# Expanded Home Health Value-Based Purchasing (HHVBP) Model Technical Specifications for the Total Normalized Composite Change Measures: January 2025

Last updated: December 18, 2024

## I. Background

The Centers for Medicare & Medicaid Services (CMS) maintains, re-evaluates, and implements changes to the OASIS data item set and 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 OASIS-based home health outcome measures, the re-evaluation process includes evaluating and updating, as needed, the risk adjustment models used to adjust for patient characteristics at start of care (SOC) or resumption of care (ROC), 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 adjustment models for the expanded Home Health Value-based Purchasing (HHVBP) composite outcome measures, Total Normalized Composite (TNC) Change in Mobility and TNC Change in Self-Care, re-produce the prior risk adjustment models after revising the following risk factors to accommodate changes in OASIS-E. This update aligns with the update to the risk adjustment models made for OASIS-based outcome measures under the Home Health Quality Reporting Program.

- Depression Screening (PHQ-2 Score) was replaced with Patient Mood Screening (PHQ-2 to 9).
- Home Care Diagnoses were replaced with CMS-Hierarchical Condition Categories (CMS-HCCs).

<u>Section II</u> details the technical steps for calculating each home health agency-level observed TNC Change measures. <u>Section III</u> displays the updated risk factor coefficients. The potential risk factor specifications used in the risk adjustment models and the risk adjustment formula for risk-adjusting the composite outcome measures align with those used for the OASIS-based outcome measures under the <u>Home</u> <u>Health Quality Reporting Program</u> and are therefore not further discussed in this document.

Note that the TNC Change measures are <u>not impacted</u> by the mandated collection and submission of OASIS data for all patients regardless of payer (a.k.a. all-payer) effective 7/1/2025 with a voluntary phase-in period of 1/1/2025 – 6/30/2025. These measures are not included in the measure set applicable to CY 2025 and after and will therefore continue to report only data for Medicare fee-for-service, Medicare Advantage (Medicare managed care), Medicaid, and Medicaid managed care. Please refer to *Risk Adjustment Technical Steps and Risk Factor Specifications* and *HH QRP QM Users Manual – Version 3.0* (under Downloads) for additional relevant details.

# This risk adjustment update is applicable to home health quality episodes with SOC or ROC dates on or after January 1, 2023.

For a list of risk factor coefficients applicable to episodes that began prior to January 1, 2023, please refer to the *Technical Specifications for the Total Normalized Composite (TNC) Change Measures: October 2021* available on the Expanded <u>HHVBP Model webpage</u> under *Quality Measures*.

## **II. Technical Specifications**

### Table 1. Total Normalized Composite (TNC) Change in Mobility

#### **Measure Description**

This functional outcome measure captures the change in home health patients' mobility between start or resumption of care (SOC/ROC) and the end of care (EOC). It is a composite of three OASIS items related to mobility (i.e., M1840, M1850, and M1860).

#### **Measure Specifications**

The Total Normalized Composite Change in Mobility (TNC Change in Mobility) is calculated from the observed difference in patient mobility between SOC/ROC (designated as [1]) and the EOC (designated as [2]) in eligible home health quality episodes ending with a discharge from the agency during the reporting period (M0100[2] = 09), except for those meeting the exclusion criteria.

#### **Measure Computational Steps**

#### Episode Level

1) Compute the raw change for each applicable OASIS item:

M1840 Raw Change = M1840[1] - M1840[2]

M1850 Raw Change = M1850[1] - M1850[2]

M1860 Raw Change = M1860[1] - M1860[2]

2) Compute the normalized change for each applicable OASIS item:

M1840 Normalized Change = M1840 Raw Change / M1840 Maximum Change Value(4)

M1850 Normalized Change = M1850 Raw Change / M1850 Maximum Change Value(5)

M1860 Normalized Change = M1860 Raw Change / M1860 Maximum Change Value(6)

3) Sum the normalized change for all applicable OASIS items:

Sum Normalized Change in Mobility = M1840 Normalized Change + M1850 Normalized Change + M1860 Normalized Change

#### Agency Level

4) Sum the Sum Normalized Change in Mobility for all eligible home health quality episodes and divide by the total number of eligible home health quality episodes:

TNC Change in Mobility = sum of Sum Normalized Change Mobility / Agency total number of eligible home health quality episodes

#### Episode Exclusions

Home health quality episodes for which the patient was nonresponsive at SOC/ROC: M1700[1] = 04, or M1710[1] = NA, or M1720[1] = NA or was discharged to a non-institutional hospice (M2420[2] = 03) at the EOC M0100[2] = 09).

#### **OASIS Items Used**

(M0100) Reason for Assessment

(M1700) Cognitive Functioning

(M1710) When Confused

(M1720) When Anxious

(M2420) Discharge Disposition

#### Covariates

See the Risk Adjustment Technical Specifications in Section III below.

**Disclaimer:** The contents of this document do not have the force and effect of law and are not meant to bind the public in any way, unless specifically incorporated into a contract. This document is intended only to provide clarity to the public regarding existing requirements under the law.

#### Table 2. Total Normalized Composite (TNC) Change in Self-Care

#### **Measure Description**

This functional outcome measure captures the change in home health patients' self-care between start or resumption of care (SOC/ROC) and the end of care (EOC). It is a composite of six OASIS items related to self-care (i.e., M1800, M1810, M1820, M1830, M1845, and M1870).

#### **Measure Specifications**

The Total Normalized Composite Change in Self-Care (TNC Change in Self-Care) is calculated from the observed difference in patient self-care between SOC/ROC (designated as [1]) and EOC (designated as [2]) in home health quality episodes ending with a discharge from the agency during the reporting period (M0100[2] = 09), except for those meeting the exclusion criteria.

#### **Measure Computations**

#### Episode Level

- 1) Compute the raw change for each applicable OASIS item:
  - M1800 Raw Change = M1800[1] M1800[2]
  - M1810 Raw Change = M1810[1] M1810[2]
  - M1820 Raw Change = M1820[1] M1820[2]
- M1830 Raw Change = M1830[1] M1830[2] M1845 Raw Change = M1845[1] - M1845[2] M1870 Raw Change = M1870[1] - M1870[2]
- 2) Compute the normalized change for each applicable OASIS item:
  - M1800 Normalized Change = M1800 Raw Change / M1800 Maximum Change Value(3)
  - M1810 Normalized Change = M1810 Raw Change / M1810 Maximum Change Value(3)
  - *M1820 Normalized Change* = M1820 Raw Change / M1820 Maximum Change Value(3)
  - *M1830 Normalized Change* = M1830 Raw Change / M1830 Maximum Change Value(6)
  - M1845 Normalized Change = M1845 Raw Change / M1845 Maximum Change Value(3)
  - M1870 Normalized Change = M1870 Raw Change / M1870 Maximum Change Value(5)
- 3) Sum the normalized change for all applicable OASIS items:

Sum Normalized Change in Self Care = M1800 Normalized Change + M1810 Normalized Change + M1820 Normalized Change + M1830 Normalized Change + M1845 Normalized Change + M1870 Normalized Change

#### Agency Level

4) Sum the Sum Normalized Change in Self-Care for all eligible home health quality episodes and divide by the number of total eligible home health quality episodes:

*TNC Change in Self-Care* = sum of Sum Normalized Change in Self-Care / Agency total number of eligible home health quality episodes

#### **Episode Exclusions**

Home health quality episodes for which the patient was nonresponsive at SOC/ROC: M1700[1] = 04, or M1710[1] = NA, or M1720[1] = NA or was discharged to a non-institutional hospice (M2420[2] = 03) at the EOC M0100[2] = 09).

#### **OASIS Items Used**

| (M0100) Reason for Assessment | (M1820) Dressing Lower Body   |
|-------------------------------|-------------------------------|
| (M1700) Cognitive Functioning | (M1830) Bathing               |
| (M1710) When Confused         | (M1845) Toilet Hygiene        |
| (M1720) When Anxious          | (M1870) Eating                |
| (M1800) Grooming              | (M2420) Discharge Disposition |
| (M1810) Dressing Upper Body   |                               |
| Covariates                    |                               |

See the Risk Adjustment Technical Specifications in Section III below.

**Disclaimer:** The contents of this document do not have the force and effect of law and are not meant to bind the public in any way, unless specifically incorporated into a contract. This document is intended only to provide clarity to the public regarding existing requirements under the law.

# III. Risk Factors, Covariates, and Estimated Coefficients

Recalibrated models, effective CY 2023

| Risk     | Risk Factor                     | Variable Name      | Excluded Category Indicator | TNC Change in Mobility |           | TNC Change in Self Care |         |
|----------|---------------------------------|--------------------|-----------------------------|------------------------|-----------|-------------------------|---------|
| Factor # |                                 |                    | Covariate                   | Coefficient            | Covariate | Coefficient             |         |
|          |                                 | AGE_0_54           |                             | 1                      | -0.0059   | 1                       | -0.0474 |
|          |                                 | AGE_55_59          |                             | 2                      | -0.0123   | 2                       | -0.0389 |
|          |                                 | AGE_60_64          |                             | 3                      | -0.0187   | 3                       | -0.0478 |
|          |                                 | AGE_65_69          | Excluded category           |                        |           |                         |         |
| 1        | 4.00                            | AGE_70_74          |                             | 4                      | -0.0028   | 4                       | 0.0014  |
| I        | Age                             | AGE_75_79          |                             | 5                      | -0.0160   | 5                       | -0.0265 |
|          |                                 | AGE_80_84          |                             | 6                      | -0.0362   | 6                       | -0.0732 |
|          |                                 | AGE_85_89          |                             | 7                      | -0.0662   | 7                       | -0.1422 |
|          |                                 | AGE_90_94          |                             | 8                      | -0.1065   | 8                       | -0.2561 |
|          |                                 | AGE_95PLUS         |                             | 9                      | -0.1594   | 9                       | -0.4236 |
| 0        | Quadan                          | GENDER_FEMALE      | Excluded category           |                        |           |                         |         |
| 2        | Gender                          | GENDER_MALE        |                             | 10                     | 0.0189    | 10                      | 0.0111  |
|          |                                 | PAY_MCARE _FFS     | Excluded category           |                        |           |                         |         |
|          |                                 | PAY_MCARE_HMO      |                             | 11                     | -0.0116   | 11                      | -0.0115 |
| 3        | Payment source                  | PAY_MCAREANDMCAID  |                             | 12                     | -0.0705   | 12                      | -0.1777 |
|          |                                 | PAY_MCAID_ONLY     |                             | 13                     | -0.0164   | 13                      | -0.0454 |
|          |                                 | PAY_OTHER_COMBO    |                             | 14                     | 0.0080    | 14                      | 0.0502  |
|          |                                 | SOC_INPT           | Excluded category           |                        |           |                         |         |
| 4        | SOC/ROC and<br>Admission Source | SOC_COMM           |                             | 15                     | -0.0848   | 15                      | -0.2057 |
|          | Aumission Source                | ROC                |                             | 16                     | -0.0893   | 16                      | -0.2244 |
| _        | Post-acute facility             | INPT_POSTACUTE     |                             | 17                     | -0.0451   | 17                      | -0.0516 |
| 5        | admission source                | INPT_NOPOSTACUTE   | Excluded category           |                        |           |                         |         |
|          |                                 | RISK_HSTRY_FALLS   |                             |                        |           |                         |         |
| 6        | Risk of Hospitalization         | RISK_WEIGHTLOSS    |                             | 18                     | 0.0193    | 18                      | 0.0338  |
|          |                                 | RISK_MLTPL_HOSPZTN |                             | 19                     | -0.0160   | 19                      | -0.0371 |

| Risk Factor | Risk Factor                | Variable Name       | Excluded Category | TNC Chan  | ge in Mobility | TNC Change in Self Care  |             |
|-------------|----------------------------|---------------------|-------------------|-----------|----------------|--|-------------|
| #           | RISK Factor                | valiable Nallie     | Indicator         | Covariate | Coefficient    | Covariate  | Coefficient |
|             |                            | RISK_ED             |                   | 20        | 0.0072         | 20   | 0.0185      |
|             |                            | RISK_RCNT_DCLN      |                   | 21        | 0.0240         | 21   | 0.0467      |
|             |                            | RISK_COMPLY         |                   | 22        | 0.0093         | 22   | 0.0242      |
| 6           | Risk of Hospitalization    | RISK_5PLUS_MDCTN    |                   |           |                |  |             |
|             |                            | RISK_EXHAUST        |                   | 23        | 0.0140         | 23   | 0.0385      |
|             |                            | RISK_OTHR           |                   |           |                |  |             |
|             |                            | RISK_NONE           |                   | 24        | 0.0321         | 24   | 0.0483      |
|             |                            | ASSIST_ARND_CLOCK   |                   | 25        | -0.0336        | 25   | -0.1106     |
|             |                            | ASSIST_REGDAY       |                   | 26        | -0.0461        | 26   | -0.1510     |
|             |                            | ASSIST_REGNITE      |                   | 27        | -0.0069        | 27   | -0.0267     |
| 7           | Availability of Assistance | ASSIST_OCC_NONE     | Excluded category |           |                |  |             |
|             |                            | LIV_ALONE           |                   | 28        | 0.0277         | 28   | 0.1148      |
|             |                            | LIV_OTHERS          | Excluded category |           |                |  |             |
|             |                            | LIV_CONGREGATE      |                   | 29        | -0.0439        | 0461 26   0069 27   0277 28   0439 29   1230 30   0221 31      | -0.0842     |
| 0           |                            | PU_NONE_STG1ONLY    | Excluded category |           |                |  |             |
| 8           | Pressure Ulcers            | PU_STG2PLUS_UNSTG   |                   | 30        | -0.1230        | 30   | -0.2737     |
|             |                            | STAS_ULCR_NONE      | Excluded category |           |                |  |             |
| 9           | Stasis Ulcer               | STAS_ULCR_OBS_1     |                   | 31        | -0.0221        | 31   | -0.0703     |
|             |                            | STAS_ULCR_OBS_2PLUS |                   | 32        | -0.0530        | 32   | -0.1648     |
|             |                            | SRG_WND_OBS_NONE    | Excluded category |           |                |  |             |
| 10          |                            | SRG_WND_OBS_EPI     |                   | 33        | 0.0479         | 33   | 0.1240      |
| 10          | Surgical Wound             | SRG_WND_OBS_GRAN    |                   | 34        | 0.0534         | 34   | 0.1173      |
|             |                            | SRG_WND_OBS_NOHEAL  |                   | 35        | 0.0728         | 24<br>25<br>26<br>27<br>28<br>29<br>30<br>30<br>31<br>32<br>33 | 0.1763      |
|             |                            | DYSP0               | Excluded category |           |                |  |             |
| 11          | Dyspnea                    | DYSP1               |                   | 36        | 0.0452         |  | 0.1044      |
| 11          | Dyspilea                   | DYSP2               |                   | 37        | 0.0293         |  | 0.0598      |
|             |                            | DYSP34              |                   | 38        | 0.0626         | 38   | 0.1153      |

| <b>Risk Factor</b> | Dick Easter             |                   | Excluded Category | TNC Change in Mobility |             | TNC Change in Self Care |             |
|--------------------|-------------------------|-------------------|-------------------|------------------------|-------------|-------------------------|-------------|
| #                  |                         |                   | Indicator         | Covariate              | Coefficient | Covariate               | Coefficient |
|                    |                         | URINCONT_NONE     | Excluded category |                        |             |                         |             |
| 12                 | Urinary Status          | URINCONT_INCONT   |                   | 39                     | -0.0627     | 39                      | -0.1551     |
|                    |                         | URINCONT_CATH     |                   | 40                     | -0.1185     | Covariate               | -0.2769     |
|                    |                         | BWL_NONE_UK       | Excluded category |                        |             |                         |             |
|                    |                         | BWL_FR1           |                   | 41                     | -0.0365     | 41                      | -0.1042     |
| 13                 | Bowel Incontinence      | BWL_FR2           |                   | 42                     | -0.0928     | 42                      | -0.2408     |
|                    |                         | BWL_FR345         |                   | 43                     | -0.2162     | 43                      | -0.4746     |
|                    |                         | BWL_OSTOMY        |                   | 44                     | -0.0466     | 44                      | -0.1190     |
|                    |                         | COGN0             | Excluded category |                        |             |                         |             |
| 4.4                | O a mailting from ation | COGN1             |                   | 45                     | -0.0325     | 45                      | -0.1025     |
| 14                 | Cognitive function      | COGN2             |                   | 46                     | -0.0477     | 46                      | -0.1967     |
|                    |                         | COGN34            |                   | 47                     | -0.0807     | 47                      | -0.3747     |
|                    |                         | CONF0             | Excluded category |                        |             |                         |             |
| 45                 |                         | CONF1             |                   | 48                     | -0.0181     | 48                      | -0.0611     |
| 15                 | Confusion               | CONF23            |                   | 49                     | -0.0392     | 49                      | -0.1523     |
|                    |                         | CONF4             |                   | 50                     | -0.0792     | 50                      | -0.3578     |
|                    |                         | ANX0              | Excluded category |                        |             | 2 49                    |             |
| 16                 | Anviety                 | ANX1              |                   | 51                     | -0.0009     | 51                      | -0.0063     |
| 10                 | Anxiety                 | ANX2              |                   | 52                     | 0.0111      | 52                      | 0.0260      |
|                    |                         | ANX3              |                   | 53                     | 0.0428      | 53                      | 0.1181      |
|                    |                         | PHQ2_TO9_NOTMEET  | Excluded category |                        |             |                         |             |
| 17                 | Patient Mood Screening  | PHQ2_TO9_MEET     |                   | 54                     | -0.0229     | 54                      | -0.0564     |
|                    |                         | PHQ2_TO9_NA       |                   | 55                     | -0.0456     | 55                      | -0.1760     |
|                    |                         | BEHAV_NONE        |                   | 56                     | 0.0375      | 56                      | 0.0822      |
| 40                 | Dahayianal Ormatan      | BEHAV_MEM_DEFICIT |                   |                        |             | 57                      | -0.0635     |
| 18                 | Behavioral Symptoms     | BEHAV_IMPR_DECISN |                   | 57                     | -0.0084     | 58                      | -0.0581     |
|                    |                         | BEHAV_OTHR        |                   | 58                     | -0.0341     | 59                      | -0.1493     |

| <b>Risk Factor</b> | Diek Fester         | Veriekle Nerre | Evoluted Cotonomy Indicator | TNC Change in Mobility |   | TNC Change in Self Care  |             |
|--------------------|---------------------|----------------|-----------------------------|------------------------|---|--|-------------|
| #                  | Risk Factor         | Variable Name  | Excluded Category Indicator | Covariate              | Coefficient   | Covariate  | Coefficient |
|                    |                     | BEHPFR0        | Excluded category           |                        |   |  |             |
|                    |                     | BEHPFR12       |                             | 59                     | 0.0193  | 60   | 0.0683      |
| 19                 |                     | BEHPFR3        |                             | 60                     | 0.0234  | 61   | 0.0894      |
|                    | Discuptivo Pohavior | BEHPFR4        |                             | 61                     | 0.0302  | 62   | 0.1119      |
|                    |                     | BEHPFR5        |                             | 62                     | 0.0440  | Covariate   60   61  | 0.1392      |
|                    |                     | GROOM0         | Excluded category           |                        |   |  |             |
| •••                |                     | GROOM1         |                             | 63                     | 0.0025  | 64   | 0.2751      |
| 20                 | Grooming            | GROOM2         |                             | 64                     | -0.0140   | 65   | 0.5085      |
|                    |                     | GROOM3         |                             | 65                     | -0.0625   | Covariate   60   61   62   63   64   65   66   67   68   69   70   71   72   73   74   75   76   77   78   79   80 | 0.6097      |
|                    |                     | UPPER0         | Excluded category           |                        |   | 67   |             |
| •                  |                     | UPPER1         |                             |                        |   | 67   | 0.2729      |
| 21                 | Upper Body Dressing | UPPER2         |                             |                        |   | 68   | 0.4811      |
|                    |                     | UPPER3         |                             |                        |   | 69   | 0.6859      |
|                    |                     | LOWER0         | Excluded category           |                        |   |  |             |
|                    |                     | LOWER1         |                             | 66                     | 0.0144  | 70   | 0.2756      |
| 22                 | Lower Body Dressing | LOWER2         |                             | 67                     | -0.0175   | 71   | 0.5256      |
|                    |                     | LOWER3         |                             | 68                     | 0.0193<br>0.0234<br>0.0302<br>0.0440<br>0.0025<br>-0.0140<br>-0.0625<br>0<br>0.0025 | 72   | 0.7930      |
|                    |                     | BATH0          | Excluded category           |                        |   |  |             |
|                    |                     | BATH1          |                             | 69                     | -0.0164   | 73   | 0.1344      |
|                    |                     | BATH2          |                             | 70                     | 0.0023  | 74   | 0.2830      |
| 23                 | Bathing             | BATH3          |                             | 71                     | -0.0136   | 75   | 0.3806      |
|                    | Ū                   | BATH4          |                             | 72                     | -0.0159   | 76   | 0.5519      |
|                    |                     | BATH5          |                             | 73                     | -0.0028   | 77   | 0.7100      |
|                    |                     | BATH6          |                             | 74                     | -0.1223   | 78   | 0.4617      |
|                    |                     | TLTTRN0        | Excluded category           |                        |   |  |             |
|                    |                     | TLTTRN1        |                             | 75                     | 0.2322  | 79   | 0.0143      |
| 24                 | Toilet Transferring | TLTTRN2        |                             | 76                     | 0.4277  | 80   | -0.0558     |
|                    |                     | TLTTRN34       |                             | 77                     | 0.8307  | 81   | -0.0432     |

| <b>Risk Factor</b> | Risk Factor            | Variable Name            | Excluded Category Indicator | TNC Change in Mobility |             | TNC Change in Self Care  |             |
|--------------------|------------------------|--------------------------|-----------------------------|------------------------|-------------|--|-------------|
| #                  | NISK I ACIOI           | Valiable Name            | Excluded Calegory Indicator | Covariate              | Coefficient | Covariate  | Coefficient |
|                    |                        | TLTHYG0                  | Excluded category           |                        |             |  |             |
| 25                 | Teilet Hugiene         | TLTHYG1                  |                             | 78                     | -0.0071     | 82   | 0.2731      |
| 20                 | Toilet Hygiene         | TLTHYG2                  |                             | 79                     | -0.0334     | 83   | 0.5061      |
|                    |                        | TLTHYG3                  |                             | 80                     | -0.0745     | t Covariate<br>82  | 0.6312      |
|                    |                        | TRNFR0                   | Excluded category           |                        |             |  |             |
| 06                 | Transforming           | TRNFR1                   |                             | 81                     | 0.1279      | 85   | -0.0262     |
| 26                 | Transferring           | TRNFR2                   |                             | 82                     | 0.2820      | 86   | 0.0044      |
|                    |                        | TRNFR345                 |                             | 83                     | 0.3962      | 82<br>83<br>84<br>84<br>85<br>86<br>87<br>88<br>88<br>89<br>90<br>90<br>91<br>91<br>91<br>92<br>92<br>93<br>91<br>91<br>92<br>93<br>94<br>93<br>94<br>94<br>95<br>96<br>97 | -0.0798     |
|                    |                        | AMB0                     | Excluded category           |                        |             |  |             |
|                    |                        | AMB1                     |                             | 84                     | 0.1334      | 88   | 0.0135      |
| 27                 | Ambulation             | AMB2                     |                             | 85                     | 0.1999      | 89   | -0.0497     |
|                    |                        | AMB3                     |                             | 86                     | 0.3669      | 90   | 0.0693      |
|                    |                        | AMB456                   |                             | 87                     | 0.2948      |  | -0.4724     |
|                    |                        | EAT0                     | Excluded category           |                        |             |  |             |
| 00                 |                        | EAT1                     |                             | 88                     | -0.0124     | 92   | 0.1082      |
| 28                 | Feeding or Eating      | EAT2                     |                             | 89                     | -0.0535     | 93   | 0.1220      |
|                    |                        | EAT345                   |                             | 90                     | -0.1236     | 94   | 0.0908      |
|                    |                        | ORMED0                   | Excluded category           |                        |             |  |             |
| 00                 | Oral Medication        | ORMED1                   |                             | 91                     | 0.0203      | 95   | 0.0313      |
| 29                 | Management             | ORMED2                   |                             | 92                     | 0.0281      | 96   | 0.0377      |
|                    |                        | ORMED3                   |                             | 93                     | 0.0524      | 97   | 0.0795      |
|                    |                        | SPRVSN_NONE_NEEDED       | Excluded category           |                        |             |  |             |
| 20                 | Supervision and Safety | SPRVSN_CG_PROVIDES       |                             | 94                     | -0.0244     | 98   | -0.0796     |
| 30                 | Assistance             | SPRVSN_NEED_TRAINING     |                             | 95                     | -0.0065     | 99   | -0.0253     |
|                    |                        | SPRVSN_CG_UNCERTAIN_NONE |                             | 96                     | -0.0057     | 100  | -0.0148     |

| Risk Factor # | Risk Factor                          | Variable Name   | TNC Chang | e in Mobility | TNC Change in Self Care |             |
|---------------|--------------------------------------|---|-----------|---------------|-------------------------|-------------|
| RISK FACIOI # | RISK FACIOI                          | Valiable Nallie   | Covariate | Coefficient   | Covariate               | Coefficient |
|               |                                      | HCC1 - HIV/AIDS   |           |               |                         |             |
|               |                                      | HCC2 - Septicemia, Sepsis, SIRS/Shock                       |           |               |                         |             |
|               |                                      | HCC6 - Opportunistic Infections                             |           |               |                         |             |
|               |                                      | HCC8 - Metastatic Cancer and Acute Leukemia                 | 97        | -0.1149       | 101                     | -0.3387     |
|               |                                      | HCC9 - Lung and Other Severe Cancers                        | 98        | -0.0377       | 102                     | -0.1517     |
|               |                                      | HCC10 - Lymphoma and Other Cancers                          | 99        | -0.0306       | 103                     | -0.1047     |
|               |                                      | HCC11 - Colorectal, Bladder, and Other Cancers              | 100       | 0.0315        |                         |             |
|               |                                      | HCC12 - Breast, Prostate, and Other Cancers and Tumors      | 101       | 0.0126        |                         |             |
|               |                                      | HCC17 - Diabetes with Acute Complications                   |           |               |                         |             |
|               |                                      | HCC18 - Diabetes with Chronic Complications                 | 102       | -0.0327       | 104                     | -0.0749     |
|               |                                      | HCC19 - Diabetes without Complication                       | 103       | -0.0091       | 105                     | -0.0297     |
|               |                                      | HCC21 - Protein-Calorie Malnutrition                        | 104       | -0.0219       | 106                     | -0.0850     |
|               |                                      | HCC22 - Morbid Obesity                                      | 105       | -0.0590       | 107                     | -0.1008     |
|               |                                      | HCC23 - Other Significant Endocrine and Metabolic Disorders |           |               |                         |             |
| 31            | Hierarchical Condition<br>Categories | HCC27 - End-Stage Liver Disease                             | 106       | -0.0332       | 108                     | -0.1067     |
|               | Calegones                            | HCC28 - Cirrhosis of Liver                                  | 107       | -0.0306       | 109                     | -0.0834     |
|               |                                      | HCC29 - Chronic Hepatitis                                   |           |               |                         |             |
|               |                                      | HCC33 - Intestinal Obstruction/Perforation                  | 108       | 0.0234        |                         |             |
|               |                                      | HCC34 - Chronic Pancreatitis                                |           |               |                         |             |
|               |                                      | HCC35 - Inflammatory Bowel Disease                          | 109       | 0.0343        | 110                     | 0.0752      |
|               |                                      | HCC39 - Bone/Joint/Muscle Infections/Necrosis               |           |               | 111                     | -0.0292     |
|               |                                      | HCC40 - RA and Inflammatory Connective Tissue Disease       | 110       | -0.0154       | 112                     | -0.0246     |
|               |                                      | HCC46 - Severe Hematological Disorders                      | 111       | -0.0296       | 113                     | -0.0829     |
|               |                                      | HCC47 - Disorders of Immunity                               |           |               |                         |             |
|               |                                      | HCC48 - Coagulation and Other Hematological Disorders       |           |               |                         |             |
|               |                                      | HCC51 - Dementia With Complications                         | 112       | -0.0662       | 114                     | -0.3106     |
|               |                                      | HCC52 - Dementia Without Complication                       | 113       | -0.0504       | 115                     | -0.2377     |
|               |                                      | HCC54 - Substance Use with Psychotic Complications          |           |               |                         |             |
|               |                                      | HCC55 - Substance Use Disorder, Moderate/Severe             |           |               |                         |             |

| Diels Feeten # | Disk Frater                          | Mariah la Nama  | TNC Chang | e in Mobility | TNC Change | e in Self Care |
|----------------|--------------------------------------|---|-----------|---------------|------------|----------------|
| Risk Factor #  | Risk Factor                          | Variable Name   | Covariate | Coefficient   | Covariate  | Coefficient    |
|                |                                      | HCC56 - Substance Use Disorder, Mild                      |           |               |            |                |
|                |                                      | HCC57 - Schizophrenia                                     |           |               |            |                |
|                |                                      | HCC58 - Reactive and Unspecified Psychosis                |           |               |            |                |
|                |                                      | HCC59 - Major Depressive, Bipolar, and Paranoid Disorders | 114       | -0.0140       | 116        | -0.0432        |
|                |                                      | HCC60 - Personality Disorders                             |           |               |            |                |
|                |                                      | HCC70 - Quadriplegia                                      | 115       | -0.4647       | 117        | -0.9039        |
|                |                                      | HCC71 - Paraplegia  | 116       | -0.3396       | 118        | -0.3210        |
|                |                                      | HCC72 - Spinal Cord Disorders/Injuries                    | 117       | -0.1115       | 119        | -0.1644        |
|                |                                      | HCC73 - ALS and Other Motor Neuron Disease                | 118       | -0.4361       | 120        | -1.1787        |
|                |                                      | HCC74 - Cerebral Palsy                                    | 119       | -0.2768       | 121        | -0.5938        |
|                |                                      | HCC75 - Myoneural Disorders and Guillain-Barre Syndrome   | 120       | -0.0377       | 122        | -0.0504        |
|                |                                      | HCC76 - Muscular Dystrophy                                | 121       | -0.2986       | 123        | -0.5277        |
|                |                                      | HCC77 - Multiple Sclerosis                                | 122       | -0.1843       | 124        | -0.2863        |
|                |                                      | HCC78 - Parkinson's and Huntington's Diseases             | 123       | -0.1029       | 125        | -0.3062        |
| 31             | Hierarchical Condition<br>Categories | HCC79 - Seizure Disorders and Convulsions                 | 124       | -0.0336       | 126        | -0.1092        |
|                | Odicyones                            | HCC80 - Coma, Brain Compression/Anoxic Damage             | 125       | -0.0432       | 127        | -0.1246        |
|                |                                      | HCC82 - Respirator Dependence/Tracheostomy Status         | 126       | -0.0377       | 128        | -0.1797        |
|                |                                      | HCC83 - Respiratory Arrest                                |           |               |            |                |
|                |                                      | HCC84 - Cardio-Respiratory Failure and Shock              |           |               | 129        | -0.0262        |
|                |                                      | HCC85 - Congestive Heart Failure                          | 127       | -0.0411       | 130        | -0.1023        |
|                |                                      | HCC86 - Acute Myocardial Infarction                       | 128       | 0.0231        | 131        | 0.0218         |
|                |                                      | HCC87 - Acute Ischemic Heart Disease                      | 129       | 0.0212        |            |                |
|                |                                      | HCC88 - Angina Pectoris                                   |           |               |            |                |
|                |                                      | HCC96 - Specified Heart Arrhythmias                       |           |               |            |                |
|                |                                      | HCC99 - Intracranial Hemorrhage                           |           |               |            |                |
|                |                                      | HCC100 - Ischemic or Unspecified Stroke                   | 130       | -0.0691       | 132        | -0.1773        |
|                |                                      | HCC103 - Hemiplegia/Hemiparesis                           | 131       | -0.1015       | 133        | -0.2777        |
|                |                                      | HCC104 - Monoplegia, Other Paralytic Syndromes            | 132       | -0.0439       | 134        | -0.0921        |
|                |                                      | HCC106 - Atherosclerosis of the Extremities               | 133       | -0.1069       | 135        | -0.2407        |

| Diek Feeten#  | Diek Feeter            | Variahla Nama  | TNC Chang | TNC Change in Mobility |           | TNC Change in Self Care |  |
|---------------|------------------------|--|-----------|------------------------|-----------|-------------------------|--|
| Risk Factor # |                        | Variable Name  | Covariate | Coefficient            | Covariate | Coefficient             |  |
|               |                        | HCC107 - Vascular Disease with Complications               |           |                        |           |                         |  |
|               |                        | HCC108 - Vascular Disease                                  | 134       | -0.0191                | 136       | -0.0324                 |  |
|               |                        | HCC110 - Cystic Fibrosis                                   |           |                        |           |                         |  |
|               |                        | HCC111 - Chronic Obstructive Pulmonary Disease             | 135       | -0.0296                | 137       | -0.0737                 |  |
|               |                        | HCC112 - Fibrosis of Lung and Other Chronic Lung Disorders | 136       | -0.0182                | 138       | -0.0587                 |  |
|               |                        | HCC114 - Aspiration and Specified Bacterial Pneumonias     | 137       | -0.0244                | 139       | -0.0987                 |  |
|               |                        | HCC115 - Pneumococcal Pneumonia, Empyema, Lung Abscess     |           |                        |           |                         |  |
|               |                        | HCC122 - Proliferative Diabetic Retinopathy                |           |                        |           |                         |  |
|               |                        | HCC124 - Exudative Macular Degeneration                    |           |                        |           |                         |  |
|               |                        | HCC134 - Dialysis Status                                   | 138       | -0.1357                | 140       | -0.3422                 |  |
|               |                        | HCC135 - Acute Renal Failure                               |           |                        |           |                         |  |
|               |                        | HCC136 - Chronic Kidney Disease, Stage 5                   | 139       | -0.0956                | 141       | -0.2366                 |  |
|               |                        | HCC137 - Chronic Kidney Disease, Severe (Stage 4)          | 140       | -0.0208                | 142       | -0.0521                 |  |
| 31            | Hierarchical Condition | HCC138 - Chronic Kidney Disease, Moderate (Stage 3)        |           |                        |           |                         |  |
| 31            | Categories             | HCC157 - Pressure Ulcer of Skin with Necrosis              | 141       | -0.2287                | 143       | -0.3647                 |  |
|               |                        | HCC158 - Pressure Ulcer of Skin with Full Skin Loss        | 142       | -0.0887                | 144       | -0.1781                 |  |
|               |                        | HCC159 - Pressure Ulcer of Skin with Partial Skin Loss     | 143       | -0.0432                | 145       | -0.1004                 |  |
|               |                        | HCC161 - Chronic Ulcer of Skin, Except Pressure            | 144       | -0.0583                | 146       | -0.1660                 |  |
|               |                        | HCC162 - Severe Skin Burn or Condition                     |           |                        |           |                         |  |
|               |                        | HCC166 - Severe Head Injury                                |           |                        |           |                         |  |
|               |                        | HCC167 - Major Head Injury                                 |           |                        |           |                         |  |
|               |                        | HCC169 - Vertebral Fractures without Spinal Cord Injury    |           |                        |           |                         |  |
|               |                        | HCC170 - Hip Fracture/Dislocation                          |           |                        |           |                         |  |
|               |                        | HCC173 - Traumatic Amputations and Complications           |           |                        |           |                         |  |
|               |                        | HCC176 - Complications of Implanted Device or Graft        | 145       | -0.0175                |           |                         |  |
|               |                        | HCC186 - Major Organ Transplant Status                     | 146       | 0.0362                 |           |                         |  |
|               |                        | HCC188 - Artificial Openings for Feeding or Elimination    | 147       | 0.0219                 |           |                         |  |
|               |                        | HCC189 - Amputation Status, LL Amputation Complications    | 148       | -0.1361                | 147       | -0.1084                 |  |
| CONS          |                        | CONSTANT   | 149       | 0.0395                 | 148       | 0.1991                  |  |