Appendix

*International Classification of Diseases and Physician Billing Codes Used to Identify Patients, Covariates, and Outcomes*

### Identifying All Hip Fractures (1 of Each)

A) International Classification of Diseases, Tenth Revision (ICD-10) diagnostic code:
   - a. S72.0 (fracture of head and neck of femur); S72.1 (pertrochanteric fracture); or S72.2 (subtrochanteric fracture); and
B) Ontario Health Insurance Plan (OHIP) Physicians Billings Database code:
   - a. F100 (fixation); F096 (intramedullary nailing [IMN]); F101; R440; or R439 (arthroplasty); and
C) Canadian Classification of Health Interventions (CCI) code:
   - a. 1VA53; 1VA74; 1VA80; 1VC74; or 1VC80
D) Not shaft or distal femoral fracture: ICD-10 S72.3, S72.4, S72.8, S72.9

### Medical Outcomes

B) Pulmonary embolism (PE): ICD-10 I260, I269
E) Ileus: ICD-10 K56.0, K56.7

### Surgical Outcomes

A) Dislocation: OHIP D042, D043, R628, D038, D039, D040, D031, R403; ICD-10 S730x, x = 0,1,8,9; S8310x, x = 0,1,2,3,8,9; S83000, S83001
B) Infection: CCI 1VA55LAP; OHIP R415, R443, R488
C) Revision: OHIP R241

### Covariates

Previously validated algorithms identified patients with the diagnoses shown in Table E-1.
TABLE E-1 Sensitivity and Specificity for Various Codes Used to Identify Comorbidities*

<table>
<thead>
<tr>
<th>Comorbidity</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>86.0%</td>
<td>97.0%</td>
<td>Hux (2002)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>72.0%</td>
<td>95.0%</td>
<td>Tu (2007)</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>57.5%</td>
<td>95.4%</td>
<td>Gershon (2009)</td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td>84.8%</td>
<td>97.0%</td>
<td>Ko (2004)</td>
</tr>
<tr>
<td>Coronary artery disease</td>
<td>88.8%</td>
<td>92.8%</td>
<td>Austin (2002)</td>
</tr>
<tr>
<td>Dementia</td>
<td>79.3%</td>
<td>99.1%</td>
<td>Jaakkimainen (2016)</td>
</tr>
<tr>
<td>Frailty</td>
<td>NA</td>
<td>NA</td>
<td>Weiner (2013)</td>
</tr>
</tbody>
</table>

*NA = not available.