Appendix A: List of Variables Entering Variable List

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| **Category** | Variable | Data Source | Type of Data |
| **Outcome Variable** | Reason for Hospitalization | M2410 | Binary: Yes/No |
| Reason for Emergency Care | M2310 | Binary: Yes/No |
| **Demographics** | Age  Age squared  Age cubed | Patient administrative Data | Continuous |
| Sex | M0069 | Binary: Female/Male |
| Race/ethnicity  Caucasian  Hispanic  African American  Asian | M1040 | Binary: Yes/No |
| Marital status | Patient administrative Data | Binary: Married/not Married |
| Payer  Medicare FFS  Medicaid FFS  Medicare HMO  Medicaid HMO  Private Insurance  Others | M0150 | Binary:  Yes/No |
| **Previous History & Diagnoses** | Inpatient Stay 14 Days Prior to home care admission  Short stay acute care hospital  Long-term care (Skilled nursing facility, long-term nursing home, long-term care hospital)  Others | M1000 | Binary:  Yes/No |
| Prior conditions  Urinary incontinence  Indwelling/suprapublic catheter  Intractable pain  Memory loss  Disruptive or socially inappropriate behavior | M1018 | Binary: Yes/No |
| Diagnoses  Acute Myocardial Infarction  AIDS  Arthritis  Cerebral Degeneration  Dementia, Diabetes  Heart Failure  Hypertension  Neurological disorder  Pulmonary disease  Peripheral Vascular Disease  Skin Ulcer  Stroke | M1020, M1022, M1024 | Binary:  Yes/No |
| **Current Condition** | Therapies  Intravenous or infusion therapy  Parenteral nutrition  Enteral nutrition | M1030 | Binary: Yes/No |
| **Risk for Hospitalization** | Risk for Hospitalization  Recent decline in mental, emotional, or behavioral status  Multiple hospitalizations  History of falls  Taking five or more medications  Frailty indicators | M1032 | Binary:  Yes/No |
| Risk Factors  Smoking  Obesity  Alcohol dependency  Drug dependency | M1036 | Binary:  Yes/No |
| Living Condition  Lives alone  Lives with others | M1100 | Binary:  Yes/No |
| **Integumentary Status** | Risk of Developing Pressure Ulcer? | M1302 | Binary: Yes/No |
|  | Having at least one Unhealed Pressure Ulcer at Stage II or Higher | M1306 | Binary: Yes/No |
|  | Stage of Most Problematic Unhealed (Observable) Pressure Ulcer | M1324 | Categorical: Stage I, Stage II, Stage III, Stage IV, Unstagable |
|  | Status of Most Problematic (Observable) Stasis Ulcer | M1334 | Binary:  Not healing, All others |
|  | Status of Most Problematic (Observable) Surgical Wound | M1342 | Categorical: Newly Epithelialized, Fully/Early Granulating, Not Healing, Not Observable |
|  | Skin Lesion or Open Wound | M1350 | Binary: Yes/No |
|  | Short of Breath | M1400 | Categorical: Never,  When walking more than 20 feet/climbing stairs,  With moderate exertion,  With minimal exertion,  At rest |
|  | Respiratory Treatments At Home (Any) | M1410 | Binary: Yes/No |
| **Elimination Status** | UTI Treatment in Past 14 Days | M1600 | Binary: Yes/No |
|  | Urinary Catheter Presence | M1610 | Binary: Yes/No |
|  | When Urinary Incontinence Occurred | M1615 | Categorical:  Timed Voiding, Occasional Stress Incontinence, Night/Day only,  Day and Night |
|  | Bowel Incontinence Frequency | M1620 | Categorical: Never/Rarely /unknown,  Less than once weekly,  One to three times weekly,  Four to six times weekly,  On a daily basis,  More often than once daily |
|  | Ostomy for Bowel Elimination | M1630 | Categorical:  None,  Ostomy was not related to an inpatient stay, Ostomy was related to an inpatient stay |
| **Neuro/Emotional/Behavioral Status** | Cognitive Functioning | M1700 | Categorical: Alert/oriented, Requires prompting, Requires assistance, Requires considerable assistance,  Totally dependent |
|  | When Confused | M1710 | Categorical:  Never,  In new or complex situations /On awakening or at night only,  During the day and evening but not constantly, Constantly/Patient nonresponsive |
|  | When Anxious | M1720 | Categorical:  None,  Less than Daily,  Daily,  not Constant,  All of the Time/Nonresponsive |
|  | Little interest or pleasure in doing things | M1730a | Categorical:  Not at all 0 - 1 day, Several days 2 - 6 days,  more than half/nearly every day,  no screening /nonresponsive |
|  | Feeling down, depressed, or hopeless? | M1730b | Categorical:  Not at all 0 - 1 day, Several days 2 - 6 days,  more than half/nearly every day,  no screening /nonresponsive |
|  | Memory deficit | M1740 | Binary:  Yes/No |
|  | Impaired decision-making | M1740 | Binary:  Yes/No |
|  | Frequency of Disruptive Behavior Symptoms | M1745 | Categorical:  Never,  Less than once a month/ Once a month/ Several times each month/Several times a week,  At least daily |
| **ADL/IADLs** | Grooming | M1800 | Categorical: Independent, Grooming utensils must be placed, Someone must assist, Dependent |
|  | Dress Upper Body | M1810 | Categorical: Independent,  Able if clothing is laid out,  Someone must assist, Dependent |
|  | Dress Lower Body | M1820 | Categorical: Independent,  Able if clothing is laid out,  Someone must assist, Dependent |
|  | Bathing | M1830 | Categorical: Independent,  Use of Device, Intermittent Assistance,  Requires Presence, Bedside/Sink, Bedside/Sink with Assistance, Dependent |
|  | Toilet Transferring: | M1840 | Categorical: Independent, Assistance,  Bedside,  Bedpan,  Dependent |
|  | Toileting Hygiene | M1845 | Categorical: Independent,  Able if supplies/implements are laid out,  Someone must assist, Dependent |
|  | Transferring | M1850 | Categorical: Independent, Minimum Assistance, Bear Weight and Pivot,  No Pivot with Assistance,  Bedfast but able to turn,  Bedfast |
|  | Ambulation/Locomotion | M1860 | Categorical: Independent,  Need One-Handed Device,  Need Two-handed Device,  Need Assistance, Chairfast,  Able to Wheel Self, Chairfast,  Unable to Wheel Self, Bedrest |
|  | Feeding or Eating | M1870 | Categorical: Independent, Intermittent assistance,  Someone must assist, Tube feeding or gastrostomy |
|  | Prepare Light Meals | M1880 | Categorical: Independent,  Not Regular Basis, Dependent |
|  | Ability to Use Telephone | M1890 | Categorical: Independent/No phone,  specially adapted telephone,  Difficulty with placing calls,  Answer the telephone only some of the time, Unable to answer but can listen if assisted, Dependent |
|  | Prior Functioning – Self-Care | M1900a | Categorical: Independent,  Some Help, Dependent |
|  | Prior Functioning – Ambulation | M1900b | Categorical: Independent,  Some Help, Dependent |
|  | Prior Functioning – Transfer | M1900c | Categorical: Independent,  Some Help, Dependent |
|  | Prior Functioning – Household tasks | M1900d | Categorical: Independent,  Some Help, Dependent |
|  | Fall Risk | M1910 | Categorical:  No Assessment,  No Risk,  Risk |
| **Medication & Medication Management** | Management of Oral Medications | M2020 | Categorical: Independent, Preparation needed, Reminders needed, Dependent,  No Oral Meds |
|  | Management of Injectable Medications | M2030 | Categorical: Independent, Preparation needed, Reminders needed, Dependent,  No Injectable Meds |
|  | Prior Medication Management – Oral Medications | M2040a | Categorical: Independent,  Some Help, Dependent,  No Oral Meds |
|  | Prior Medication Management – Injectable Medications | M2040b | Categorical: Independent,  Some Help, Dependent,  No Injectable Meds |
| **Care Management** | ADL assistance | M2100a | Categorical: No Assistance Needed, Caregiver Currently Providing,  Caregiver Needs Training,  Caregiver Unlikely/Unclear/No Caregiver |
|  | IADL assistance | M2100b | Categorical: No Assistance Needed, Caregiver Currently Providing,  Caregiver Needs Training,  Caregiver Unlikely/Unclear/No Caregiver |
|  | Medication administration | M2100c | Categorical: No Assistance Needed, Caregiver Currently Providing,  Caregiver Needs Training,  Caregiver Unlikely/Unclear/No Caregiver |
|  | Medical Procedures/Treatments | M2100d | Categorical: No Assistance Needed, Caregiver Currently Providing,  Caregiver Needs Training,  Caregiver Unlikely/Unclear/No Caregiver |
|  | Management of Equipment | M2100e | Categorical: No Assistance Needed, Caregiver Currently Providing,  Caregiver Needs Training,  Caregiver Unlikely/Unclear/No Caregiver |
|  | Supervision and safety | M2100f | Categorical: No Assistance Needed, Caregiver Currently Providing,  Caregiver Needs Training,  Caregiver Unlikely/Unclear/No Caregiver |
|  | Advocacy or facilitation | M2100g | Categorical: No Assistance Needed, Caregiver Currently Providing,  Caregiver Needs Training,  Caregiver Unlikely/Unclear/No Caregiver |
|  | Frequency of ADL or IADL assistance | M2110 | Categorical:  At least daily,  Three or more times per week,  One to two times per week,  Less often than weekly,  No assistance/ Unknown |
|  | Therapy Need | M2200 | Continuous |
| **Medication Regime** | Current Medications  We included 36 medications such as Antibiotics, Analgesics, Bronchodilators, Glucocorticoids, Lipotropics | Electronic health records | Binary: Yes/No |
|  | Number of Medications (Prescribed and OTC) | Electronic health records | Continuous |
| **Vital Signs** | Blood Pressure | Electronic health records | Categorical:  Hypotension,  Normal,  Stage I HTN,  Stage 2 HTN |
|  | Pulse | Electronic health records | Continuous |
|  | High Temperature (>100.4) | Electronic health records | Binary: Yes/No |