### Supplementary Table 1. Definition of Outcomes and Comorbidities

#### A. Definition of Bleeding Events

**Upper gastrointestinal bleeding**
- K22.8, K25.2, K25.4, K25.6, K28.2, K28.4, K28.6, K27.2, K27.4, K27.6, K28.2, K28.4, K28.6, K29.0, I85.0

**Lower gastrointestinal bleeding**
- K55.21, K57.31, K57.33, K29.1, K29.6, K32.0, K32.1, K32.2

**Intracranial bleeding**
- I60, I61, I62

**Other bleedings**
- Urinary track bleeding: N02, R31
- Airway bleeding: J94.2, R04
- Others bleeding: D52, H113, H315, H431, M250, R58

#### B. Definition of Comorbidities

**Myocardial infarction**
- I21.x, I22.x, I25.2

**Congestive heart failure**
- I09.9, I11.0, I13.0, I13.2, I25.5, I42.0, I42.5–I42.9, I43.x, I50.x, P29.0

**Peripheral vascular disorders**
- I70.x, I71.x, I73.1, I73.8, I73.9, I77.1, I79.0, I79.2, K55.1, K55.8, K55.9, Z95.8, Z95.9

**Cerebrovascular disease**
- G45.x, G46.x, H34.0, I60.x–I69.x

**Dementia**
- F00.x–F03.x, F05.1, G30.x, G31.1

**Chronic pulmonary disease**
- I27.8, I27.9, J40.x–J47.x, J60.x–J67.x, J68.4, J70.1, J70.3

**Rheumatic disease**
- M05.x, M06.x, M31.5, M32.x–M34.x, M35.1, M35.3, M36.0

**Peptic ulcer disease**
- K25.x–K28.x

**Mild liver disease**
- B18.x, Z94.4, K70.0–K70.3, K71.3–K71.5, K73.x, K74.0–K74.6, K76.0, K76.2–K76.6, K76.8, K76.9

**Diabetes without chronic complication**

**Diabetes with chronic complication**

**Hemiplegia or paraplegia**
- G04.1, G11.4, G30.x, G31.1

**Renal disease**
- I12.0, I13.1, N03.2–N03.7, N05.2–N05.7, N18.x, N19.x, N25.0, N25.4–N25.9, N25.0, N25.9

**Any malignancy**
- C00.x–C26.x, C30.x–C34.x, C37.x–C41.x, C43.x, C45.x–C58.x, C60.x–C76.x, C81.x–C85.x, C88.x, C90.x–C97.x

**Moderate or severe liver disease**
- I85.0, I85.9, I86.4, I98.2, K70.4, K71.1, K71.2, K72.9, K76.5, K76.6, K76.7

**Metastatic solid tumor**
- C77.x–C80.x

**AIDS/HIV**
- B20.x–B22.x

**Cardiac arrhythmias**
- I44.1–I44.3, I45.6, I45.9, I47.3, R00.0, R00.1, R00.8, T51.x

**Valvular disease**
- A52.0, I05.x–I08.x, I09.1, I09.8, I34.x–I39.x, Q23.0–Q23.3, Z95.2–Z95.4

**Hypertension**
- I10.0, I10.9, I11.0, I11.9, I12.0, I12.9, I13.0–I13.9, I15.0–I15.9

**Abnormal renal function**

**Liver cancer**
- B15–B19, C22, K70–K77, N1, N25–N26, N28.9, Q61, Z94.4

**Ischemic stroke**
- G45.0–G45.9

**Transient ischemic attack**
- G45.0–G45.9

**Thromboembolism**
- I74.0–I74.9

**Valvular disease**
- I21, I22

**Peripheral artery disease**
- I70.0

**Arteriosclerosis of aorta**
- I70.0

**Sex category (female gender)**
- 1

#### D. Definition of HAS-BLED Score

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Point</th>
<th>Relevant definitions, diagnoses and medication</th>
<th>ICD-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>1</td>
<td>Combination therapy with a least two of the following classes of antihypertensive drugs: Adrenergic α-antagonist, non-loop-diuretics, vasoconstrictors, β-blockers, calcium channel blockers, and renin-angiotension system inhibitors</td>
<td>I10.0, I10.9, I11.0, I11.9, I12.0, I12.9, I13.0–I13.9, I15.6–I15.9</td>
</tr>
<tr>
<td>Liver function</td>
<td>1</td>
<td>Abnormal liver function: Cirrhosis, hepatitis, liver cancer, chronic liver disease, liver surgery</td>
<td>B15–B19, C22, K70–K77, N1, N25–N26, N28.9, Q61, Z94.4</td>
</tr>
<tr>
<td>Stroke</td>
<td>1</td>
<td>Previous diagnosis with peripheral artery embolism, ischemic stroke, or transient ischemic attack</td>
<td>G45.0–G45.9, I10.0, I11.0, I12.0</td>
</tr>
<tr>
<td>Bleeding history</td>
<td>1</td>
<td>Previous diagnosis with a major bleeding</td>
<td>180–182, 189.0–189.2, J94.2, K25.0, K25.4, K28.0, K28.6, K29.0, K29.0, K29.2–K29.2, N02, R04, R05, I01.0–I01.6</td>
</tr>
<tr>
<td>Labile INRs</td>
<td>1</td>
<td>Not available</td>
<td>1</td>
</tr>
<tr>
<td>Elderly</td>
<td>1</td>
<td>Patients &gt;65 years at discharge</td>
<td>&gt;65 years</td>
</tr>
<tr>
<td>Drug consumption</td>
<td>1</td>
<td>Drugs: Treatment with platelet inhibitors or NSAIDs</td>
<td>1</td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>1</td>
<td>Alcohol: Previous diagnosis for diseases caused by alcohol or adverse alcohol consumption reported</td>
<td>F01, K07, E52, E52.1, I42.6, K29.2, K70.0, K70.3, K70.9, T51.x, Z50.0, Z71.4, Z72.1</td>
</tr>
</tbody>
</table>

#### D. Definition of CHA2DS2-VASc Score

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Point</th>
<th>ICD-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congestive heart failure/LV dysfunction</td>
<td>1</td>
<td>I50, I11.0</td>
</tr>
<tr>
<td>Hypertension</td>
<td>1</td>
<td>I10.0, I10.9, I11.0, I11.9, I12.0, I12.9, I13.0–I13.9, I15.0–I15.9</td>
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<tr>
<td>Aged ≥75 years</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Aged 65–74 years</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>1</td>
<td>E10, E11, E14</td>
</tr>
<tr>
<td>Stroke/transient ischemic attack/thromboembolism</td>
<td>2</td>
<td>I63.0–I63.9, I64.9</td>
</tr>
<tr>
<td>Vascular disease (prior myocardial infarction, peripheral artery disease, or aortic plaque)</td>
<td>1</td>
<td>I70.0, I72.0, I73.9, I74.5</td>
</tr>
<tr>
<td>Sex category (female gender)</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>