Supplementary Online Content

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**eTable 1.** *International Classification of Diseases, Ninth Revision (ICD-9) and International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10)*

**Current Procedural Terminology Codes for Comorbidities**

**eTable 2.** Multivariable Analysis of Primary Model Compared With Models Used in Sensitivity Analyses, Including Veterans With Conflicting Eligibility Documentation

This supplementary material has been provided by the authors to give readers additional information about their work.
### eTable 1. International Classification of Diseases, Ninth Revision (ICD-9) and International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) Current Procedural Terminology Codes for Comorbidities

| Comorbidity                        | ICD-9-CM codes | ICD-10-CM codes | ICD-9 procedure codes | ICD-10 procedure codes | CPT4/HCPCS procedure codes |
|------------------------------------|----------------|----------------|-----------------------|------------------------|---------------------------|
| Elixhauser Comorbidity Index       | your code or: http://mchp-appserv.cpe.umanitoba.ca/Upload/SAS/ICD10_EX.sas.txt |               |                       |                        |                           |
| Other morbidities                   |                |                |                       |                        |                           |
|                                    | The next 2 variables are based on a single principal code from inpatient records (VA or Medicare) or primary code from Emergency room data anytime before or on the index date. |
| MACE                               | 410, 410.xx, 411.0, 411.1, 411.81, 411.89, 412, 412.xx, 427.5 | I20.0, I21.0, I21.x, I22.x, I24.0, I24.1, I24.8, I24.9, I25.2, I25.3, I46.9 | I60.9, I61.9, I62.1, I62.00, I62.9, I65.1, I63.22, I66.x, I66.xx, I63.38, I64.40, I63.50, I67.8x, I69.9xx | 36.01-36.07, 36.09-36.16, 36.19 | 0210xxx, 02111xxx, 0212xxx, 0213xxx, 0270xxx, 0271xxx, 0272xxx, 0273xxx, 33510-33519, 33521-33523, 33533-33536, 33572, 92973-92975, 92977, 92980-92982, 92984, 92986, 92989, 92995, 92996 |
| Stroke, all                        | 430-434, 436, 437.1, 438 | I20.0, I21.0, I21.x, I22.x, I24.0, I24.1, I24.8, I24.9, I25.2, I25.3, I46.9 | I60.9, I61.9, I62.1, I62.00, I62.9, I65.1, I63.22, I66.x, I66.xx, I63.38, I64.40, I63.50, I67.8x, I69.9xx | 36.01-36.07, 36.09-36.16, 36.19 | 0210xxx, 02111xxx, 0212xxx, 0213xxx, 0270xxx, 0271xxx, 0272xxx, 0273xxx, 33510-33519, 33521-33523, 33533-33536, 33572, 92973-92975, 92977, 92980-92982, 92984, 92986, 92989, 92995, 92996 |
| COPD/ Emphysema                    | 491 xx, 492.xx, 496.xx | J40.14.xx |                       |                        |                           |
| Interstitial lung disease          | 506.1, 515, 516.31, 516.32, 516.34, 518.89, 714.81, 770.7 | J40.14.xx |                       |                        |                           |
| Congestive heart failure           | 425.428.xx,402.01-402.11,402.91,404.01-404.91,404.93 | J00.x, J00.xx, J11.0, J13.0, J13.2 |                       |                        |                           |
| HIV                                | 042-944.xx | B18.9 |                       |                        |                           |
| Dementia, including Alzheimers     | 290, 290.xx, 331.0-331.82, 331.9, 331.9x, 797 | F01.5, F01.5x, F02.8, F02.8x, F03.9, F03.9x, GP00, GP01, GP01.xx, GP01.xx, GP01.x, GP01.x |                       |                        |                           |
| Other neurodegenerative diseases   | 340, 340.xx, 332, 332.00 | G20, G31.xx, G31.xxx, R41.81 |                       |                        |                           |
| Depression (MDP+ODP)               | 296.2-296.3x, 300.4, 300.4x, 300.9, 300.9x, 301.12, 309.0, 309.0x, 309.1, 309.1x, 309.28, 311, 311.x | F32.x, F32.xx, F33.xx, F33.xxx, F34.1, F43.21, F43.23, F48.9 |                       |                        |                           |
| PTSD                               | 309.81 | F43.10, F43.11, F43.12 |                       |                        |                           |
| Schizophrenia                      | 295, 295.xx | F20.x, F20.xx |                       |                        |                           |
| Other psychiatric conditions       | 291, 291.xx, 292.0, 292.0x, 292.89, 292.9 | F05, F19.921, F19.94, F19.950, F19.951, F19.956, F22, F23, F28-F31.xx, F32.3, F33.3, F34.0, F34.81, F39-F42.xx, F43.24, F43.25, F44.89, F44.9 |                       |                        |                           |
| Alcohol /Drug Abuse/Use (Substance Use Disorder) | 291, 291.xx, 292.0, 292.0x, 292.89, 292.9 | F10-F16.xx, F18-F19.xx, F62.1, F62.6, K29.20, K29.21, K70.0, K70.xx, P04.3, Q86.0, R79.0, T50.991A, T51.0X1A, T51.0X2A, T51.0X3A, T51.0X4A, T51.91XXA, T51.91XXB, T51.91XXC, T51.91XXD, T51.91XXE, T51.91XXF |                       |                        |                           |

All other morbidity variables are based on 2+ days with codes (IP or OP, VA or Medicare) in the 731 days (2 years) before and including the index date, except as noted.
**eTable 2. Multivariable Analysis of Primary Model Compared With Models Used in Sensitivity Analyses, Including Veterans With Conflicting Eligibility Documentation**

|                          | Primary Model (N=43,450) | Sensitivity model including Veterans with conflicting eligibility (N=50,345) |
|--------------------------|--------------------------|--------------------------------------------------------------------------|
|                          | OR  | 95% CI       | OR  | 95% CI       |
| **Age (85-89 as reference)** |     |              |     |              |
| 55-59                    | 0.69| 0.64 – 0.74  | 0.69| 0.64 – 0.73  |
| 60-64                    | 0.80| 0.75 – 0.85  | 0.82| 0.77 – 0.87  |
| 70-74                    | 1.27| 1.19 – 1.37  | 1.24| 1.17 – 1.33  |
| 75-80                    | 1.93| 1.73 – 2.17  | 1.82| 1.64 – 2.02  |
| Female                   | 1.08| 0.95 – 1.24  | 1.08| 0.95 – 1.22  |
| **Race (white as reference)** |     |              |     |              |
| Black                    | 0.80| 0.73 – 0.87  | 0.80| 0.74 – 0.86  |
| Hispanic                 | 0.62| 0.49 – 0.78  | 0.61| 0.50 – 0.75  |
| Other                    | 0.98| 0.80 – 1.20  | 0.91| 0.75 – 1.10  |
| Married                  | 1.05| 0.99 – 1.10  | 1.04| 0.99 – 1.09  |
| Zip code-level income*   | 0.95| 0.87 – 1.03  | 0.96| 0.89 – 1.03  |
| Live in rural zip code   | 1.01| 0.95 – 1.08  | 1.01| 0.95 – 1.07  |
| Distance to VA Facility* | 1.06| 1.03 – 1.08  | 1.06| 1.03 – 1.08  |
| **Comorbid conditions**  |     |              |     |              |
| Currently smoking        | 0.90| 0.85 – 0.96  | 0.90| 0.85 – 0.95  |
| History of major adverse cardiac event | 0.95| 0.88 – 1.04  | 0.98| 0.90 – 1.05  |
| Congestive heart failure | 1.25| 1.12 – 1.39  | 1.23| 1.11 – 1.36  |
| Stroke                   | 1.14| 1.01 – 1.28  | 1.13| 1.01 – 1.26  |
| Chronic obstructive pulmonary disease | 1.00| 0.94 – 1.06  | 0.99| 0.94 – 1.05  |
| Interstitial lung disease | 0.98| 0.85 – 1.21  | 0.98| 0.91 – 1.27  |
| Depression               | 0.86| 0.76 – 0.95  | 0.86| 0.80 – 0.93  |
| Post-traumatic stress disorder | 0.95| 0.88 – 1.03  | 0.93| 0.87 – 1.11  |
| Substance use disorder   | 0.95| 0.89 – 1.02  | 0.95| 0.89 – 1.01  |
| Schizophrenia            | 1.87| 1.60 – 2.19  | 1.82| 1.58 – 2.09  |
| Elixhauser Comorbidity Index score | 1.04| 1.03 – 1.05  | 1.04| 1.03 – 1.05  |
| Human Immunodeficiency Virus | 0.93| 0.80 – 1.08  | 0.93| 0.81 – 1.07  |
| **Healthcare Utilization in the year before index date** |     |              |     |              |
| Outpatient visits        | 0.70| 0.67 – 0.72  | 0.70| 0.68 – 0.73  |
| Emergency department visits | 0.86| 0.80 – 0.92  | 0.87| 0.82 – 0.92  |
| Inpatient days           | 1.04| 0.99 – 1.10  | 1.04| 0.99 – 1.08  |
| Long-term care facility days | 1.07| 1.19 – 1.13  | 1.08| 1.19 – 1.16  |
| **Facility-level characteristics** |     |              |     |              |
| US Census region (Northeast as reference) |     |              |     |              |
| Midwest                  | 1.56| 0.26 – 9.60  | 1.38| 0.25 – 7.56  |
| South                    | 1.17| 0.24 – 5.66  | 1.06| 0.24 – 4.59  |
| West                     | 0.93| 0.18 – 4.88  | 0.79| 0.17 – 3.73  |
| Lung cancer screening volume (high volume as reference) |     |              |     |              |
| Low                      | 3.74| 0.72 – 19.41 | 3.06| 0.65 – 14.36 |
| Medium                   | 2.00| 0.42 – 9.64  | 1.92| 0.44 – 8.35  |

* Bolded Odds ratio (OR) are statistically significant at alpha = 0.05

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