Supplementary Online Content


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**eTable 10.** Sensitivity Analyses

This supplementary material has been provided by the authors to give readers additional information about their work.
**eTable 1. Diagnostic Imaging Codes**

<table>
<thead>
<tr>
<th>Carotid Angiogram</th>
<th>Carotid Angiogram</th>
</tr>
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<tbody>
<tr>
<td>• 75650</td>
<td>Angiography, cervicocerebral, catheter, including vessel origin, radiological supervision and interpretation</td>
</tr>
<tr>
<td>• 75660</td>
<td>Angiography, external carotid, unilateral, selective, radiological supervision and interpretation</td>
</tr>
<tr>
<td>• 75662</td>
<td>Angiography, external carotid, bilateral, selective, radiological supervision and interpretation</td>
</tr>
<tr>
<td>• 75665</td>
<td>Angiography, carotid, cerebral, unilateral, radiological supervision and interpretation</td>
</tr>
<tr>
<td>• 75671</td>
<td>Angiography, carotid, cerebral, bilateral, radiological supervision and interpretation</td>
</tr>
<tr>
<td>• 75676</td>
<td>Angiography, carotid, cervical, unilateral, radiological supervision and interpretation</td>
</tr>
<tr>
<td>• 75680</td>
<td>Angiography, carotid, cervical, bilateral, radiological supervision and interpretation</td>
</tr>
<tr>
<td>• 75860</td>
<td>Angiography, external carotid, unilateral, selective, radiological supervision and interpretation</td>
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<tr>
<td>• 88.41</td>
<td>Arteriography of cerebral arteries</td>
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</table>

<table>
<thead>
<tr>
<th>CT Angiography</th>
<th>CT Angiography</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 70496</td>
<td>Computed tomographic angiography, head with contrast material, including non contrast images and image post-processing</td>
</tr>
<tr>
<td>• 70498</td>
<td>Computed tomographic angiography, neck, with contrast material(s), including non contrast images, if performed, and image postprocessing</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Ultrasound</th>
<th>Ultrasound</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 93875</td>
<td>Noninvasive physiologic studies of extracranial arteries, complete bilateral study (e.g., periorbital flow direction with arterial compression, ocular pneumoplethysmography, Doppler ultrasound spectral analysis)</td>
</tr>
<tr>
<td>• 93880</td>
<td>Duplex scan of extracranial arteries; complete bilateral study</td>
</tr>
<tr>
<td>• 93882</td>
<td>Duplex scan of extracranial arteries; unilateral or limited study</td>
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<td>• 88.71</td>
<td>Diagnostic ultrasound of head and neck</td>
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<table>
<thead>
<tr>
<th>MR angiogram</th>
<th>MR angiogram</th>
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</thead>
<tbody>
<tr>
<td>• 70547</td>
<td>Magnetic resonance angiography, neck; without contrast material(s)</td>
</tr>
<tr>
<td>• 70548</td>
<td>Magnetic resonance angiography, neck; with contrast material(s)</td>
</tr>
<tr>
<td>• 70549</td>
<td>Magnetic resonance angiography, neck; without contrast material(s), followed by contrast material(s) and further sequences</td>
</tr>
<tr>
<td>• 88.96</td>
<td>Other intraoperative magnetic resonance imaging</td>
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**eTable 2. Modified Recker’s High Sensitivity Algorithm**

The original Reker algorithm was modified to include eye strokes and transient ischemic attacks (TIA). We combined VA and Medicare data to exclude any patient with evidence of stroke or TIA in the 6 months prior to the index carotid image using the following high sensitivity algorithm:

<table>
<thead>
<tr>
<th>i) Stroke high sensitivity diagnosis algorithm:</th>
</tr>
</thead>
<tbody>
<tr>
<td>If admission or discharge primary diagnosis:</td>
</tr>
<tr>
<td>• 362.31 central retinal artery occlusion</td>
</tr>
<tr>
<td>• 362.32 retinal arterial branch occlusion</td>
</tr>
<tr>
<td>• 362.33 partial retinal arterial occlusion</td>
</tr>
<tr>
<td>• 362.34 transient retinal arterial occlusion</td>
</tr>
<tr>
<td>• 430.xx, Subarachnoid hemorrhage</td>
</tr>
<tr>
<td>• 431.xx Intracerebral hemorrhage</td>
</tr>
<tr>
<td>• 432.xx Other and unspecified intracranial hemorrhage</td>
</tr>
<tr>
<td>• 433.01 occlusion and stenosis of basilar artery with infarction</td>
</tr>
<tr>
<td>• 433.11 occlusion and stenosis of carotid artery with infarction</td>
</tr>
<tr>
<td>• 433.21 occlusion and stenosis of vertebral artery with infarction</td>
</tr>
<tr>
<td>• 433.31 occlusion and stenosis of multiple and bilateral arteries with infarction</td>
</tr>
<tr>
<td>• 433.81 occlusion and stenosis of other specified precerebral arteries with infarction</td>
</tr>
<tr>
<td>• 433.91 occlusion and stenosis of other unspecified precerebral arteries with infarction</td>
</tr>
<tr>
<td>• 434.01, occlusion of cerebral arteries with infarction</td>
</tr>
<tr>
<td>• 434.11 cerebral embolism with cerebral infarction</td>
</tr>
<tr>
<td>• 434.91 cerebral artery occlusion, unspecified with infarction</td>
</tr>
<tr>
<td>• 435.xx transient cerebral ischemia</td>
</tr>
<tr>
<td>• 436.xx Acute, but ill-defined, cerebrovascular disease</td>
</tr>
<tr>
<td>• 997.02 iatrogenic stroke</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>j) Rehab Admission or discharge primary diagnosis is V57.xx (Rehabilitation) and any secondary diagnosis:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 342.xx Hemiplegia/hemiparesis</td>
</tr>
<tr>
<td>• 362.31 central retinal artery occlusion</td>
</tr>
<tr>
<td>• 362.32 retinal arterial branch occlusion</td>
</tr>
<tr>
<td>• 362.33 partial retinal arterial occlusion</td>
</tr>
<tr>
<td>• 362.34 transient retinal arterial occlusion</td>
</tr>
<tr>
<td>• 430.xx, Subarachnoid hemorrhage</td>
</tr>
<tr>
<td>• 431.xx, Intracerebral hemorrhage</td>
</tr>
<tr>
<td>• 432.xx, Other and unspecified intracranial hemorrhage</td>
</tr>
<tr>
<td>• 433.01 occlusion and stenosis of basilar artery with infarction</td>
</tr>
<tr>
<td>• 433.11 occlusion and stenosis of carotid artery with infarction</td>
</tr>
<tr>
<td>• 433.21 occlusion and stenosis of vertebral artery with infarction</td>
</tr>
<tr>
<td>• 433.31 occlusion and stenosis of multiple and bilateral arteries with infarction</td>
</tr>
<tr>
<td>• 433.81 occlusion and stenosis of other specified precerebral arteries with infarction</td>
</tr>
<tr>
<td>• 433.91 occlusion and stenosis of other unspecified precerebral arteries with infarction</td>
</tr>
<tr>
<td>• 434.01, occlusion of cerebral arteries with infarction</td>
</tr>
<tr>
<td>• 434.11 cerebral embolism with cerebral infarction</td>
</tr>
<tr>
<td>• 434.91 cerebral artery occlusion, unspecified with infarction</td>
</tr>
<tr>
<td>• 435.xx transient ischemic attack</td>
</tr>
<tr>
<td>• 436.xx, Acute, but ill-defined, cerebrovascular disease</td>
</tr>
<tr>
<td>• 437.xx other and ill-defined cerebrovascular disease</td>
</tr>
<tr>
<td>• 438.xx, or late effects of cerebrovascular disease OR</td>
</tr>
<tr>
<td>• 997.02 iatrogenic stroke</td>
</tr>
</tbody>
</table>

| k) Admission or discharge primary diagnosis is 433.xx and 434.xx and any secondary diagnosis code; |

• 342.xx, (hemiparesis)
• 362.31 central retinal artery occlusion
• 362.32 retinal arterial branch occlusion
• 362.33 partial retinal artery occlusion
• 362.34 transient retinal artery occlusion
• 430.xx, Subarachnoid hemorrhage
• 431.xx, Intracerebral hemorrhage
• 432.xx, Other and unspecified intracranial hemorrhage
• 433.xx occlusion and stenosis of basilar artery with infarction
• 433.11 occlusion and stenosis of carotid artery with infarction
• 433.21 occlusion and stenosis of vertebral artery with infarction
• 433.31 occlusion and stenosis of multiple and bilateral arteries with infarction
• 433.81 occlusion and stenosis of other specified precerebral arteries with infarction
• 433.91 occlusion and stenosis of other unspecified precerebral arteries with infarction
• 434.01, occlusion of cerebral arteries with infarction
• 434.11 cerebral embolism with infarction
• 434.91 cerebral artery occlusion, unspecified
• 435.xx transient cerebral ischemia
• 436.xx, Acute, but ill-defined, cerebrovascular disease
• 997.02 iatrogenic stroke

l) Anyone that got a carotid image during a hospitalization and had any TIA or Stroke code from the list above in the discharge diagnosis.

m) Stroke high sensitivity part 4: anyone that got a carotid image during a hospitalization and had any TIA or Stroke code from the list above in the discharge diagnosis.
   NOTE: this is just the algorithm above but applied to those whose index carotid image happened while in the hospital

d) Exclude anyone seen in ED or urgent care (stop codes 101,130,131) setting image with clinic stop code with TIA code in 6 months prior to image date from the list below:
   • 435 transient cerebral ischemia
   • 362.31 central retinal artery occlusion
   • 362.32 retinal arterial branch occlusion
   • 362.33 partial retinal artery occlusion
   • 362.34 transient retinal arterial occlusion

e) Exclude anyone in the outpatient setting in ophthalmology or optometry clinic (stop codes 407,408) with a new code from the following list. New is defined by having the code only in the past 6 months and NOT having the code in the preceding 4.5 years.
   • 435 transient cerebral ischemia
   • 362.31 central retinal artery occlusion
   • 362.32 retinal arterial branch occlusion
   • 362.33 partial retinal artery occlusion
   • 362.34 transient retinal arterial occlusion

f) Exclude anyone with a new 435.xx code in the outpatient setting - Primary care (stop codes 322, 323, 348) internal medicine (27, 301), geriatrics (318, 319, 350), neurology (315), endocrine (305, 306), cardiology/hypertension/pulmonary (303, 309, 312). New is defined by having the code only in the past 6 months and NOT having the code in the preceding 4.5 years.
### eTable 3. Carotid Cohort Baseline Characteristics Using Administrative Data, by Pre-Matching Groups (CAS vs. CEA vs. MT)

<table>
<thead>
<tr>
<th></th>
<th>CAS N = 615</th>
<th>CEA N = 3180</th>
<th>MT N = 9576</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td><strong>Sociodemographic Characteristics</strong></td>
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</tr>
<tr>
<td>Age (mean)</td>
<td>74.0</td>
<td>6.0</td>
<td>73.6</td>
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<tr>
<td>Race</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>569</td>
<td>92.5</td>
<td>3008</td>
</tr>
<tr>
<td>Black</td>
<td>41</td>
<td>6.7</td>
<td>135</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>0.8</td>
<td>37</td>
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<tr>
<td>Ethnicity</td>
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<tr>
<td>Hispanic</td>
<td>20</td>
<td>3.3</td>
<td>114</td>
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<tr>
<td>Non-Hispanic</td>
<td>595</td>
<td>96.8</td>
<td>3066</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
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</tr>
<tr>
<td>Male</td>
<td>608</td>
<td>98.9</td>
<td>3143</td>
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<tr>
<td>Female</td>
<td>7</td>
<td>1.1</td>
<td>37</td>
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<tr>
<td>Married</td>
<td>359</td>
<td>58.4</td>
<td>1839</td>
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<tr>
<td>Veteran Priority Score</td>
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<tr>
<td>High</td>
<td>532</td>
<td>86.5</td>
<td>2604</td>
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<td>Low</td>
<td>72</td>
<td>11.7</td>
<td>547</td>
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<tr>
<td>Unknown / Missing</td>
<td>11</td>
<td>1.8</td>
<td>29</td>
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<tr>
<td><strong>Enrolled in Medicaid</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Enrolled in Medicaid</td>
<td>66</td>
<td>10.7</td>
<td>371</td>
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<tr>
<td><strong>Comorbid Conditions (% yes)</strong></td>
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<tr>
<td>Hypertension</td>
<td>567</td>
<td>92.2</td>
<td>2805</td>
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<tr>
<td>Hyperlipidemia</td>
<td>538</td>
<td>87.5</td>
<td>2730</td>
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<tr>
<td>Diabetes</td>
<td>261</td>
<td>42.4</td>
<td>1236</td>
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<tr>
<td>Ischemic Heart Disease</td>
<td>373</td>
<td>60.7</td>
<td>1475</td>
</tr>
<tr>
<td>Remote stroke or TIA (&gt;6 months prior)</td>
<td>187</td>
<td>30.4</td>
<td>660</td>
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<tr>
<td>Hemiplegia or Other Paralytic Syndrome</td>
<td>23</td>
<td>3.7</td>
<td>61</td>
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<tr>
<td>Peripheral Vascular Disease</td>
<td>183</td>
<td>29.8</td>
<td>768</td>
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<td>Abdominal Aortic Aneurysm</td>
<td>42</td>
<td>6.8</td>
<td>170</td>
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<tr>
<td>Atrial Fibrillation</td>
<td>76</td>
<td>12.4</td>
<td>312</td>
</tr>
<tr>
<td>Arrhythmia other than Atrial Fibrillation</td>
<td>76</td>
<td>9.1</td>
<td>312</td>
</tr>
<tr>
<td>Valvular Heart Disease</td>
<td>82</td>
<td>13.3</td>
<td>234</td>
</tr>
<tr>
<td>Deep Venous Thrombosis or Pulmonary Embolus</td>
<td>7</td>
<td>1.1</td>
<td>29</td>
</tr>
<tr>
<td>Hepatitis</td>
<td>8</td>
<td>1.3</td>
<td>42</td>
</tr>
<tr>
<td>Rheumatoid Arthritis</td>
<td>4</td>
<td>0.7</td>
<td>35</td>
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<tr>
<td>Pulmonary Fibrosis</td>
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<td>0.5</td>
<td>20</td>
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<tr>
<td>Prostate Cancer</td>
<td>33</td>
<td>5.4</td>
<td>207</td>
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<tr>
<td>Congestive Heart Failure</td>
<td>344</td>
<td>55.9</td>
<td>1446</td>
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<tr>
<td>Chronic Obstructive Pulmonary Disease</td>
<td>208</td>
<td>33.8</td>
<td>779</td>
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<tr>
<td>Chronic Kidney Disease</td>
<td>318</td>
<td>51.7</td>
<td>1470</td>
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<tr>
<td>Vital Statistics (mean, SD)</td>
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<tr>
<td>Mean Systolic blood pressure</td>
<td>135.4</td>
<td>22.1</td>
<td>136.6</td>
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<tr>
<td>Mean Diastolic Blood pressure</td>
<td>68.9</td>
<td>11.8</td>
<td>70.2</td>
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<tr>
<td>Mean BMI</td>
<td>28.2</td>
<td>4.6</td>
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<tr>
<td>Defibrillator</td>
<td>18</td>
<td>2.9</td>
<td>22</td>
<td>0.7</td>
<td>159</td>
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<td>Pacemaker</td>
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<td>3.7</td>
<td>49</td>
<td>1.5</td>
<td>346</td>
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<td>PTSD</td>
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<td>2.6</td>
<td>84</td>
<td>2.6</td>
<td>290</td>
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<tr>
<td>Depression</td>
<td>10</td>
<td>1.6</td>
<td>31</td>
<td>1.0</td>
<td>114</td>
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<tr>
<td>Anxiety</td>
<td>15</td>
<td>2.4</td>
<td>93</td>
<td>2.9</td>
<td>344</td>
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<tr>
<td>Psychosis</td>
<td>27</td>
<td>4.4</td>
<td>96</td>
<td>3.0</td>
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<tr>
<td>Current Smoker</td>
<td>206</td>
<td>33.5</td>
<td>1018</td>
<td>32.0</td>
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<tr>
<td>Alcohol Abuse past year</td>
<td>38</td>
<td>6.2</td>
<td>230</td>
<td>7.2</td>
<td>475</td>
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<td>Drug Abuse past year</td>
<td>5</td>
<td>0.8</td>
<td>48</td>
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<thead>
<tr>
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<tbody>
<tr>
<td>ICU visits (1 or more)</td>
<td>71</td>
<td>11.5</td>
<td>208</td>
<td>6.5</td>
<td>1050</td>
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<tr>
<td>Hospital admissions (1 or more)</td>
<td>201</td>
<td>32.7</td>
<td>680</td>
<td>21.4</td>
<td>2549</td>
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<tbody>
<tr>
<td>Nursing home in past year</td>
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<td>0.8</td>
<td>22</td>
<td>0.7</td>
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<table>
<thead>
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<th>Medications</th>
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<tbody>
<tr>
<td>Antiplatelet</td>
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<td>83.3</td>
<td>2564</td>
<td>80.6</td>
<td>6210</td>
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<tr>
<td>Antiarrhythmic</td>
<td>17</td>
<td>2.8</td>
<td>48</td>
<td>1.5</td>
<td>206</td>
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<tr>
<td>Steroids</td>
<td>57</td>
<td>9.3</td>
<td>292</td>
<td>9.2</td>
<td>940</td>
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<td>Benzodiazepines</td>
<td>73</td>
<td>11.9</td>
<td>299</td>
<td>9.4</td>
<td>1158</td>
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<tr>
<td>Opioids</td>
<td>58</td>
<td>9.4</td>
<td>239</td>
<td>7.5</td>
<td>713</td>
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<tr>
<td>Antianginal</td>
<td>194</td>
<td>31.5</td>
<td>615</td>
<td>19.3</td>
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<td>DMARD</td>
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<td>0.8</td>
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<td>1.8</td>
<td>43</td>
<td>1.4</td>
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<td>Adherence to antihypertension</td>
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<td>medications</td>
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<td>2144</td>
<td>67.4</td>
</tr>
<tr>
<td></td>
<td>No</td>
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<tr>
<td></td>
<td>Not</td>
<td></td>
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<tr>
<td>hypertensive</td>
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<tr>
<td>Adherence to Statins</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Yes</td>
<td>277</td>
<td>45.0</td>
<td>1424</td>
<td>44.8</td>
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<td></td>
<td>No</td>
<td>194</td>
<td>31.5</td>
<td>999</td>
<td>31.4</td>
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<table>
<thead>
<tr>
<th>Trial Exclusions</th>
<th>Not on statin</th>
<th>23.4</th>
<th>757</th>
<th>23.8</th>
<th>2468</th>
<th>25.8</th>
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<tbody>
<tr>
<td>Acute Myocardial Infarction in past 30 days</td>
<td>7</td>
<td>1.1</td>
<td>29</td>
<td>0.9</td>
<td>182</td>
<td>1.9</td>
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<tr>
<td>PCI past 30 days/CABG past 30 days</td>
<td>3</td>
<td>0.5</td>
<td>13</td>
<td>0.4</td>
<td>52</td>
<td>0.5</td>
</tr>
<tr>
<td>Troponin elevation in past year*</td>
<td>51</td>
<td>8.3</td>
<td>154</td>
<td>4.8</td>
<td>797</td>
<td>8.3</td>
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<tr>
<td>Unstable angina in past year</td>
<td>10</td>
<td>1.6</td>
<td>31</td>
<td>1.0</td>
<td>150</td>
<td>1.6</td>
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<td>Severe CHF diagnosis*</td>
<td>40</td>
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<td>101</td>
<td>3.2</td>
<td>708</td>
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<td>Severe COPD diagnosis*</td>
<td>85</td>
<td>13.8</td>
<td>199</td>
<td>6.3</td>
<td>1038</td>
<td>10.8</td>
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<td>Dialysis</td>
<td>8</td>
<td>1.3</td>
<td>20</td>
<td>0.6</td>
<td>133</td>
<td>1.4</td>
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<tr>
<td>Poorly controlled diabetes (hgba1c&gt;9)</td>
<td>36</td>
<td>5.9</td>
<td>157</td>
<td>4.9</td>
<td>402</td>
<td>4.2</td>
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<td>GI bleed in past 3 months</td>
<td>4</td>
<td>0.7</td>
<td>43</td>
<td>1.4</td>
<td>210</td>
<td>2.2</td>
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<tr>
<td>Cancer Diagnosis or Treatment in past year</td>
<td>89</td>
<td>14.5</td>
<td>277</td>
<td>8.7</td>
<td>1039</td>
<td>10.9</td>
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<tr>
<td>Dementia</td>
<td>14</td>
<td>2.3</td>
<td>82</td>
<td>2.6</td>
<td>112</td>
<td>1.2</td>
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<tr>
<td>Coagulopathy</td>
<td>10</td>
<td>1.6</td>
<td>57</td>
<td>1.8</td>
<td>220</td>
<td>2.3</td>
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<tr>
<td>Platelet count &lt;100k</td>
<td>7</td>
<td>1.1</td>
<td>23</td>
<td>0.7</td>
<td>113</td>
<td>1.2</td>
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</tbody>
</table>

*Troponin elevation is not a formal trial exclusion. It was used to identify patients at higher cardiovascular risk. Patients with a hospitalization in the past 6 months with a diagnosis of CHF or COPD were considered to have severe CHF or COPD.
A detailed training and abstraction manual was created and used for research assistant training. Each research assistant was trained in medical record review prior to initiation of data abstraction and was given 20 cases to abstract for training purposes. After initial training was completed, each research assistant was tested in a training database that was a replicate of the main abstraction database. Each research assistant had to achieve agreement >90% against randomly selected previously abstracted cases to begin abstraction.

Research assistants brought any case in which they were unsure of stenosis, symptom, or procedure status for review at weekly study meetings. Cases flagged by research assistants were reviewed by study investigators (SK, EC) and whether the patient met inclusion criteria was resolved by discussion. Patients that had ambiguous eye symptoms were also reviewed by an ophthalmologist (AN). Questions that related to type of procedure performed was also reviewed by a vascular surgeon (JJ). To ensure ongoing high-quality data abstraction 4 cases were randomly selected by the statistician each week and were independently abstracted by study investigators and compared to the research assistant abstractions at meetings with research assistants. Any differences were discussed and incorporated into training of research assistants.
eTable 5. Carotid Trial Exclusions (Based on Trial Exclusions in ACST, CREST 1 and CREST 2) *

<table>
<thead>
<tr>
<th>Carotid Trial Exclusions</th>
<th>NOTES ON HOW EXCLUSIONS WERE IDENTIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heparin induced thrombocytopenia**</td>
<td>ICD9 codes for heparin induced thrombocytopenia**</td>
</tr>
<tr>
<td>Recent GI bleed</td>
<td>ICD9 codes</td>
</tr>
<tr>
<td>Severe dementia</td>
<td>ICD9 codes, chart review and use of medications</td>
</tr>
<tr>
<td>Symptomatic status- no stroke/TIA within 180 days of index</td>
<td>Reker’s high sensitivity algorithm and chart review</td>
</tr>
<tr>
<td>Recent (&lt;7 days) stroke of sufficient size (on CT or MRI) at risk for hemorrhagic conversion</td>
<td>Reker’s high sensitivity algorithm and chart review</td>
</tr>
<tr>
<td>Spontaneous intracranial hemorrhage (past year)</td>
<td>ICD9 codes</td>
</tr>
<tr>
<td>Prior intracranial hemorrhage that represents risk for perioperative antiplatelet treatment</td>
<td>Reker’s high sensitivity algorithm and chart review</td>
</tr>
<tr>
<td>Fleeting/Fixed neurologic deficit for which stroke/TIA cannot be ruled out</td>
<td>Reker’s high sensitivity algorithm and chart review</td>
</tr>
<tr>
<td>CHF with EF &lt; 30</td>
<td>Chart review</td>
</tr>
<tr>
<td>Unstable Angina</td>
<td>ICD9 codes</td>
</tr>
<tr>
<td>Cancer with the exception of superficial skin cancers and localized prostate cancer</td>
<td>ICD9 codes, receipt of chemotherapy in prior year</td>
</tr>
<tr>
<td>Respiratory Insufficiency, FEV1 &lt;30% predicted</td>
<td>Chart review</td>
</tr>
<tr>
<td>Bleeding disorders (coagulopathy/active bleeding diathesis) or severe anemia</td>
<td>ICD9 codes</td>
</tr>
<tr>
<td>MI within previous 30 days</td>
<td>ICD9 codes and troponin elevations</td>
</tr>
<tr>
<td>Dialysis dependent renal failure</td>
<td>ICD9 codes and CPT codes</td>
</tr>
<tr>
<td>Uncontrolled diabetes</td>
<td>Hemoglobin A1C&gt;9 g/dl or fasting blood sugar &gt;400</td>
</tr>
<tr>
<td>Platelet count &lt;100,000 µL</td>
<td>ICD9 codes, CPT codes</td>
</tr>
<tr>
<td>Any major surgery, trauma, revascularization procedure or acute coronary syndrome (past 30 days)</td>
<td>ICD9 codes, CPT codes</td>
</tr>
<tr>
<td>Serum creatinine ≥ 2.5 mg/dl or the estimated GFR is &lt; 30 cc/min.</td>
<td>Laboratory tests for creatinine and GFR</td>
</tr>
<tr>
<td>Extreme morbid obesity that would compromise patient safety</td>
<td>BMI</td>
</tr>
<tr>
<td>Major (non-carotid) surgery/procedures planned within 3 months after enrollment</td>
<td>Time varying covariates include valve procedures after index carotid image.</td>
</tr>
<tr>
<td>Carotid stenosis must be treatable with CEA, CAS, or either procedure</td>
<td>No data available</td>
</tr>
<tr>
<td>Any condition that precludes proper angiographic assessment or makes percutaneous arterial access unsafe.</td>
<td>No data available</td>
</tr>
<tr>
<td>Ipsilateral intracranial aneurysm &gt;5 mm</td>
<td>No data available</td>
</tr>
<tr>
<td>Anatomic exclusion criteria that would preclude surgery or stenting</td>
<td>No data available</td>
</tr>
</tbody>
</table>

* we did not apply the exclusions of atrial fibrillation and cardiac source of emboli (e.g., valvular heart disease) that have been used in RCTs because these exclusions were included in trials to reduce the chance that subsequent strokes were being caused by factors other than carotid stenosis. In other words, these were exclusions designed to ensure the estimates of the efficacy of CEA was not clouded by other risk factors associated with increased stroke risk. In community practice patients with atrial fibrillation or valvular heart disease are routinely operated on. ** no one identified in sample with this condition.
**Baseline Variables Included in Censoring Model**

**Socio-demographics:** Age, Race, Ethnicity, Married, Veteran Priority Score, Medicaid, Medicare HMO enrollment

**Comorbid Conditions:** Hypertension, Hyperlipidemia, Diabetes, Ischemic Heart Disease, Remote stroke or TIA (>6 months prior), Hemiplegia or other Paralytic Syndrome, Peripheral Vascular Disease, Abdominal Aortic Aneurysm, Atrial Fibrillation, Arrhythmia other than Atrial Fibrillation, Valvular Disease, Deep Venous Thrombosis (DVT) or Pulmonary Embolism (PE), Hepatitis, Rheumatoid Arthritis, Pulmonary Fibrosis, Prostate Cancer, Congestive Heart Failure (CHF), Chronic Obstructive Pulmonary Disease (COPD), Chronic Kidney Disease

**Vital Statistics:** Systolic blood pressure, Diastolic Blood pressure, Body Mass Index

**Procedures:** Defibrillator, Pacemaker

**Mental Health past year:** Post-Traumatic Stress Disorder, Depression, Anxiety, Psychosis

**Social and Behavior Risk Factors:** Current Smoker, Alcohol Abuse past year, Drug Abuse past year

**Utilization:** ICU visits (1 or more), Hospital admissions (1 or more) in past 6 months

**Functional status:** Nursing home in past year

**Medications:** Antiplatelet, Antiarrhythmic, Steroids, Benzodiazepines, Opioids, Antianginal, Disease-modifying antirheumatic drugs (DMARD), Anticoagulant in past year

**Adherence:** Adherence to antihypertension medications Adherence to Statins

**Trial Exclusions:** Acute Myocardial Infarction/Coronary revascularization in past 30 days, Troponin elevation past 30 days, Unstable angina in past year, Severe Congestive Heart Failure**, Severe Chronic Obstructive Pulmonary Disease**, Dialysis, Poorly controlled diabetes (hgba1c>9), GI bleed in past 3 months, Cancer Diagnosis or Treatment in past 2 years, Dementia, Coagulopathy, Platelet count <100k

---

**Time Varying Variables Included in Censoring Model**

- Hospitalization or ICU visit
- Acute Myocardial Infarction
- Percutaneous Coronary Intervention
- Troponin elevation (> .4, > 0.8, > 0.1)
- Unstable angina
- New CHF diagnosis
- New COPD diagnosis
- Dialysis
- Poorly controlled diabetes (hgba1c>9)
- GI bleed in past 3 months
- Cancer Diagnosis or Treatment in past 2 years
- DVT or PE
- New Hemiplegia

---

* For post-baseline covariates, we created a binary variable that equals 1 when a patient has documentation of any of the post-baseline variables at a given point in time.

** Severe Congestive Heart Failure included patients with EF <35% or hospitalization for CHF in past 6 months, Severe COPD included patients with FEV1 of <30% predicted or hospitalization for COPD in past 6 months

### Table 7. Baseline Cohort Characteristics: Post-Randomization Groups (Pragmatic Sample)

<table>
<thead>
<tr>
<th>Sociodemographic Characteristics</th>
<th>CEA N = 2886</th>
<th>MT N = 2886</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (mean)</strong></td>
<td>73.7 6.0</td>
<td>73.7 6.0</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>2749 95.3</td>
<td>2706 93.8</td>
</tr>
<tr>
<td>Black</td>
<td>112 3.9</td>
<td>141 4.9</td>
</tr>
<tr>
<td>Other</td>
<td>25 0.9</td>
<td>39 1.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>106 3.7</td>
<td>96 3.3</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>2845 98.6</td>
<td>2855 98.9</td>
</tr>
<tr>
<td><strong>Married</strong></td>
<td>1685 58.4</td>
<td>1687 58.5</td>
</tr>
<tr>
<td><strong>Veteran Priority Score</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>2350 81.4</td>
<td>2322 80.5</td>
</tr>
<tr>
<td>Low</td>
<td>499 17.3</td>
<td>535 18.5</td>
</tr>
<tr>
<td>Unknown / Missing</td>
<td>37 1.3</td>
<td>29 1.0</td>
</tr>
<tr>
<td><strong>Enrolled in Medicaid</strong></td>
<td>142 4.9</td>
<td>133 4.6</td>
</tr>
<tr>
<td><strong>Enrolled in Medicare HMO</strong></td>
<td>342 11.9</td>
<td>401 13.9</td>
</tr>
<tr>
<td><strong>Comorbid Conditions (% yes)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>2545 88.2</td>
<td>2585 89.6</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>2489 86.2</td>
<td>2529 87.6</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1130 39.2</td>
<td>1144 39.6</td>
</tr>
<tr>
<td>Ischemic Heart Disease</td>
<td>1357 47.0</td>
<td>1392 48.2</td>
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<tr>
<td>Remote stroke or TIA (&gt;6 months prior)</td>
<td>724 25.1</td>
<td>736 25.5</td>
</tr>
<tr>
<td>Hemiplegia or other Paralytic Syndrome</td>
<td>71 2.5</td>
<td>53 1.8</td>
</tr>
<tr>
<td>Condition</td>
<td>Count</td>
<td>Percentage</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>Peripheral Vascular Disease</td>
<td>734</td>
<td>25.4</td>
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<tr>
<td>Abdominal Aortic Aneurysm</td>
<td>175</td>
<td>6.1</td>
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<tr>
<td>Atrial Fibrillation</td>
<td>281</td>
<td>9.7</td>
</tr>
<tr>
<td>Arrhythmia other than Atrial Fibrillation</td>
<td>179</td>
<td>6.2</td>
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<tr>
<td>Valvular Heart Disease</td>
<td>230</td>
<td>8.0</td>
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<tr>
<td>DVT or PE</td>
<td>26</td>
<td>0.9</td>
</tr>
<tr>
<td>Hepatitis</td>
<td>27</td>
<td>0.9</td>
</tr>
<tr>
<td>Rheumatoid Arthritis</td>
<td>27</td>
<td>0.9</td>
</tr>
<tr>
<td>Pulmonary Fibrosis</td>
<td>15</td>
<td>0.5</td>
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<tr>
<td>Prostate Cancer</td>
<td>141</td>
<td>4.9</td>
</tr>
<tr>
<td>Congestive Heart Failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe (EF &lt; 35%)</td>
<td>129</td>
<td>4.5</td>
</tr>
<tr>
<td>Mild (EF &gt;= 35%)</td>
<td>1331</td>
<td>46.1</td>
</tr>
<tr>
<td>CHF Missing EF</td>
<td>36</td>
<td>1.3</td>
</tr>
<tr>
<td>No CHF</td>
<td>1390</td>
<td>48.2</td>
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<tr>
<td>Chronic Obstructive Pulmonary Disease</td>
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<tr>
<td>Moderate/Severe</td>
<td>270</td>
<td>9.4</td>
</tr>
<tr>
<td>Mild</td>
<td>235</td>
<td>8.1</td>
</tr>
<tr>
<td>Unknown Severity</td>
<td>239</td>
<td>8.3</td>
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<tr>
<td>No COPD</td>
<td>2142</td>
<td>74.2</td>
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<tr>
<td>Chronic Kidney Disease</td>
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<td></td>
</tr>
<tr>
<td>Severe (GFR &lt; 30)</td>
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<td>5.9</td>
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<tr>
<td>Mild (GFR &gt;= 30)</td>
<td>1170</td>
<td>40.5</td>
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<tr>
<td>No CKD</td>
<td>1547</td>
<td>53.6</td>
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### Vital Signs (mean, SD)

<table>
<thead>
<tr>
<th></th>
<th>Mean Systolic blood pressure</th>
<th>Mean Diastolic Blood pressure</th>
<th>Mean BMI</th>
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<tbody>
<tr>
<td></td>
<td>135.9 ± 19.4</td>
<td>136.8 ± 19.9</td>
<td>28.0 ± 4.8</td>
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<tr>
<td></td>
<td>135.9 ± 19.9</td>
<td>136.8 ± 19.9</td>
<td>28.0 ± 4.8</td>
</tr>
</tbody>
</table>

### Procedures

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Count (SD)</th>
<th>Count (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defibrillator</td>
<td>31 ± 1.1</td>
<td>30 ± 1.0</td>
</tr>
<tr>
<td>Pacemaker</td>
<td>54 ± 1.9</td>
<td>41 ± 1.4</td>
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</tbody>
</table>

### Mental Health past year

<table>
<thead>
<tr>
<th>Mental Health</th>
<th>Count (SD)</th>
<th>Count (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td>71 ± 2.5</td>
<td>73 ± 2.5</td>
</tr>
<tr>
<td>Depression</td>
<td>19 ± 0.7</td>
<td>29 ± 1.0</td>
</tr>
<tr>
<td>Anxiety</td>
<td>84 ± 2.9</td>
<td>66 ± 2.3</td>
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<tr>
<td>Psychosis</td>
<td>88 ± 3.1</td>
<td>87 ± 3.0</td>
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</table>

### Social and Behavior Risk Factors

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Count (SD)</th>
<th>Count (SD)</th>
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<tbody>
<tr>
<td>Current Smoker</td>
<td>949 ± 32.9</td>
<td>923 ± 32.0</td>
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<tr>
<td>Alcohol Abuse</td>
<td>223 ± 7.7</td>
<td>201 ± 7.0</td>
</tr>
<tr>
<td>Drug Abuse</td>
<td>37 ± 1.3</td>
<td>31 ± 1.1</td>
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</table>

### Utilization

<table>
<thead>
<tr>
<th>Utilization</th>
<th>Count (SD)</th>
<th>Count (SD)</th>
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<tbody>
<tr>
<td>ICU Visits</td>
<td>189 ± 6.6</td>
<td>203 ± 7.0</td>
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<tr>
<td>Hospital admissions</td>
<td>543 ± 18.8</td>
<td>570 ± 19.8</td>
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</table>

### Functional status

<table>
<thead>
<tr>
<th>Status</th>
<th>Count (SD)</th>
<th>Count (SD)</th>
</tr>
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<tbody>
<tr>
<td>Nursing home</td>
<td>23 ± 0.8</td>
<td>20 ± 0.7</td>
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<table>
<thead>
<tr>
<th>Medications</th>
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<tbody>
<tr>
<td>Antiplatelet</td>
<td>2467</td>
<td>85.5</td>
<td>2472</td>
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<tr>
<td>Antiarrhythmic</td>
<td>41</td>
<td>1.4</td>
<td>47</td>
</tr>
<tr>
<td>Steroids</td>
<td>238</td>
<td>8.3</td>
<td>253</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>271</td>
<td>9.4</td>
<td>276</td>
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<tr>
<td>Opioids</td>
<td>193</td>
<td>6.7</td>
<td>185</td>
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<tr>
<td>Antianginal</td>
<td>612</td>
<td>21.2</td>
<td>621</td>
</tr>
<tr>
<td>Disease-modifying antirheumatic drugs</td>
<td>31</td>
<td>1.1</td>
<td>31</td>
</tr>
<tr>
<td>Anticoagulant</td>
<td>27</td>
<td>0.9</td>
<td>32</td>
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<table>
<thead>
<tr>
<th>Adherence</th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Adherence to antihypertension medications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1958</td>
<td>67.8</td>
<td>1987</td>
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<tr>
<td>No</td>
<td>587</td>
<td>20.3</td>
<td>598</td>
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<tr>
<td>Not hypertensive</td>
<td>341</td>
<td>11.8</td>
<td>301</td>
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<tr>
<td>Adherence to Statins</td>
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<tr>
<td>Yes</td>
<td>1343</td>
<td>46.5</td>
<td>1333</td>
</tr>
<tr>
<td>No</td>
<td>866</td>
<td>30.0</td>
<td>895</td>
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<tr>
<td>Not on statin</td>
<td>677</td>
<td>23.5</td>
<td>658</td>
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<table>
<thead>
<tr>
<th>Exclusions based on Trials</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Acute Myocardial Infarction in past 30 days</td>
<td>22</td>
<td>0.8</td>
<td>26</td>
</tr>
<tr>
<td>PCI past 30 days/CABG past 30 days</td>
<td>13</td>
<td>0.5</td>
<td>11</td>
</tr>
<tr>
<td>Troponin elevation in past year*</td>
<td>146</td>
<td>5.1</td>
<td>130</td>
</tr>
<tr>
<td>Unstable angina in past year</td>
<td>28</td>
<td>1.0</td>
<td>34</td>
</tr>
<tr>
<td>Condition</td>
<td>Event</td>
<td>Rate, % 1</td>
<td>Event</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>-------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Severe CHF diagnosis (EF&lt;35%)</td>
<td>86</td>
<td>3.0</td>
<td>93</td>
</tr>
<tr>
<td>Severe COPD diagnosis (FEV1 &lt;30% predicted)</td>
<td>189</td>
<td>6.6</td>
<td>182</td>
</tr>
<tr>
<td>Dialysis</td>
<td>16</td>
<td>0.6</td>
<td>19</td>
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<tr>
<td>Poorly controlled diabetes (hgba1c&gt;9)</td>
<td>141</td>
<td>4.9</td>
<td>140</td>
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<tr>
<td>GI bleed in past 3 months</td>
<td>29</td>
<td>1.0</td>
<td>33</td>
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<tr>
<td>Cancer Diagnosis or Treatment in past year</td>
<td>230</td>
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<td>250</td>
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<tr>
<td>Dementia</td>
<td>92</td>
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<td>96</td>
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<td>Coagulopathy</td>
<td>45</td>
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<td>48</td>
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<tr>
<td>Platelet count &lt;100k</td>
<td>22</td>
<td>0.8</td>
<td>23</td>
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</table>

Troponin elevation is not a formal trial exclusion. It was used to identify patients at higher cardiovascular risk.
**Table 8.** Baseline Characteristics of the RCT-like Sample Based on Actual Treatment Received

<table>
<thead>
<tr>
<th></th>
<th>CEA N=2012</th>
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<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td><strong>Age (mean)</strong></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>73.7</td>
<td>6.0</td>
<td>73.7</td>
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<tr>
<td>White</td>
<td>1908</td>
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<td>Black</td>
<td>82</td>
<td>4.1</td>
<td>82</td>
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<td>Other</td>
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<td>1.1</td>
<td>25</td>
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<td><strong>Hispanic</strong></td>
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<td></td>
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<td>63</td>
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<tr>
<td><strong>Male</strong></td>
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<tr>
<td></td>
<td>1988</td>
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<td><strong>Married</strong></td>
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<td></td>
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<tr>
<td><strong>Veteran Priority Score</strong></td>
<td></td>
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<tr>
<td>High</td>
<td>17</td>
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<td>25</td>
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<tr>
<td>Low</td>
<td>88</td>
<td>4.4</td>
<td>76</td>
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<tr>
<td><strong>Enrolled in Medicaid</strong></td>
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<td></td>
<td>259</td>
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<td><strong>Enrolled in Medicare HMO</strong></td>
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<tr>
<td></td>
<td>211</td>
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<td>324</td>
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<tr>
<td><strong>Comorbid Conditions (% with condition)</strong></td>
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<tr>
<td>Hypertension</td>
<td>1765</td>
<td>87.7</td>
<td>1653</td>
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<td>Hyperlipidemia</td>
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<td>85.9</td>
<td>1635</td>
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<td>Diabetes</td>
<td>700</td>
<td>34.8</td>
<td>674</td>
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<tr>
<td>Ischemic Heart Disease</td>
<td>849</td>
<td>42.2</td>
<td>783</td>
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<tr>
<td>Remote stroke or TIA (&gt;6 months prior)</td>
<td>419</td>
<td>20.8</td>
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<tr>
<td>Hemiplegia or Other Paralytic Syndrome</td>
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<td>1.7</td>
<td>29</td>
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<tr>
<td>Peripheral Vascular Disease</td>
<td>442</td>
<td>22.0</td>
<td>433</td>
</tr>
<tr>
<td>Abdominal Aortic Aneurysm</td>
<td>89</td>
<td>4.4</td>
<td>87</td>
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<tr>
<td>Atrial Fibrillation</td>
<td>147</td>
<td>7.3</td>
<td>80</td>
</tr>
<tr>
<td>Arrhythmia other than Atrial Fibrillation</td>
<td>76</td>
<td>3.8</td>
<td>75</td>
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<td>Valvular Heart Disease</td>
<td>114</td>
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<td>86</td>
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<tr>
<td>DVT/PE</td>
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<td>10</td>
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<tr>
<td>Hepatitis</td>
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<td>0.8</td>
<td>9</td>
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<tr>
<td>Rheumatoid Arthritis</td>
<td>24</td>
<td>1.2</td>
<td>21</td>
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<tr>
<td>Pulmonary Fibrosis</td>
<td>7</td>
<td>0.4</td>
<td>8</td>
</tr>
<tr>
<td>Prostate Cancer</td>
<td>107</td>
<td>5.3</td>
<td>68</td>
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</table>

### Congestive Heart Failure

<table>
<thead>
<tr>
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<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe (EF &lt; 35%)</td>
<td>51</td>
<td>2.5</td>
<td>59</td>
<td>3.12</td>
<td>-0.035</td>
</tr>
<tr>
<td>Mild (EF &gt;= 35%)</td>
<td>813</td>
<td>40.4</td>
<td>754</td>
<td>39.89</td>
<td>0.011</td>
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<tr>
<td>Missing EF</td>
<td>22</td>
<td>1.1</td>
<td>15</td>
<td>0.79</td>
<td>0.031</td>
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<tr>
<td>No CHF</td>
<td>1126</td>
<td>56.0</td>
<td>1062</td>
<td>56.19</td>
<td>-0.005</td>
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</table>

### Chronic Obstructive Lung Disease (COPD)

<table>
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<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate/Severe</td>
<td>44</td>
<td>2.2</td>
<td>59</td>
<td>3.12</td>
<td>-0.058</td>
</tr>
<tr>
<td>Mild</td>
<td>162</td>
<td>8.1</td>
<td>131</td>
<td>6.93</td>
<td>0.043</td>
</tr>
<tr>
<td>Unknown Severity</td>
<td>171</td>
<td>8.5</td>
<td>151</td>
<td>7.99</td>
<td>0.019</td>
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<tr>
<td>No COPD</td>
<td>1635</td>
<td>81.3</td>
<td>1549</td>
<td>81.96</td>
<td>-0.018</td>
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</table>

### Chronic Kidney Disease

<table>
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<tr>
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<th>SD</th>
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<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe (GFR &lt; 30)</td>
<td>75</td>
<td>3.7</td>
<td>85</td>
<td>4.5</td>
<td>-0.039</td>
</tr>
<tr>
<td>Mild (GFR &gt;= 30)</td>
<td>795</td>
<td>39.5</td>
<td>740</td>
<td>39.15</td>
<td>0.007</td>
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<tr>
<td>No CKD</td>
<td>1142</td>
<td>56.8</td>
<td>1065</td>
<td>56.35</td>
<td>0.008</td>
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### Vital Signs

#### Systolic Blood Pressure

<table>
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<tr>
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<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal (&lt;120)</td>
<td>285</td>
<td>14.2</td>
<td>255</td>
<td>13.49</td>
<td>0.020</td>
</tr>
<tr>
<td>Pre-hypertension (120-139)</td>
<td>960</td>
<td>47.7</td>
<td>877</td>
<td>46.4</td>
<td>0.026</td>
</tr>
<tr>
<td>High Blood Pressure Stage 1 (140-159)</td>
<td>497</td>
<td>24.7</td>
<td>508</td>
<td>25.88</td>
<td>-0.050</td>
</tr>
<tr>
<td>High Blood Pressure Stage 2 (&gt;=160)</td>
<td>260</td>
<td>12.9</td>
<td>237</td>
<td>12.54</td>
<td>0.012</td>
</tr>
<tr>
<td>Unknown</td>
<td>10</td>
<td>0.5</td>
<td>13</td>
<td>0.69</td>
<td>-0.025</td>
</tr>
</tbody>
</table>

#### Diastolic Blood Pressure

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal (&lt;80)</td>
<td>1559</td>
<td>77.5</td>
<td>1476</td>
<td>78.1</td>
<td>-0.015</td>
</tr>
<tr>
<td>Pre-hypertension (80-89)</td>
<td>342</td>
<td>17.0</td>
<td>331</td>
<td>17.51</td>
<td>-0.014</td>
</tr>
<tr>
<td>High Blood Pressure Stage 1 (90-99)</td>
<td>87</td>
<td>4.3</td>
<td>61</td>
<td>3.23</td>
<td>0.058</td>
</tr>
<tr>
<td>High Blood Pressure Stage 2 (&gt;=100)</td>
<td>14</td>
<td>0.7</td>
<td>9</td>
<td>0.48</td>
<td>0.029</td>
</tr>
<tr>
<td>Unknown</td>
<td>10</td>
<td>0.5</td>
<td>13</td>
<td>0.69</td>
<td>-0.025</td>
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</table>

#### Body Mass Index

<table>
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<tr>
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<th>Count</th>
<th>Mean</th>
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<th>p</th>
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<tbody>
<tr>
<td>Underweight</td>
<td>17</td>
<td>0.8</td>
<td>13</td>
<td>0.69</td>
<td>0.018</td>
</tr>
<tr>
<td>Normal or healthy weight</td>
<td>474</td>
<td>23.6</td>
<td>495</td>
<td>26.19</td>
<td>-0.061</td>
</tr>
<tr>
<td>Overweight</td>
<td>925</td>
<td>46.0</td>
<td>819</td>
<td>43.33</td>
<td>0.053</td>
</tr>
<tr>
<td>Obese</td>
<td>568</td>
<td>28.2</td>
<td>531</td>
<td>28.1</td>
<td>0.003</td>
</tr>
<tr>
<td>Unknown</td>
<td>28</td>
<td>1.4</td>
<td>32</td>
<td>1.69</td>
<td>-0.025</td>
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</table>

### Procedures

<table>
<thead>
<tr>
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<th>Mean</th>
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<tr>
<td>Defibrillator</td>
<td>7</td>
<td>0.4</td>
<td>14</td>
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<td>-0.053</td>
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</table>

<table>
<thead>
<tr>
<th>Pacemaker</th>
<th>22</th>
<th>1.1</th>
<th>19</th>
<th>1.01</th>
<th>0.009</th>
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<tbody>
<tr>
<td>Mental Health past year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTSD</td>
<td>44</td>
<td>2.2</td>
<td>37</td>
<td>1.96</td>
<td>0.016</td>
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<td>Depression</td>
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<td>7</td>
<td>0.37</td>
<td>0.039</td>
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<tr>
<td>Anxiety</td>
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<td>2.1</td>
<td>36</td>
<td>1.9</td>
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<tr>
<td>Psychosis</td>
<td>47</td>
<td>2.3</td>
<td>43</td>
<td>2.28</td>
<td>0.004</td>
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</tbody>
</table>

| Social and Behavior Risk Factors | | |
|---|---|---|---|---|---|
| Current Smoker | 604 | 30.0 | 610 | 32.28 | -0.049 |
| Alcohol Abuse past year | 169 | 8.4 | 141 | 7.46 | 0.035 |
| Drug Abuse past year | 17 | 0.8 | 18 | 0.95 | -0.011 |

| Utilization | | |
|---|---|---|---|---|---|
| ICU visits 1 or more | 77 | 3.8 | 46 | 2.43 | 0.080 |
| Hospital admissions (1 or more) | 232 | 11.5 | 163 | 8.62 | 0.097 |

| Functional status | | |
|---|---|---|---|---|---|
| Nursing home in past year | 10 | 0.5 | 12 | 0.63 | -0.018 |

| Medications | | |
|---|---|---|---|---|---|
| Antiplatelet | 1709 | 84.9 | 1596 | 84.44 | 0.014 |
| Antiarrhythmic | 18 | 0.9 | 16 | 0.85 | 0.005 |
| Steroids | 130 | 6.5 | 107 | 5.66 | 0.034 |
| Benzodiazepines | 145 | 7.2 | 168 | 8.89 | -0.062 |
| Opioids | 109 | 5.4 | 88 | 4.66 | 0.035 |
| Antianginal | 328 | 16.3 | 343 | 18.15 | -0.049 |
| Disease-modifying antirheumatic drugs | 23 | 1.1 | 18 | 0.95 | 0.019 |
| Anticoagulant | 17 | 0.8 | 11 | 0.58 | 0.031 |

| Adherence | | |
|---|---|---|---|---|---|
| Adherence to antihypertension medications | | | | | |
| Yes | 1339 | 66.6 | 1266 | 66.98 | -0.009 |
| No | 426 | 21.2 | 387 | 20.48 | 0.017 |
| Not hypertensive | 247 | 12.3 | 237 | 12.54 | -0.008 |

| Adherence to Statins | | |
|---|---|---|---|---|---|
| Yes | 938 | 46.6 | 890 | 47.09 | -0.009 |
| No | 582 | 28.9 | 571 | 30.21 | -0.028 |
| Not on statin | 492 | 24.5 | 429 | 22.7 | 0.041 |

<table>
<thead>
<tr>
<th>Trial Exclusions</th>
<th>0</th>
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<th>0</th>
<th>0.0</th>
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<tbody>
<tr>
<td>Acute Myocardial Infarction in past 30 days</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>PCI past 30 days/CABG past 30 days</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Troponin elevation in past year</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Unstable angina in past year</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Severe CHF diagnosis</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
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<td>Severe COPD diagnosis</td>
<td>0</td>
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<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Dialysis</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Poorly controlled diabetes (hgba1c&gt;9)</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>GI bleed in past 3 months</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Cancer Diagnosis or Treatment in past year</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Dementia</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Coagulopathy</td>
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<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Platelet count &lt;100,000/ul</td>
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<td>0.0</td>
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**Table 9.** Baseline Cohort Characteristics Post-Randomization (RCT-like Sample)

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<tr>
<th></th>
<th>CEA N = 2134</th>
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<tr>
<td><strong>Sociodemographic Characteristics</strong></td>
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<tr>
<td>Age (mean)</td>
<td>73.69</td>
<td>73.7</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>2033 (95.3)</td>
<td>1984 (93.7)</td>
</tr>
<tr>
<td>Black</td>
<td>81 (3.8)</td>
<td>102 (4.8)</td>
</tr>
<tr>
<td>Other</td>
<td>20 (0.9)</td>
<td>32 (1.5)</td>
</tr>
<tr>
<td><strong>Hispanic</strong></td>
<td>78 (3.7)</td>
<td>60 (2.8)</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>2106 (98.7)</td>
<td>2092 (98.8)</td>
</tr>
<tr>
<td><strong>Married</strong></td>
<td>1289 (60.4)</td>
<td>1262 (59.6)</td>
</tr>
<tr>
<td><strong>Veteran Priority Score</strong></td>
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<td></td>
</tr>
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<td>High</td>
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<td>Platelet count &lt;100k</td>
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**eFigure 1.** 5-Year Stroke-Free Survival Among Patients Who Were Randomized to Carotid Endarterectomy Compared to Those Randomized to Initial Medical Therapy After Adjusting for Baseline Characteristics and Incorporating IPCW in the Analysis (RCT-like Sample)
eFigure 2. 5-Year Cumulative Incidence of Stroke Accounting for Competing Risks Among Patients Who Were Randomized to Carotid Endarterectomy Compared to Those Randomized to Initial Medical Therapy (RCT-like Sample)
### eTable 10. Sensitivity Analyses

<table>
<thead>
<tr>
<th>Pragmatic Sample</th>
<th>N (sample)</th>
<th>CEA 5-Year Stroke Risk and 95% CI</th>
<th>MT 5-Year Stroke Risk and 95% CI</th>
<th>Risk Difference, 95% CI</th>
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</thead>
<tbody>
<tr>
<td>Sensitivity analysis 1: excluding anyone enrolled in an HMO or who had a remote history of stroke</td>
<td>3736 CEAs; 1898 MTs</td>
<td>4.8% (3.5%, 6.1%)</td>
<td>7.0% (5.1%, 8.8%)</td>
<td>-2.2% (-4.4%, 0.1%)</td>
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<tr>
<td>Sensitivity analysis 2: removing anyone who entered an HMO at baseline or follow-up</td>
<td>4867 CEAs; 2449 MTs</td>
<td>5.7% (4.5%, 6.9%)</td>
<td>7.8% (6.2%, 9.4%)</td>
<td>-2.1% (-4.2%, -0.1%)</td>
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</table>