BD_IMP_DECISN[1] = 01
THEN
    BEHAV_IMPR_DECISN = 1
ELSE
    BEHAV_IMPR_DECISN = 0
END IF
```

### Behavioral: Verbally disruptive, physical aggression, disruptive, or delusional

```
IF M1740_BD_VERBAL[1] = 01 OR M1740_BD_PHYSICAL[1] = 01 OR
M1740_BD_SOC_INAPPRO[1] = 01 OR M1740_BD_DELUSIONS[1] = 01
THEN
    BEHAV_OTHR = 1
ELSE
    BEHAV_OTHR = 0
END IF
```

## 19. Disruptive Behavior Frequency

### Frequency of Disruptive Behavior: Never

```
IF M1745_BEH_PROB_FREQ[1] = 00
THEN
    BEHPFR0 = 1
ELSE
    BEHPFR0 = 0
```

**END IF**

Frequency of Disruptive Behavior: Once a month or less

**IF** M1745\_BEH\_PROB\_FREQ[1] = 01 **OR** M1745\_BEH\_PROB\_FREQ[1] = 02

**THEN**

BEHPFR12 = 1

**ELSE**

BEHPFR12 = 0

**END IF**

Frequency of Disruptive Behavior: Several times a month

**IF** M1745\_BEH\_PROB\_FREQ[1] = 03

**THEN**

BEHPFR3 = 1

**ELSE**

BEHPFR3 = 0

**END IF**

Frequency of Disruptive Behavior: Several times a week

**IF** M1745\_BEH\_PROB\_FREQ[1] = 4

**THEN**

BEHPFR4 = 1

**ELSE**

BEHPFR4 = 0

**END IF**

Frequency of Disruptive Behavior: At least once daily

**IF** M1745\_BEH\_PROB\_FREQ[1] = 5

**THEN**

BEHPFR5 = 1

**ELSE**

BEHPFR5 = 0

**END IF**

## **20. Grooming**

Grooming: Able to groom self unaided

**IF** M1800\_CRNT\_GROOMING[1] = 00

**THEN**

GROOM0 = 1

**ELSE**

GROOM0 = 0

**END IF**

Grooming: Grooming utensils must be placed within reach

**IF** M1800\_CRNT\_GROOMING[1] = 01

**THEN**

GROOM1 = 1

**ELSE**  
GROOM1 = 0  
**END IF**

Grooming: Assistance needed  
**IF** M1800\_CRNT\_GROOMING[1] = 02  
**THEN**  
GROOM2 = 1  
**ELSE**  
GROOM2 = 0  
**END IF**

Grooming: Entirely dependent upon someone else  
**IF** M1800\_CRNT\_GROOMING[1] = 03  
**THEN**  
GROOM3 = 1  
**ELSE**  
GROOM3 = 0  
**END IF**

## **21. Upper Body Dressing**

Ability to Dress Upper Body: No help needed  
**IF** M1810\_CRNT\_DRESS\_UPPER[1] = 00  
**THEN**  
UPPER0 = 1  
**ELSE**  
UPPER0 = 0  
**END IF**

Ability to Dress Upper Body: Needs clothing laid out  
**IF** M1810\_CRNT\_DRESS\_UPPER[1] = 01  
**THEN**  
UPPER1 = 1  
**ELSE**  
UPPER1 = 0  
**END IF**

Ability to Dress Upper Body: Needs assistance needed putting on clothing  
**IF** M1810\_CRNT\_DRESS\_UPPER[1] = 02  
**THEN**  
UPPER2 = 1  
**ELSE**  
UPPER2 = 0  
**END IF**

Ability to Dress Upper Body: Entirely dependent upon someone else

```
IF M1810_CRNT_DRESS_UPPER[1] = 03
THEN
    UPPER3 = 1
ELSE
    UPPER3 = 0
END IF
```

## 22. Lower Body Dressing

Ability to Dress Lower Body: No help needed

```
IF M1820_CRNT_DRESS_LOWER[1] = 00
THEN
    LOWER0 = 1
ELSE
    LOWER0 = 0
END IF
```

Ability to Dress Lower Body: Needs clothing/shoes laid out

```
IF M1820_CRNT_DRESS_LOWER[1] = 01
THEN
    LOWER1 = 1
ELSE
    LOWER1 = 0
END IF
```

Ability to Dress Lower Body: Assist needed putting on clothing

```
IF M1820_CRNT_DRESS_LOWER[1] = 02
THEN
    LOWER2 = 1
ELSE
    LOWER2 = 0
END IF
```

Ability to Dress Lower Body: Entirely dependent upon someone else

```
IF M1820_CRNT_DRESS_LOWER[1] = 03
THEN
    LOWER3 = 1
ELSE
    LOWER3 = 0
END IF
```

## 23. Bathing

Bathing: Independently in shower/tub

```
IF M1830_CRNT_BATHING[1] = 00
THEN
    BATH0 = 1
```

**ELSE**  
    BATH0 = 0  
**END IF**

*Bathing: With the use of devices in shower/tub*

**IF** M1830\_CRNT\_BATHING[1] = 01  
**THEN**  
    BATH1 = 1  
**ELSE**  
    BATH1 = 0  
**END IF**

*Bathing: With intermittent assistance in shower/tub*

**IF** M1830\_CRNT\_BATHING[1] = 02  
**THEN**  
    BATH2 = 1  
**ELSE**  
    BATH2 = 0  
**END IF**

*Bathing: Participates with supervision in shower/tub*

**IF** M1830\_CRNT\_BATHING[1] = 03  
**THEN**  
    BATH3 = 1  
**ELSE**  
    BATH3 = 0  
**END IF**

*Bathing: Independent at sink, in chair, or on commode*

**IF** M1830\_CRNT\_BATHING[1] = 04  
**THEN**  
    BATH4 = 1  
**ELSE**  
    BATH4 = 0  
**END IF**

*Bathing: Participates with assist at sink, in char, or commode*

**IF** M1830\_CRNT\_BATHING[1] = 05  
**THEN**  
    BATH5 = 1  
**ELSE**  
    BATH5 = 0  
**END IF**

*Bathing: Unable to participate; bathed totally by another*

**IF** M1830\_CRNT\_BATHING[1] = 06  
**THEN**  
    BATH6 = 1

**ELSE**  
    BATH6 = 0  
**END IF**

## 24. Toilet Transferring

Toilet Transferring: No assistance needed

**IF** M1840\_CRNT\_TOILTG[1] = 00  
**THEN**  
    TLTTRN0 = 1  
**ELSE**  
    TLTTRN0 = 0  
**END IF**

Toilet Transferring: To/from/on/off toilet with human assist

**IF** M1840\_CRNT\_TOILTG[1] = 01  
**THEN**  
    TLTTRN1 = 1  
**ELSE**  
    TLTTRN1 = 0  
**END IF**

Toilet Transferring: Able to self-transfer to bedside commode

**IF** M1840\_CRNT\_TOILTG[1] = 02  
**THEN**  
    TLTTRN2 = 1  
**ELSE**  
    TLTTRN2 = 0  
**END IF**

Toilet Transferring: Unable to transfer to/from toilet or commode

**IF** M1840\_CRNT\_TOILTG[1] = 03 **OR** M1840\_CRNT\_TOILTG[1] = 04  
**THEN**  
    TLTTRN34 = 1  
**ELSE**  
    TLTTRN34 = 0  
**END IF**

## 25. Toilet Hygiene

Toilet Hygiene Assistance: None needed

**IF** M1845\_CRNT\_TOILTG\_HYGN[1] = 00  
**THEN**  
    TLTHYG0 = 1  
**ELSE**  
    TLTHYG0 = 0  
**END IF**

Toilet Hygiene Assistance: Needs supplies laid out

```
IF M1845_CRNT_TOILTG_HYGN[1] = 01
THEN
    TLTHYG1 = 1
ELSE
    TLTHYG1 = 0
END IF
```

Toilet Hygiene Assistance: Needs assistance

```
IF M1845_CRNT_TOILTG_HYGN[1] = 02
THEN
    TLTHYG2 = 1
ELSE
    TLTHYG2 = 0
END IF
```

Toilet Hygiene Assistance:

```
IF M1845_CRNT_TOILTG_HYGN[1] = 03
THEN
    TLTHYG3 = 1
ELSE
    TLTHYG3 = 0
END IF
```

## 26. Transferring

Transferring: No assistance needed

```
IF M1850_CRNT_TRNSFRNG[1] = 00
THEN
    TRNFRO = 1
ELSE
    TRNFRO = 0
END IF
```

Transferring: With minimal human assist or with device

```
IF M1850_CRNT_TRNSFRNG[1] = 01
THEN
    TRNFR1 = 1
ELSE
    TRNFR1 = 0
END IF
```

Transferring: Bears weight and pivots only

```
IF M1850_CRNT_TRNSFRNG[1] = 02
THEN
    TRNFR2 = 1
```

**ELSE**  
    TRNFR2 = 0  
**END IF**

*Transferring: Unable or bedfast*

**IF** M1850\_CRNT\_TRNSFRNG[1] = 03 **OR** M1850\_CRNT\_TRNSFRNG[1] = 04 **OR**  
M1850\_CRNT\_TRNSFRNG[1] = 05  
**THEN**  
    TRNFR345 = 1  
**ELSE**  
    TRNFR345 = 0  
**END IF**

## **27. Ambulation**

*Ambulation/Locomotion: Walk Independently*

**IF** M1860\_CUR\_AMBLTN[1] = 00  
**THEN**  
    AMB0 = 1  
**ELSE**  
    AMB0 = 0  
**END IF**

*Ambulation/Locomotion: One-handed device on all surfaces*

**IF** M1860\_CUR\_AMBLTN[1] = 01  
**THEN**  
    AMB1 = 1  
**ELSE**  
    AMB1 = 0  
**END IF**

*Ambulation/Locomotion: Two-handed device/human assist on steps*

**IF** M1860\_CUR\_AMBLTN[1] = 02  
**THEN**  
    AMB2 = 1  
**ELSE**  
    AMB2 = 0  
**END IF**

*Ambulation/Locomotion: Walks only with supervision or assist*

**IF** M1860\_CUR\_AMBLTN[1] = 03  
**THEN**  
    AMB3 = 1  
**ELSE**  
    AMB3 = 0  
**END IF**

Ambulation/Locomotion: Chairfast or bedfast

```
IF M1860_CUR_AMBLTN[1] = 04 OR M1860_CUR_AMBLTN[1] = 05 OR M1860_CUR_AMBLTN[1] = 06
THEN
    AMB456 = 1
ELSE
    AMB456 = 0
END IF
```

## 28. Feeding or Eating

Eating: Independent

```
IF M1870_CRNT_FEEDING[1] = 0
THEN
    EAT0 = 1
ELSE
    EAT0 = 0
END IF
```

Eating: Requires set up, intermittent assist or modified consistency

```
IF M1870_CRNT_FEEDING[1] = 1
THEN
    EAT1 = 1
ELSE
    EAT1 = 0
END IF
```

Eating: Unable to feed self and must be assisted throughout meal

```
IF M1870_CRNT_FEEDING[1] = 2
THEN
    EAT2 = 1
ELSE
    EAT2 = 0
END IF
```

Eating: Requires tube feedings, or no nutrients orally or via tube

```
IF M1870_CRNT_FEEDING[1] = 03 OR M1870_CRNT_FEEDING[1] = 04 OR M1870_CRNT_FEEDING[1] = 05
THEN
    EAT345 = 1
ELSE
    EAT345 = 0
END IF
```

## 29. Oral Medication Management

Management of Oral Meds: Independent

```
IF M2020_CRNT_MGMT_ORAL_MDCTN[1] = 00
M2020_CRNT_MGMT_ORAL_MDCTN[1] = NA OR
```

```
M2020_CRNT_MGMT_ORAL_MDCTN[1] = ^ OR
M2020_CRNT_MGMT_ORAL_MDCTN[1] = MISSING
THEN
    ORMED0 = 1
ELSE
    ORMED0 = 0
END IF
```

Management of Oral Meds: Advance dose prep/chart needed

```
IF M2020_CRNT_MGMT_ORAL_MDCTN[1] = 01
THEN
    ORMED1 = 1
ELSE
    ORMED1 = 0
END IF
```

Management of Oral Meds: Reminders needed

```
IF M2020_CRNT_MGMT_ORAL_MDCTN[1] = 02
THEN
    ORMED2 = 1
ELSE
    ORMED2 = 0
END IF
```

Management of Oral Meds: Unable

```
IF M2020_CRNT_MGMT_ORAL_MDCTN[1] = 03
THEN
    ORMED3 = 1
ELSE
    ORMED3 = 0
END IF
```

### 30. Supervision and Safety Assistance

None needed

```
IF M2102_CARE_TYPE_SRC_SPRVSN[1] = 00
THEN
    SPRVSN_NONE_NEEDED = 1
ELSE
    SPRVSN_NONE_NEEDED = 0
END IF
```

Caregiver currently provides

```
IF M2102_CARE_TYPE_SRC_SPRVSN[1] = 01
THEN
    SPRVSN_CG_PROVIDES = 1
ELSE
```

SPRVSN\_CG\_PROVIDES = 0  
**END IF**

Caregiver training needed

**IF** M2102\_CARE\_TYPE\_SRC\_SPRVSN[1] = 02  
**THEN**  
    SPRVSN\_NEED\_TRAINING = 1  
**ELSE**  
    SPRVSN\_NEED\_TRAINING = 0  
**END IF**

Uncertain/unlikely to be provided

**IF** M2102\_CARE\_TYPE\_SRC\_SPRVSN[1] = 03 **OR** M2102\_CARE\_TYPE\_SRC\_SPRVSN[1] = 04 **OR**  
M2102\_CARE\_TYPE\_SRC\_SPRVSN[1] = MISSING  
**THEN**  
    SPRVSN\_CG\_UNCERTAIN\_NONE = 1  
**ELSE**  
    SPRVSN\_CG\_UNCERTAIN\_NONE = 0  
**END IF**

## 31. Home Care Diagnoses

*Note: Several intermediate variables are calculated for use in the calculation of these measures.*

HC\_DIAG1 = M1021\_PRIMARY\_DIAG\_ICD[1]  
HC\_DIAG2 = M1023\_OTH\_DIAG1\_ICD[1]  
HC\_DIAG3 = M1023\_OTH\_DIAG2\_ICD[1]  
HC\_DIAG4 = M1023\_OTH\_DIAG3\_ICD [1]  
HC\_DIAG5 = M1023\_OTH\_DIAG4\_ICD[1]  
HC\_DIAG6 = M1023\_OTH\_DIAG5\_ICD[1]

Infections/parasitic diseases (%)

**IF** (HC\_DIAG1 >= "A00" and HC\_DIAG1 <= "B99") **OR** (HC\_DIAG2 >= "A00" and HC\_DIAG2 <= "B99") **OR**  
(HC\_DIAG3 >= "A00" and HC\_DIAG3 <= "B99") **OR** (HC\_DIAG4 >= "A00" and HC\_DIAG4 <= "B99") **OR**  
(HC\_DIAG5 >= "A00" and HC\_DIAG5 <= "B99") **OR** (HC\_DIAG6 >= "A00" and HC\_DIAG6 <= "B99")  
**THEN**  
    HC\_DX\_INFECT = 1  
**ELSE**  
    HC\_DX\_INFECT = 0  
**END IF**

Neoplasms (%)

**IF** (HC\_DIAG1 >= "C00" and HC\_DIAG1 <= "D49") **OR** (HC\_DIAG2 >= "C00" and HC\_DIAG2 <= "D49") **OR**  
(HC\_DIAG3 >= "C00" and HC\_DIAG3 <= "D49") **OR** (HC\_DIAG4 >= "C00" and HC\_DIAG4 <= "D49") **OR**  
(HC\_DIAG5 >= "C00" and HC\_DIAG5 <= "D49") **OR** (HC\_DIAG6 >= "C00" and HC\_DIAG6 <= "D49")  
**THEN**  
    HC\_DX\_NEOPLASM = 1

**ELSE**  
    HC\_DX\_NEOPLASM = 0  
**END IF**

Endocrine/nutrit./metabolic (%)

**IF** (HC\_DIAG1 >= "E00" and HC\_DIAG1 <= "E89") **OR** (HC\_DIAG2 >= "E00" and HC\_DIAG2 <= "E89") **OR**  
(HC\_DIAG3 >= "E00" and HC\_DIAG3 <= "E89") **OR** (HC\_DIAG4 >= "E00" and HC\_DIAG4 <= "E89") **OR**  
(HC\_DIAG5 >= "E00" and HC\_DIAG5 <= "E89") **OR** (HC\_DIAG6 >= "E00" and HC\_DIAG6 <= "E89")

**THEN**  
    HC\_DX\_ENDOCRINE = 1

**ELSE**  
    HC\_DX\_ENDOCRINE = 0

**END IF**

Blood diseases (%)

**IF** (HC\_DIAG1 >= "D50" and HC\_DIAG1 <= "D89") **OR** (HC\_DIAG2 >= "D50" and HC\_DIAG2 <= "D89") **OR**  
(HC\_DIAG3 >= "D50" and HC\_DIAG3 <= "D89") **OR** (HC\_DIAG4 >= "D50" and HC\_DIAG4 <= "D89") **OR**  
(HC\_DIAG5 >= "D50" and HC\_DIAG5 <= "D89") **OR** (HC\_DIAG6 >= "D50" and HC\_DIAG6 <= "D89")

**THEN**  
    HC\_DX\_BLOOD = 1

**ELSE**  
    HC\_DX\_BLOOD = 0

**END IF**

Mental diseases (%)

**IF** (HC\_DIAG1 >= "F01" and HC\_DIAG1 <= "F99") **OR** (HC\_DIAG2 >= "F01" and HC\_DIAG2 <= "F99") **OR**  
(HC\_DIAG3 >= "F01" and HC\_DIAG3 <= "F99") **OR** (HC\_DIAG4 >= "F01" and HC\_DIAG4 <= "F99") **OR**  
(HC\_DIAG5 >= "F01" and HC\_DIAG5 <= "F99") **OR** (HC\_DIAG6 >= "F01" and HC\_DIAG6 <= "F99")

**THEN**  
    HC\_DX\_MENTAL = 1

**ELSE**  
    HC\_DX\_MENTAL = 0

**END IF**

Nervous system diseases (%)

**IF** (HC\_DIAG1 >= "G00" and HC\_DIAG1 <= "G99") **OR** (HC\_DIAG2 >= "G00" and HC\_DIAG2 <= "G99") **OR**  
(HC\_DIAG3 >= "G00" and HC\_DIAG3 <= "G99") **OR** (HC\_DIAG4 >= "G00" and HC\_DIAG4 <= "G99") **OR**  
(HC\_DIAG5 >= "G00" and HC\_DIAG5 <= "G99") **OR** (HC\_DIAG6 >= "G00" and HC\_DIAG6 <= "G99")

**THEN**  
    HC\_DX\_NERVOUS = 1

**ELSE**  
    HC\_DX\_NERVOUS = 0

**END IF**

Diseases of the eye (%)

**IF** (HC\_DIAG1 >= "H00" and HC\_DIAG1 <= "H59") **OR** (HC\_DIAG2 >= "H00" and HC\_DIAG2 <= "H59") **OR**  
(HC\_DIAG3 >= "H00" and HC\_DIAG3 <= "H59") **OR** (HC\_DIAG4 >= "H00" and HC\_DIAG4 <= "H59") **OR**  
(HC\_DIAG5 >= "H00" and HC\_DIAG5 <= "H59") **OR** (HC\_DIAG6 >= "H00" and HC\_DIAG6 <= "H59")

**THEN**

HC\_DX\_EYE = 1

**ELSE**

HC\_DX\_EYE = 0

**END IF**

Diseases of the ear (%)

**IF** (HC\_DIAG1 >= "H60" and HC\_DIAG1 <= "H95") **OR** (HC\_DIAG2 >= "H60" and HC\_DIAG2 <= "H95") **OR**  
(HC\_DIAG3 >= "H60" and HC\_DIAG3 <= "H95") **OR** (HC\_DIAG4 >= "H60" and HC\_DIAG4 <= "H95") **OR**  
(HC\_DIAG5 >= "H60" and HC\_DIAG5 <= "H95") **OR** (HC\_DIAG6 >= "H60" and HC\_DIAG6 <= "H95")

**THEN**

HC\_DX\_EAR = 1

**ELSE**

HC\_DX\_EAR = 0

**END IF**

Circulatory system diseases (%)

**IF** (HC\_DIAG1 >= "I00" and HC\_DIAG1 <= "I99") **OR** (HC\_DIAG2 >= "I00" and HC\_DIAG2 <= "I99") **OR**  
(HC\_DIAG3 >= "I00" and HC\_DIAG3 <= "I99") **OR** (HC\_DIAG4 >= "I00" and HC\_DIAG4 <= "I99") **OR**  
(HC\_DIAG5 >= "I00" and HC\_DIAG5 <= "I99") **OR** (HC\_DIAG6 >= "I00" and HC\_DIAG6 <= "I99")

**THEN**

HC\_DX\_CIRCULATORY = 1

**ELSE**

HC\_DX\_CIRCULATORY = 0

**END IF**

Respiratory system diseases (%)

**IF** (HC\_DIAG1 >= "J00" and HC\_DIAG1 <= "J99") **OR** (HC\_DIAG2 >= "J00" and HC\_DIAG2 <= "J99") **OR**  
(HC\_DIAG3 >= "J00" and HC\_DIAG3 <= "J99") **OR** (HC\_DIAG4 >= "J00" and HC\_DIAG4 <= "J99") **OR**  
(HC\_DIAG5 >= "J00" and HC\_DIAG5 <= "J99") **OR** (HC\_DIAG6 >= "J00" and HC\_DIAG6 <= "J99")

**THEN**

HC\_DX\_RESPIRATORY = 1

**ELSE**

HC\_DX\_RESPIRATORY = 0

**END IF**

Digestive system diseases (%)

**IF** (HC\_DIAG1 >= "K00" and HC\_DIAG1 <= "K95") **OR** (HC\_DIAG2 >= "K00" and HC\_DIAG2 <= "K95") **OR**  
(HC\_DIAG3 >= "K00" and HC\_DIAG3 <= "K95") **OR** (HC\_DIAG4 >= "K00" and HC\_DIAG4 <= "K95") **OR**  
(HC\_DIAG5 >= "K00" and HC\_DIAG5 <= "K95") **OR** (HC\_DIAG6 >= "K00" and HC\_DIAG6 <= "K95")

**THEN**

HC\_DX\_DIGESTIVE = 1

**ELSE**

HC\_DX\_DIGESTIVE = 0

**END IF**

*Skin/subcutaneous diseases (%)*

**IF** (HC\_DIAG1 >= "L00" and HC\_DIAG1 <= "L99") **OR** (HC\_DIAG2 >= "L00" and HC\_DIAG2 <= "L99") **OR**  
(HC\_DIAG3 >= "L00" and HC\_DIAG3 <= "L99") **OR** (HC\_DIAG4 >= "L00" and HC\_DIAG4 <= "L99") **OR**  
(HC\_DIAG5 >= "L00" and HC\_DIAG5 <= "L99") **OR** (HC\_DIAG6 >= "L00" and HC\_DIAG6 <= "L99")

**THEN**

HC\_DX\_SKIN = 1

**ELSE**

HC\_DX\_SKIN = 0

**END IF**

*Musculoskeletal sys. diseases (%)*

**IF** (HC\_DIAG1 >= "M00" and HC\_DIAG1 <= "M99") **OR** (HC\_DIAG2 >= "M00" and HC\_DIAG2 <= "M99") **OR**  
(HC\_DIAG3 >= "M00" and HC\_DIAG3 <= "M99") **OR** (HC\_DIAG4 >= "M00" and HC\_DIAG4 <= "M99") **OR**  
(HC\_DIAG5 >= "M00" and HC\_DIAG5 <= "M99") **OR** (HC\_DIAG6 >= "M00" and HC\_DIAG6 <= "M99")

**THEN**

HC\_DX\_MUSCL\_SKEL = 1

**ELSE**

HC\_DX\_MUSCL\_SKEL = 0

**END IF**

*Genitourinary diseases (%)*

**IF** (HC\_DIAG1 >= "N00" and HC\_DIAG1 <= "N99") **OR** (HC\_DIAG2 >= "N00" and HC\_DIAG2 <= "N99") **OR**  
(HC\_DIAG3 >= "N00" and HC\_DIAG3 <= "N99") **OR** (HC\_DIAG4 >= "N00" and HC\_DIAG4 <= "N99") **OR**  
(HC\_DIAG5 >= "N00" and HC\_DIAG5 <= "N99") **OR** (HC\_DIAG6 >= "N00" and HC\_DIAG6 <= "N99")

**THEN**

HC\_DX\_GEN\_URINARY = 1

**ELSE**

HC\_DX\_GEN\_URINARY = 0

**END IF**

*Symptoms, signs, abnormal findings (%)*

**IF** (HC\_DIAG1 >= "R00" and HC\_DIAG1 <= "R99") **OR** (HC\_DIAG2 >= "R00" and HC\_DIAG2 <= "R99") **OR**  
(HC\_DIAG3 >= "R00" and HC\_DIAG3 <= "R99") **OR** (HC\_DIAG4 >= "R00" and HC\_DIAG4 <= "R99") **OR**  
(HC\_DIAG5 >= "R00" and HC\_DIAG5 <= "R99") **OR** (HC\_DIAG6 >= "R00" and HC\_DIAG6 <= "R99")

**THEN**

HC\_DX\_INT\_ABNORM = 1

**ELSE**

HC\_DX\_INT\_ABNORM = 0

*Injury, poisoning, other external causes (%)*

**IF** (HC\_DIAG1 >= "S00" and HC\_DIAG1 <= "T88") **OR** (HC\_DIAG2 >= "S00" and HC\_DIAG2 <= "T88") **OR**  
(HC\_DIAG3 >= "S00" and HC\_DIAG3 <= "T88") **OR** (HC\_DIAG4 >= "S00" and HC\_DIAG4 <= "T88") **OR**  
(HC\_DIAG5 >= "S00" and HC\_DIAG5 <= "T88") **OR** (HC\_DIAG6 >= "S00" and HC\_DIAG6 <= "T88")

**THEN**

HC\_DX\_EXT\_INJURY = 1

**ELSE**

HC\_DX\_EXT\_INJURY = 0  
**END IF**

External causes of morbidity (%)

**IF** (HC\_DIAG1 >= "V00" and HC\_DIAG1 <= "Y99") **OR** (HC\_DIAG2 >= "V00" and HC\_DIAG2 <= "Y99") **OR**  
(HC\_DIAG3 >= "V00" and HC\_DIAG3 <= "Y99") **OR** (HC\_DIAG4 >= "V00" and HC\_DIAG4 <= "Y99") **OR**  
(HC\_DIAG5 >= "V00" and HC\_DIAG5 <= "Y99") **OR** (HC\_DIAG6 >= "V00" and HC\_DIAG6 <= "Y99")

**THEN**

HC\_DX\_EXT\_MORB = 1

**ELSE**

HC\_DX\_EXT\_MORB = 0

**END IF**

Influences of health status (%)

**IF** (HC\_DIAG1 >= "Z00" and HC\_DIAG1 <= "Z99") **OR** (HC\_DIAG2 >= "Z00" and HC\_DIAG2 <= "Z99") **OR**  
(HC\_DIAG3 >= "Z00" and HC\_DIAG3 <= "Z99") **OR** (HC\_DIAG4 >= "Z00" and HC\_DIAG4 <= "Z99") **OR**  
(HC\_DIAG5 >= "Z00" and HC\_DIAG5 <= "Z99") **OR** (HC\_DIAG6 >= "Z00" and HC\_DIAG6 <= "Z99")

**THEN**

HC\_DX\_HLTH\_FACTORS = 1

**ELSE**

HC\_DX\_HLTH\_FACTORS = 0

**END IF**

**Appendix Table 1: Description of Risk Factors**

Effective January 1, 2021

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
1	Age	Age: 0-54	Calculated off birth date	M0066	Birth Date	AGE_0_54	
		Age: 55-59	Calculated off birth date	M0066	Birth Date	AGE_55_59	
		Age: 60-64	Calculated off birth date	M0066	Birth Date	AGE_60_64	
		Age: 65-69	Calculated off birth date	M0066	Birth Date	AGE_65_69	Excluded category
		Age: 70-74	Calculated off birth date	M0066	Birth Date	AGE_70_74	
		Age: 75-79	Calculated off birth date	M0066	Birth Date	AGE_75_79	
		Age: 80-84	Calculated off birth date	M0066	Birth Date	AGE_80_84	
		Age: 85-89	Calculated off birth date	M0066	Birth Date	AGE_85_89	
		Age: 90-94	Calculated off birth date	M0066	Birth Date	AGE_90_94	
		Age: 95+	Calculated off birth date	M0066	Birth Date	AGE_95PLUS	
2	Gender	Patient is female	response 2	M0069	Gender	GENDER_FEMALE	Excluded category
		Patient is male	response 1	M0069	Gender	GENDER_MALE	
3	Payment source	Payment source: Medicare FFS only	response 1 & NOT any other response	M0150	Current Payment Sources for Home Care	PAY_MCARE_FFS	Excluded category
		Payment source: Medicare HMO only	response 2 & NOT any other response	M0150	Current Payment Sources for Home Care	PAY_MCARE_HMO	
		Payment source: Medicare and Medicaid	response (1 or 2) & (3 or 4)	M0150	Current Payment Sources for Home Care	PAY_MCAREANDMCAID	
		Payment Source: Medicaid only	response (3 or 4) & NOT any other response	M0150	Current Payment Sources for Home Care	PAY_MCAID_ONLY	
		Payment Source: Other combinations	Not one of the above four categories	M0150	Current Payment Sources for Home Care	PAY_OTHER_COMBO	
4	SOC/ROC and Admission Source	Start of Care and inpatient admission	M0100 = 1 & M1000 = 1, 2, 3, 4, 5, or 6	M0100, M1000	(M0100) Reason for assessment; (M1000) Admission source	SOC_INPT	Excluded category
		Start of Care and community admission	M0100 = 1 & M1000 NOT 1, 2, 3, 4, 5, or 6	M0100, M1000	(M0100) Reason for assessment; (M1000) Admission source	SOC_COMM	
		Resumption of care (after inpatient stay)	M0100=3	M0100	Reason for assessment	ROC	

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
5	Post-acute facility admission source	Discharged from post-acute facility in past 14 days	response 1, 2, 4, 5, or 6	M1000	Inpatient Facilities	INPT_POSTACUTE	
		Not discharged from post-acute facility	NOT response 1, 2, 4, 5, and 6	M1000	Inpatient Facilities	INPT_NOPOSTACUTE	Excluded category
6	Risk of Hospitalization	Risk for Hospitalization: History of falls in past 12 months	response 1	M1033	Risk for Hospitalization	RISK_HSTRY_FALLS	
		Risk for Hospitalization: Unintentional weight loss in past 12 months	response 2	M1033	Risk for Hospitalization	RISK_WEIGHTLOSS	
		Risk for Hospitalization: Multiple hospitalizations in past 6 months	response 3	M1033	Risk for Hospitalization	RISK_MLTPH_HOSPZTN	
		Risk for Hospitalization: Multiple ED visits in past 6 months	response 4	M1033	Risk for Hospitalization	RISK_ED	
		Risk for Hospitalization: Recent mental/emotional decline in past 3 months	response 5	M1033	Risk for Hospitalization	RISK_RCNT_DCLN	
		Risk for Hospitalization: Difficulty complying with medical instruction in past 3 months	response 6	M1033	Risk for Hospitalization	RISK_COMPLY	
		Risk for Hospitalization: Taking five or more medications	response 7	M1033	Risk for Hospitalization	RISK_5PLUS_MDCTN	
		Risk for Hospitalization: Reports exhaustion	response 8	M1033	Risk for Hospitalization	RISK_EXHAUST	
		Risk for Hospitalization: Other unlisted risk factors	response 9	M1033	Risk for Hospitalization	RISK_OTHR	
		None of the above	response 10	M1033	Risk for Hospitalization	RISK_NONE	
7	Availability of Assistance	Around the clock	response 1, 6, or 11	M1100	Patient Living Situation	ASSIST_ARND_CLOCK	
		Regular daytime	response 2, 7, or 12	M1100	Patient Living Situation	ASSIST_REGDAY	
		Regular nighttime	response 3, 8, or 13	M1100	Patient Living Situation	ASSIST_REGNITE	
		Occasional/none	response 4, 5, 9, 10, 14, or 15	M1100	Patient Living Situation	ASSIST_OCC_NONE	Excluded category
		Living Arrangement: Lives alone	response 1, 2, 3, 4, or 5	M1100	Patient Living Situation	LIV_ALONE	

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
		Living Arrangement: Lives with another person	response 6, 7, 8, 9, or 10	M1100	Patient Living Situation	LIV_OTHERS	Excluded category
		Living Arrangement: Lives in congregate situation	response 11, 12, 13, 14, or 15	M1100	Patient Living Situation	LIV_CONGREGATE	
8	Pressure Ulcers	Pressure ulcer: None or Stage I only present	M1306 response 0 & M1322 response 0, 1, 2, 3, or 4	M1306 M1322	At least 1 Stage 2 or unstageable PU? Current number of Stage 1 PUs	PU_NONE_STG1ONLY	Excluded category
		Pressure ulcer: Stage II or higher or unstageable present	response A1 > 0 OR B1 > 0 OR C1 > 0 OR D1>0 OR E1>0 OR F1>0	M1311	Number of PUs at each stage	PU_STG2PLUS_UNSTG	
9	Stasis Ulcer	Stasis Ulcer: None	response 0 or 3	M1330	Does this patient have a Stasis Ulcer?	STAS_ULCR_NONE	Excluded category
		Stasis Ulcer: 1 observable stasis ulcer	response 1	M1332	Number of stasis ulcers	STAS_ULCR_OBS_1	
		Stasis Ulcer: Multiple observable stasis ulcers	response 2,3, or 4	M1332	Number of stasis ulcers	STAS_ULCR_OBS_2PLUS	
10	Surgical Wound	Status of Surgical Wound: None	Not response 0, 1, 2, 3	M1342	Status of Most Problematic Surgical Wound that is Observable	SRG_WND_OBS_NONE	Excluded category
		Status of Surgical Wound: Newly epithelialized	response 0	M1342	Status of Most Problematic Surgical Wound that is Observable	SRG_WND_OBS_EPI	
		Status of Surgical Wound: Fully granulating or early/partial granulation	response 1 or 2	M1342	Status of Most Problematic Surgical Wound that is Observable	SRG_WND_OBS_GRAN	
		Status of Surgical Wound: Not healing	response 3	M1342	Status of Most Problematic Surgical Wound that is Observable	SRG_WND_OBS_NOHEAL	
11	Dyspnea	Dyspnea: Not short of breath	response 0	M1400	When is the patient dyspneic or noticeably Short of Breath?	DYSPO	Excluded category

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
		Dyspnea: Walking more than 20 feet, climbing stairs	response 1	M1400	When is the patient dyspneic or noticeably Short of Breath?	DYSP1	
		Dyspnea: Moderate exertion	response 2	M1400	When is the patient dyspneic or noticeably Short of Breath?	DYSP2	
		Dyspnea: Minimal to no exertion	response 3 or 4	M1400	When is the patient dyspneic or noticeably Short of Breath?	DYSP34	
12	Urinary Status	Urinary incontinence/catheter: None	response 0	M1610	Urinary Incontinence or Urinary Catheter Presence	URINCONT_NONE	Excluded category
		Urinary incontinence/catheter: Incontinent	response 1	M1610	Urinary Incontinence or Urinary Catheter Presence	URINCONT_INCONT	
		Urinary incontinence/catheter: Catheter	response 2	M1610	Urinary Incontinence or Urinary Catheter Presence	URINCONT_CATH	
13	Bowel Incontinence	Bowel Incontinence Frequency: Never or very rare	response 0 and UK	M1620	Bowel Incontinence Frequency	BWL_NONE_UK	Excluded category
		Bowel Incontinence Frequency: Less than once a week	response 1	M1620	Bowel Incontinence Frequency	BWL_FR1	
		Bowel Incontinence Frequency: One to three times a week	response 2	M1620	Bowel Incontinence Frequency	BWL_FR2	
		Bowel Incontinence Frequency: Four to six times a week or more	response 3, 4 or 5	M1620	Bowel Incontinence Frequency	BWL_FR345	
		Bowel Incontinence Frequency: Ostomy for bowel elimination	NA	M1620	Bowel Incontinence Frequency	BWL_OSTOMY	
14	Cognitive function	Cognitive Functioning: Alert and focused	response 0	M1700	Cognitive Functioning	COGN0	Excluded category
		Cognitive Functioning: Requires prompting under stress	response 1	M1700	Cognitive Functioning	COGN1	
		Cognitive Functioning: Requires assist in special circumstances	response 2	M1700	Cognitive Functioning	COGN2	
		Cognitive Function: Requires considerable assist/totally dependent	response 3 or 4	M1700	Cognitive Functioning	COGN34	

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
15	Confusion	Confused: never	response 0 or NA	M1710	When Confused (Reported or Observed Within the Last 14 Days)	CONF0	Excluded category
		Confused: In new or complex situations	response 1	M1710	When Confused (Reported or Observed Within the Last 14 Days)	CONF1	
		Confused: Sometimes	response 2 or 3	M1710	When Confused (Reported or Observed Within the Last 14 Days)	CONF23	
		Confused: Constantly	response 4	M1710	When Confused (Reported or Observed Within the Last 14 Days)	CONF4	
16	Anxiety	Anxiety: None of the time	response 0 or NA	M1720	When Anxious (Reported or Observed Within the Last 14 Days)	ANX0	Excluded category
		Anxiety: Less often than daily	response 1	M1720	When Anxious (Reported or Observed Within the Last 14 Days)	ANX1	
		Anxiety: Daily, but not constantly	response 2	M1720	When Anxious (Reported or Observed Within the Last 14 Days)	ANX2	
		Anxiety: All of the time	response 3	M1720	When Anxious (Reported or Observed Within the Last 14 Days)	ANX3	
17	Depression Screening	PHQ-2 Score: 0	Sum of responses = 0 or alternative screening and does not meet criteria for further evaluation. Need responses for both questions	M1730	Score of PHQ2	PHQ2_SCOR_0	Excluded category
		PHQ-2 Score: 1-2	Sum of responses = 1,2. Need responses for both questions	M1730	Score of PHQ2	PHQ2_SCOR_12	

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
		PHQ-2 Score: 3-6	Sum of responses = 3 or alternative screening and meets criteria for further evaluation. Need responses for both questions	M1730	Score of PHQ2	PHQ2_SCOR_3PLUS	
		PHQ-2 Score: None	No screening or PHQ-2 screening performed but unable to respond on either the depression or the loss of interest field	M1730	Score of PHQ2	PHQ2_NA	
18	Behavioral Symptoms	Behavioral: None	response 7	M1740	Cognitive, behavioral, and psychiatric symptoms that are demonstrated at least once a week (Reported or Observed)	BEHAV_NONE	
		Behavioral: Memory deficit	response 1	M1740	Cognitive, behavioral, and psychiatric symptoms that are demonstrated at least once a week (Reported or Observed)	BEHAV_MEM_DEFICIT	
		Behavioral: Impaired decision making	response 2	M1740	Cognitive, behavioral, and psychiatric symptoms that are demonstrated at least once a week (Reported or Observed)	BEHAV_IMPR_DECISN	
		Behavioral: Verbally disruptive, physical aggression, disruptive, or delusional	response 3, 4, 5 or 6	M1740	Cognitive, behavioral, and psychiatric symptoms that are demonstrated at least once a week (Reported or Observed)	BEHAV_OTHR	
19	Disruptive Behavior Frequency	Frequency of Disruptive Behavior: Never	response 0	M1745	Frequency of Disruptive Behavior Symptoms (Reported or Observed)	BEHPFR0	Excluded category

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
		Frequency of Disruptive Behavior: Once a month or less	response 1 or 2	M1745	Frequency of Disruptive Behavior Symptoms (Reported or Observed)	BEHPFR12	
		Frequency of Disruptive Behavior: Several times a month	response 3	M1745	Frequency of Disruptive Behavior Symptoms (Reported or Observed)	BEHPFR3	
		Frequency of Disruptive Behavior: Several times a week	response 4	M1745	Frequency of Disruptive Behavior Symptoms (Reported or Observed)	BEHPFR4	
		Frequency of Disruptive Behavior: At least once daily	response 5	M1745	Frequency of Disruptive Behavior Symptoms (Reported or Observed)	BEHPFR5	
20	Grooming	Grooming: Able to groom self-unaided	response 0	M1800	Grooming	GROOM0	Excluded category
		Grooming: Grooming utensils must be placed within reach	response 1	M1800	Grooming	GROOM1	
		Grooming: Assistance needed	response 2	M1800	Grooming	GROOM2	
		Grooming: Entirely dependent upon someone else	response 3	M1800	Grooming	GROOM3	
21	Upper Body Dressing	Ability to Dress Upper Body: No help needed	response 0	M1810	Ability to Dress Upper Body	UPPER0	Excluded category
		Ability to Dress Upper Body: Needs clothing laid out	response 1	M1810	Ability to Dress Upper Body	UPPER1	
		Ability to Dress Upper Body: Needs assistance putting on clothing	response 2	M1810	Ability to Dress Upper Body	UPPER2	
		Ability to Dress Upper Body: Entirely dependent upon someone else	response 3	M1810	Ability to Dress Upper Body	UPPER3	
22	Lower Body Dressing	Ability to Dress Lower Body: No help needed	response 0	M1820	Ability to Dress Lower Body	LOWER0	Excluded category
		Ability to Dress Lower Body: Needs clothing/shoes laid out	response 1	M1820	Ability to Dress Lower Body	LOWER1	

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
		Ability to Dress Lower Body: Assist needed putting on clothing	response 2	M1820	Ability to Dress Lower Body	LOWER2	
		Ability to Dress Lower Body: Entirely dependent upon someone else	response 3	M1820	Ability to Dress Lower Body	LOWER3	
23	Bathing	Bathing: Independently in shower/tub	response 0	M1830	Bathing: Excludes grooming (washing face, washing hands, and shampooing hair).	BATH0	Excluded category
		Bathing: With the use of devices in shower/tub	response 1	M1830	Bathing: Excludes grooming (washing face, washing hands, and shampooing hair).	BATH1	
		Bathing: With intermittent assistance in shower/tub	response 2	M1830	Bathing: Excludes grooming (washing face, washing hands, and shampooing hair).	BATH2	
		Bathing: Participates with supervision in shower/tub	response 3	M1830	Bathing: Excludes grooming (washing face, washing hands, and shampooing hair).	BATH3	
		Bathing: Independent at sink, in chair, or on commode	response 4	M1830	Bathing: Excludes grooming (washing face, washing hands, and shampooing hair).	BATH4	
		Bathing: Participates with assist at sink, in chair, or commode	response 5	M1830	Bathing: Excludes grooming (washing face, washing hands, and shampooing hair).	BATH5	
		Bathing: Unable to participate; bathed totally by another	response 6	M1830	Bathing: Excludes grooming (washing face, washing hands, and shampooing hair).	BATH6	

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
24	Toilet Transferring	Toilet Transferring: No assistance needed	response 0	M1840	Toilet Transferring	TLTRN0	Excluded category
		Toilet Transferring: To/from/on/off toilet with human assist	response 1	M1840	Toilet Transferring	TLTRN1	
		Toilet Transferring: Able to self-transfer to bedside commode	response 2	M1840	Toilet Transferring	TLTRN2	
		Toilet Transferring: Unable to transfer to/from toilet or commode	response 3 or 4	M1840	Toilet Transferring	TLTRN34	
25	Toilet Hygiene	Toilet Hygiene Assistance: None needed	response 0	M1845	Toileting Hygiene	TLTHYG0	Excluded category
		Toilet Hygiene Assistance: Needs supplies laid out	response 1	M1845	Toileting Hygiene	TLTHYG1	
		Toilet Hygiene Assistance: Needs assistance	response 2	M1845	Toileting Hygiene	TLTHYG2	
		Toilet Hygiene Assistance: Entirely dependent	response 3	M1845	Toileting Hygiene	TLTHYG3	
26	Transferring	Transferring: No assistance needed	response 0	M1850	Transferring	TRNFR0	Excluded category
		Transferring: With minimal human assist or with device	response 1	M1850	Transferring	TRNFR1	
		Transferring: Bears weight and pivots only	response 2	M1850	Transferring	TRNFR2	
		Transferring: Unable or bedfast	response 3 or 4 or 5	M1850	Transferring	TRNFR345	
27	Ambulation	Ambulation/Locomotion: Walk independently	response 0	M1860	Ambulation/Locomotion	AMB0	Excluded category
		Ambulation/Locomotion: One-handed device on all surfaces	response 1	M1860	Ambulation/Locomotion	AMB1	
		Ambulation/Locomotion: Two-handed device/human assist on steps	response 2	M1860	Ambulation/Locomotion	AMB2	
		Ambulation/Locomotion: Walks only with supervision or assist	response 3	M1860	Ambulation/Locomotion	AMB3	

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
		Ambulation/Locomotion: Chairfast or bedfast	response 4 or 5 or 6	M1860	Ambulation/Locomotion	AMB456	
28	Feeding or Eating	Eating: Independent	response 0	M1870	Feeding or Eating	EAT0	Excluded category
		Eating: Requires set up, intermittent assist or modified consistency	response 1	M1870	Feeding or Eating	EAT1	
		Eating: Unable to feed self and must be assisted throughout meal	response 2	M1870	Feeding or Eating	EAT2	
		Eating: Requires tube feedings, or no nutrients orally or via tube	response 3 or 4 or 5	M1870	Feeding or Eating	EAT345	
29	Oral Medication Management	Management of Oral Meds: Independent	response 0 or NA or missing	M2020	Management of Oral Medications: Excludes injectable and IV medications.	ORMED0	Excluded category
		Management of Oral Meds: Advance dose prep/chart needed	response 1	M2020	Management of Oral Medications: Excludes injectable and IV medications.	ORMED1	
		Management of Oral Meds: Reminders needed	response 2	M2020	Management of Oral Medications: Excludes injectable and IV medications.	ORMED2	
		Management of Oral Meds: Unable	response 3	M2020	Management of Oral Medications: Excludes injectable and IV medications.	ORMED3	
30	Supervision and Safety Assistance	None needed	response 0	M2102	Types and Sources of Assistance	SPRVSN_NONE_NEEDE D	Excluded category
		Caregiver currently provides	response 1	M2102	Types and Sources of Assistance	SPRVSN_CG_PROVIDES	
		Caregiver training needed	response 2	M2102	Types and Sources of Assistance	SPRVSN_NEED_TRAININ G	

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
		Uncertain/unlikely to be provided	response 3 or 4 or missing	M2102	Types and Sources of Assistance	SPRVSN_CG_UNCERTAIN_NONE	
31	Home Care Condition Codes	Certain infectious and parasitic diseases	Any primary or other diagnosis within the range A00 to B99	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_INFECT	
		Neoplasms	Any primary or other diagnosis within the range C00 to D49	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_NEOPLASM	
		Diseases of the blood and blood-forming organs, certain disorders involving	Any primary or other diagnosis within the range D50 to D89	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_BLOOD	
		Endocrine, nutritional, and metabolic diseases	Any primary or other diagnosis within the range E00 to E89	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_ENDOCRINE	
		Mental, Behavioral, and Neurodevelopmental disorders	Any primary or other diagnosis within the range F01 to F99	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_MENTAL	
		Disease of the nervous system	Any primary or other diagnosis within the range G00 to G99	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_NERVOUS	
		Diseases of the eye and adnexa	Any primary or other diagnosis within the range H00 to H59	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_EYE	
		Diseases of the ear and mastoid process	Any primary or other diagnosis within the range H60 to H95	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_EAR	
		Diseases of the circulatory system	Any primary or other diagnosis within the range I00 to I99	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_CIRCULATORY	
		Diseases of the respiratory system	Any primary or other diagnosis within the range J00 to J99	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_RESPIRATORY	

Risk Factor #	Risk Factor	Covariate	Response Notes	OASIS Item	OASIS Item Description	Variable Name	Excluded Category Indicator
		Diseases of the digestive system	Any primary or other diagnosis within the range K00 to K95	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_DIGESTIVE	
		Diseases of the skin and subcutaneous tissue	Any primary or other diagnosis within the range L00 to L99	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_SKIN	
		Diseases of the musculoskeletal system and connective tissue	Any primary or other diagnosis within the range M00 to M99	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_MUSCL_SKEL	
		Diseases of the genitourinary system	Any primary or other diagnosis within the range N00 to N99	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_GEN_URINARY	
		Symptoms, sign, and abnormal clinical and laboratory findings, not elsewhere classified	Any primary or other diagnosis within the range R00 to R99	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_INT_ABNORM	
		Injury, poisoning, and certain other consequences of external causes	Any primary or other diagnosis within the range S00 to T88	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_EXT_INJURY	
		External causes of morbidity	Any primary or other diagnosis within the range V00 to Y99	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_EXT_MORB	
		Factors influencing health status and contact with health services	Any primary or other diagnosis within the range Z00 to Z99	M1021, M1023	(M1021) Primary Diagnosis & (M1023) Other Diagnoses	HC_DX_HLTH_FACTORS	

**Appendix Table 2: Estimated Coefficients**  
Effective January 1, 2021

Risk Factor #	Risk Factor	Covariate #	Covariate Name	Excluded Category Indicator	Ambulation	Bathing	Bed Transfer	Bowel Incont	Confusion	Dyspnea	Lower Dress	Upper Dress	Oral Meds	Toilet Transfer	Discharged to Community	
1	Age	1	AGE_0_54		-0.1562	-0.0740	-0.0869	-0.2049	0.0333	-0.0342	-0.1015	-0.1531	-0.0072	-0.2258	-0.1673	
		2	AGE_55_59		-0.1427	-0.0862	-0.1198	-0.1306	-0.0317	-0.0894	-0.0795	-0.1339	-0.0408	-0.1613	-0.1421	
		3	AGE_60_64		-0.1654	-0.1059	-0.1242	-0.1056	-0.0513	-0.1181	-0.0924	-0.1467	-0.0752	-0.1516	-0.1283	
		4	AGE_65_69	Excluded category												
		5	AGE_70_74		-0.0186	-0.0236	-0.0285	-0.0208	-0.0759	-0.0183	-0.0115	-0.0224	-0.0906	-0.0061	0.0082	
		6	AGE_75_79		-0.0754	-0.0832	-0.0624	-0.0103	-0.1943	-0.0264	-0.0357	-0.0745	-0.2378	-0.0418	0.0081	
		7	AGE_80_84		-0.1684	-0.1705	-0.1398	-0.0276	-0.3214	-0.0214	-0.0777	-0.1315	-0.3843	-0.0923	0.0020	
		8	AGE_85_89		-0.2948	-0.2903	-0.2419	-0.0727	-0.4158	-0.0480	-0.1647	-0.2210	-0.5371	-0.1578	-0.0127	
		9	AGE_90_94		-0.4605	-0.4686	-0.3895	-0.0793	-0.5174	-0.1343	-0.3264	-0.3864	-0.7062	-0.2896	-0.0501	
		10	AGE_95PLUS		-0.6414	-0.6791	-0.5769	-0.1963	-0.5987	-0.2388	-0.5611	-0.6217	-0.9141	-0.4808	-0.0632	
2	Gender	11	GENDER_FE MALE	Excluded category												
		12	GENDER_MALE		0.0539	0.0504		-0.0505		-0.0716	-0.0476	-0.0258	-0.1414		-0.0703	
3	Payment source	13	PAY_MCARE_FFS	Excluded category												
		14	PAY_MCARE_HMO		-0.1159	-0.1354	-0.0607	-0.0496	-0.0307	-0.0329	-0.0762	-0.0574	-0.0781	-0.0305	0.1374	
		15	PAY_MCARE_ANDMCAID		-0.3094	-0.4006	-0.2801	-0.2400	-0.2185	-0.1575	-0.3324	-0.3062	-0.3984	-0.2639	-0.0900	
		16	PAY_MCAID_ONLY		-0.1622	-0.2890	-0.1208	-0.1913	-0.1481	-0.0736	-0.2323	-0.2224	-0.2264	-0.1208	-0.1398	
		17	PAY_OTHER_COMBO		-0.0399	-0.0752	0.0382	0.0193	0.0465	0.0440	-0.0338	0.0479	0.0307	0.1091	0.0907	
4	SOC/ROC and Admission Source	18	SOC_INPT	Excluded category												
		19	SOC_COMM		-0.4699	-0.4195	-0.4814	-0.3220	-0.3525	-0.3746	-0.4082	-0.5153	-0.4451	-0.5180	0.0912	
		20	ROC		-0.4612	-0.4044	-0.4652	-0.2521	-0.2212	-0.4179	-0.4249	-0.4656	-0.3724	-0.4719	-0.7722	

Risk Factor #	Risk Factor	Covariate #	Covariate Name	Excluded Category Indicator	Ambulation	Bathing	Bed Transfer	Bowel Incont	Confusion	Dyspnea	Lower Dress	Upper Dress	Oral Meds	Toilet Transfer	Discharged to Community	
5	Post-acute facility admission source	21	INPT_POSTACUTE		-0.2396	-0.1203	-0.1731		-0.0311	-0.0511	-0.0618	-0.0840	-0.1408	-0.0941	-0.0834	
		22	INPT_NOPOSTACUTE	Excluded category												
6	Risk of Hospitalization	25	RISK_HSTRY_FALLS		-0.0975			0.0947	-0.0458				-0.0588	0.0493	-0.0373	
		26	RISK_WEIGHTLOSS		-0.0408	-0.0816				-0.0903	-0.0328	-0.0703	-0.0399		-0.2152	
		27	RISK_MLTPL_HOSPZTN		-0.1136	-0.1045	-0.0915			-0.1270	-0.0679	-0.1009	-0.0869	-0.0870	-0.3465	
		28	RISK_ED					0.0579	0.0276						-0.1744	
		29	RISK_RCNT_DCLN				0.0403			-0.0724				-0.0414	-0.0641	
		30	RISK_COMPLY				0.0414	-0.0449			-0.0538	0.0523	0.0467	0.0585		
		31	RISK_5PLUS_MDCTN			0.0715	0.0948			0.0655		0.0882	0.1394		0.1438	-0.0259
		32	RISK_EXHAUST			0.0743	0.0967	0.0590	0.1095	0.1099		0.0925	0.0900	0.1259	0.0780	-0.0268
		33	RISK_OTHR						-0.0661						0.0785	0.0772
		34	RISK_NONE		0.1780	0.1994	0.1115			0.1793	0.1386	0.1667	0.1967	0.1577	0.3589	
7	Availability of Assistance	35	ASSIST_OCC_NONE	Excluded category												
		36	ASSIST_REGNITE		-0.0586	-0.1131	-0.0532		-0.0090	-0.0537	-0.1079	-0.0935	-0.1655	-0.0641	-0.0181	
		37	ASSIST_REGDAY		-0.1648	-0.2162	-0.2233		-0.0671	-0.1053	-0.3227	-0.3011	-0.3132	-0.3044	-0.0400	
		38	ASSIST_ARNDCLOCK		-0.1666	-0.2157	-0.1408		-0.0851	-0.0659	-0.2813	-0.2398	-0.3520	-0.2325	-0.0423	
	Living Arrangement	39	LIV_ALONE		0.0599	0.1392	0.0894	0.1093	0.0542	0.0363	0.2984	0.2428	0.3042	0.2325		
		40	LIV_OTHERS	Excluded category												

Risk Factor #	Risk Factor	Covariate #	Covariate Name	Excluded Category Indicator	Ambulation	Bathing	Bed Transfer	Bowel Incont	Confusion	Dyspnea	Lower Dress	Upper Dress	Oral Meds	Toilet Transfer	Discharged to Community
		41	LIV_CONGREGATE		-0.1878	-0.1020	-0.0205	-0.1859	-0.3251	0.0353	-0.0013	0.0167	-1.0133	0.0175	
8	Pressure Ulcers	42	PU_NONE_S TG1ONLY	Excluded category											
		43	PU_STG2PLUS S_UNSTG		-0.4316	-0.3747	-0.3960	-0.2107	-0.0787	-0.1234	-0.3891	-0.3620	-0.2675	-0.3891	-0.3072
9	Stasis Ulcer	44	STAS_ULCR_ NONE	Excluded category											
		45	STAS_ULCR_ OBS_1		-0.2510	-0.2355	-0.2877			-0.1582	-0.2719	-0.1905		-0.1834	-0.3873
		46	STAS_ULCR_ OBS_2PLUS		-0.3565	-0.4207	-0.3519			-0.2428	-0.4179	-0.2727		-0.2557	-0.5968
10	Surgical Wound	47	SRG_WND_O BS_NONE	Excluded category											
		48	SRG_WND_O BS_EPI		0.3082	0.3298	0.2584	0.1306	0.2376	0.2240	0.2773	0.3281	0.3283	0.2995	0.2125
		49	SRG_WND_O BS_GRAN		0.2869	0.3305	0.2428	0.1081	0.1820	0.1615	0.2457	0.2753	0.2952	0.2704	0.1901
		50	SRG_WND_O BS_NOHEAL		0.5367	0.5132	0.4690	0.3471	0.3941	0.3950	0.4436	0.5484	0.5791	0.5575	0.1542
11	Dyspnea	51	DYSPO	Excluded category											
		52	DYSP1		0.1734	0.1611	0.0905	0.1662	0.0986		0.1545	0.1445	0.1593	0.1504	-0.1342
		53	DYSP2		0.1461	0.1759	-0.0259	0.1577	0.0944	0.9481	0.1351	0.0987	0.2005	0.0546	-0.3133
		54	DYSP34		0.1414	0.1589	-0.0290	0.2490	0.2027	1.5045	0.1006	0.0638	0.3274	0.0686	-0.5905
12	Urinary Status	55	URINCONT_ NONE	Excluded category											
		56	URINCONT_ INCONT		-0.2290	-0.1997	-0.2727	-0.4282	-0.1718	-0.1842	-0.2328	-0.2250	-0.1672	-0.2808	-0.0466
		57	URINCONT_ CATH		-0.5697	-0.5094	-0.5722	-0.6205	-0.1788	-0.2822	-0.5160	-0.5195	-0.2612	-0.6513	-0.6769
13		58	BWL_NONE_ UK	Excluded category											

Risk Factor #	Risk Factor	Covariate #	Covariate Name	Excluded Category Indicator	Ambulation	Bathing	Bed Transfer	Bowel Incont	Confusion	Dyspnea	Lower Dress	Upper Dress	Oral Meds	Toilet Transfer	Discharged to Community
	Bowel Incontinence	59	BWL_FR1		-0.1262	-0.0977	-0.1014		-0.0389	-0.0478	-0.1348	-0.1280	-0.0299	-0.1259	-0.1135
		60	BWL_FR2		-0.2047	-0.2025	-0.1966	0.1530	-0.1155	-0.1116	-0.2517	-0.2092	-0.1333	-0.2375	-0.1637
		61	BWL_FR345		-0.3344	-0.4124	-0.3700	0.2976	-0.2287	-0.1416	-0.4322	-0.4108	-0.2925	-0.5458	-0.1741
		62	BWL_OSTOMY		-0.0931	-0.1943	-0.0554		-0.0248	0.0197	-0.0893	-0.1057	-0.0590	-0.2515	-0.4709
14	Cognitive function	63	COGN0	Excluded category											
		64	COGN1		-0.0280	-0.0678	-0.0996	-0.1037	-0.3420		-0.0671	-0.1063	-0.2286	-0.1369	
		65	COGN2		-0.0918	-0.1744	-0.1208	-0.1743	-0.6299		-0.1771	-0.2198	-0.4174	-0.2214	
		66	COGN34		-0.2578	-0.3659	-0.2265	-0.2640	-0.9613		-0.3950	-0.4740	-0.6753	-0.3968	
15	Confusion	67	CONF0	Excluded category											
		68	CONF1		-0.0918	-0.1134	-0.0848	-0.1109		-0.0969	-0.0812	-0.1155	-0.2314	-0.1057	-0.0608
		69	CONF23		-0.1773	-0.2591	-0.1541	-0.2359	1.3125	-0.0692	-0.2089	-0.2691	-0.4940	-0.2415	-0.0785
		70	CONF4		-0.2902	-0.4668	-0.2102	-0.3833	1.8805	-0.0029	-0.4297	-0.5239	-0.8380	-0.4582	-0.0378
16	Anxiety	71	ANX0	Excluded category											
		72	ANX1		0.0497	0.0424	0.0223	0.0381	-0.0148	-0.0634	0.0506	0.0465	0.0727	0.0365	-0.0251
		73	ANX2		0.1178	0.0904	0.0833	0.1184	0.0316	-0.0687	0.1081	0.1176	0.1675	0.1330	-0.0490
		74	ANX3		0.2800	0.2523	0.2497	0.3077	0.2111	0.0090	0.2944	0.2968	0.4034	0.3347	-0.0010
17	Depression Screening	75	PHQ2_SCOR_0	Excluded category											
		76	PHQ2_SCOR_12		-0.0794	-0.0670	-0.0960	0.0018	-0.0031	-0.1101	-0.0898	-0.0883	-0.0348	-0.0787	-0.1428
		77	PHQ2_SCOR_3PLUS		-0.1291	-0.1231	-0.1228	0.0368	0.0151	-0.1726	-0.1495	-0.1369	-0.0524	-0.1141	-0.1989
		78	PHQ2_NA		-0.2963	-0.3532	-0.2660	-0.1640	-0.2970	-0.1651	-0.3874	-0.4131	-0.3944	-0.3397	-0.0894
18	Behavioral Symptoms	79	BEHAV_NON E		0.1347	0.1987	0.1276		0.1128	0.0759	0.1997	0.2201	0.2784	0.2209	0.0693
		80	BEHAV_MEM_DEFICIT						-0.2706				-0.1601		0.0425
		81	BEHAV_IMPR_DECISN					-0.1472	-0.1784	-0.0998					

Risk Factor #	Risk Factor	Covariate #	Covariate Name	Excluded Category Indicator	Ambulation	Bathing	Bed Transfer	Bowel Incont	Confusion	Dyspnea	Lower Dress	Upper Dress	Oral Meds	Toilet Transfer	Discharged to Community
		82	BEHAV_OTHR		-0.1386	-0.2087	-0.1325	-0.1906	-0.2744		-0.1953	-0.2029	-0.3349	-0.1599	-0.1109
19	Disruptive Behavior Frequency	83	BEHPFR0	Excluded category											
		84	BEHPFR12		0.2040	0.2572	0.0840	0.1426	0.1725	0.1607	0.1973	0.1604	0.2027	0.0624	0.0301
		85	BEHPFR3		0.1970	0.2438	0.1180	0.2344	0.1678	0.1845	0.2174	0.1907	0.2199	0.1102	0.0108
		86	BEHPFR4		0.1683	0.2017	0.1492	0.2348	0.1265	0.1703	0.1957	0.1913	0.1852	0.1552	0.0397
		87	BEHPFR5		0.1901	0.1943	0.2000	0.2295	0.0782	0.1885	0.2112	0.2170	0.1795	0.1991	0.0941
20	Grooming	88	GROOM0	Excluded category											
		89	GROOM1		-0.0050	-0.0063	-0.0645				-0.1006	-0.2215	0.0326	-0.2196	-0.0269
		90	GROOM2		-0.1027	-0.1154	-0.1779				-0.2301	-0.4560	-0.0462	-0.3884	-0.1037
		91	GROOM3		-0.1713	-0.2366	-0.2772				-0.3899	-0.7459	-0.1623	-0.5451	-0.1468
21	Upper Body Dressing	92	UPPER0	Excluded category											
		93	UPPER1		0.0598	-0.0188	0.0166		0.0370	0.0757	0.0101		0.0049	-0.1203	-0.0181
		94	UPPER2		-0.0530	-0.2152	-0.0947		-0.0346	-0.0536	-0.2601	1.2575	-0.2093	-0.3724	-0.1548
		95	UPPER3		-0.0442	-0.2371	-0.1144		-0.1036	-0.1277	-0.3910	2.6167	-0.2980	-0.5023	-0.1653
22	Lower Body Dressing	96	LOWER0	Excluded category											
		97	LOWER1		0.1633	0.1586	0.1221					-0.0605	0.1409		0.1390
		98	LOWER2		0.1014	0.1092	-0.0405				0.8763	-0.2343	0.1595		0.1601
		99	LOWER3		0.0022	0.0411	-0.1176				2.4077	-0.2702	0.1760		0.1552
23	Bathing	100	BATH0	Excluded category											
		101	BATH1		-0.1659		-0.1306		-0.0131	-0.0065	-0.0786	-0.1077	0.0153		0.1218
		102	BATH2		-0.1622	1.2035	-0.1032		-0.0104	0.0109	-0.1107	-0.1593	-0.0670		0.0936
		103	BATH3		-0.3105	1.9080	-0.1753		-0.0109	0.0400	-0.2264	-0.2392	-0.1257		0.0238
		104	BATH4		-0.1378	2.4338	-0.0285		0.1315	0.2072	0.0223	0.0371	0.1621		0.0793
		105	BATH5		-0.2704	2.8357	-0.0810		0.1065	0.1786	-0.2240	-0.1334	0.0431		0.0280
		106	BATH6		-0.4920	3.0452	-0.4292		-0.1316	-0.0964	-0.6527	-0.6374	-0.4305		-0.0723
24		107	TLTRN0	Excluded category											

Risk Factor #	Risk Factor	Covariate #	Covariate Name	Excluded Category Indicator	Ambulation	Bathing	Bed Transfer	Bowel Incont	Confusion	Dyspnea	Lower Dress	Upper Dress	Oral Meds	Toilet Transfer	Discharged to Community
	Toilet Transferring	108	TLTRN1		0.2643	0.2113	0.1404		0.0980	0.1548	0.1131	0.0622	0.1510		0.1117
		109	TLTRN2		0.2759	0.3274	0.0463		0.1870	0.1656	0.1585	0.0952	0.2068	1.7507	0.0227
		110	TLTRN34		0.1650	0.1197	-0.2116		0.1453	0.1080	0.0084	-0.0747	0.1324	1.9816	0.0126
25	Toilet Hygiene	111	TLTHYG0	Excluded category											
		112	TLTHYG1		0.0330	0.0565	-0.0361	0.0243	0.0712		-0.0413	-0.1103	0.0831	-0.2854	
		113	TLTHYG2		-0.0846	-0.0384	-0.1515	-0.1029	0.0570		-0.1982	-0.2494	0.0395	-0.4785	
		114	TLTHYG3		-0.2292	-0.2540	-0.3550	-0.5092	-0.0917		-0.5144	-0.5091	-0.1737	-0.7615	
26	Transferring	115	TRNFR0	Excluded category											
		116	TRNFR1		-0.3448	-0.0695			0.0978	0.0005	-0.1092		0.0978	-0.1606	
		117	TRNFR2		-0.2701	0.0647	2.4403		0.2058	0.1112	-0.0603		0.2461	-0.2088	
		118	TRNFR345		-0.2975	0.0166	3.0835		0.3122	0.1207	-0.1380		0.2647	-0.4229	
27	Ambulation	119	AMB0	Excluded category											
		120	AMB1			-0.2241	-0.5273	0.0238	0.0537	-0.0789	-0.1272	-0.0311	0.0202	-0.0483	0.0543
		121	AMB2		0.4371	-0.4646	-0.9000	-0.0053	0.0782	-0.0963	-0.2128	-0.0562	-0.0381	-0.1144	-0.0421
		122	AMB3		2.3051	-0.3316	-0.6706	0.1599	0.1650	0.1169	-0.0479	0.1801	0.1169	0.1019	0.0454
		123	AMB456		1.5385	-1.2619	-1.7843	-0.2917	0.0135	-0.2568	-0.9675	-0.6651	-0.4131	-0.9164	-0.2303
28	Feeding or Eating	124	EAT0	Excluded category											
		125	EAT1		-0.0456	-0.0472	-0.0995	-0.0905	-0.0164	0.0073	-0.0907	-0.1666	-0.0615	-0.2093	-0.0139
		126	EAT2		-0.1580	-0.2256	-0.3040	-0.2557	-0.0835	0.0036	-0.2825	-0.4505	-0.2464	-0.4368	-0.0286
		127	EAT345		-0.2771	-0.5985	-0.4535	-0.4875	-0.1644	-0.1551	-0.5300	-0.7671	-0.7038	-0.7414	-0.3912
29	Oral Medication Management	128	ORMED0	Excluded category											
		129	ORMED1		0.0126	-0.0955	-0.0384		-0.0857	0.0163	-0.1053	-0.1430		-0.1486	-0.1378
		130	ORMED2		0.0550	-0.1399	-0.0482		-0.2111	0.0881	-0.1158	-0.1797	1.1129	-0.2014	-0.1265
		131	ORMED3		-0.0602	-0.3178	-0.0438		-0.3225	0.1461	-0.2615	-0.2853	1.2614	-0.2272	-0.1003
30	Supervision and Safety Assistance	132	SPRVSN_NO NE_NEEDED	Excluded category											
		133	SPRVSN_CG_PROVIDES		-0.0726	-0.1101	-0.0813		-0.1771	-0.0542	-0.1315	-0.1543	-0.2512	-0.1702	-0.0311

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		134	SPRVSN_NEE D_TRAINING		0.1844	0.1516	0.0679		-0.0552	0.0918	0.1119	0.0639	0.0594	-0.0477	0.0747	
		135	SPRVSN_CG_ UNCERTAIN_ NONE		-0.0501	-0.0928	-0.1366		-0.1064	-0.1535	-0.1061	-0.1583	0.0101	-0.1424	-0.3163	
31	Home Care Condition Codes	136	HC_DX_INFE CT		0.0539	0.0447	0.0529			0.0772	0.0813	0.0389	0.0425			
		137	HC_DX_NEO PLASM		-0.1759	-0.2912	-0.1617	-0.1545	-0.1212	-0.2753	-0.2339	-0.3243	-0.2046	-0.2819	-0.5724	
		138	HC_DX_BLO OD				-0.0371								-0.1431	
		139	HC_DX_END OCRINE		-0.0713	-0.0568	-0.0756	-0.0408	-0.0250	-0.0570	-0.0565	-0.0572	-0.0634	-0.0676	-0.0896	
		140	HC_DX_MEN TAL		0.0314	-0.0421	0.0395	-0.0971	-0.3174	0.1084		-0.0563	-0.2296	-0.0564	0.1226	
		141	HC_DX_NER VOUS		-0.2301	-0.1586	-0.1510	-0.1219	-0.1354	0.0338	-0.1708	-0.1673	-0.1542	-0.1537	0.1018	
		142	HC_DX_EYE		-0.0760							-0.0741	-0.1714	-0.0524	0.1552	
		143	HC_DX_EAR		0.1105	0.1299	0.1402				0.1725	0.1756		0.1659	0.3042	
		144	HC_DX_CIRC ULATORY		0.0760	0.0776	0.0487	0.0590	0.0576	0.0414	0.1037	0.0809	0.0643	0.0562		
		145	HC_DX_RESP IRATORY		-0.0443	-0.0696					-0.3632		-0.0418	-0.0509	-0.0348	-0.1051
		146	HC_DX_DIGE STIVE		0.0875	0.0658						0.0611		0.0527		-0.0514
		147	HC_DX_SKIN		-0.1711	-0.1899	-0.1899	-0.0574			-0.0981	-0.1811	-0.1596		-0.1778	-0.2893
		148	HC_DX_ MUSCL_SKEL		0.0798	0.1331	0.0719			0.0380	0.1049	0.1353	0.1518	0.1031	0.1333	0.2030
149	HC_DX_GEN URINARY		-0.1005	-0.0867	-0.0769	-0.0719	-0.0428			-0.0462	-0.0699	-0.0891	-0.0847	-0.1947		
150	HC_DX_INT_ ABNORM					0.0306	-0.0728	-0.0949	0.0763	0.0387	0.0414	-0.0903	0.0453	0.1191		

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		151	HC_DX_EXT_INJURY		0.0478	0.0864	0.0720	0.0845	0.0578	0.1470	0.1134	0.0947	0.1306	0.1231	0.0862
		152	HC_DX_EXT_MORB			0.1030	0.1460			0.1964	0.1635	0.1070	0.1443	0.1820	0.3113
		153	HC_DX_HLTH_FACTORS		0.2187	0.2196	0.2307	0.0719	0.1385	0.2560	0.2001	0.2563	0.2541	0.2451	0.2912
	CONSTANT	154	_CONS		0.4073	0.2468	1.6879	1.5861	0.4751	0.4179	1.6206	2.0059	0.5778	2.6931	1.6808