

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

- A) Deep venous thrombosis (DVT): ICD-10 I801, I802, I803, I809, I822, I823, I828, I829
- B) Pulmonary embolism (PE): ICD-10 I260, I269
- C) Myocardial infarction (MI): ICD-10 I210, I211, I212, I213, I2140, I2141, I2142, I2149, I219, I220, I221, I228, I229
- D) Pneumonia: ICD-10 J100, J101, J108, J110, J111, J118, J120, J121, J122, J128, J129, J13, J14, J150, J151, J152, J153, J154, J155, J156, J157, J158, J159, J160, J168, J180, J181, J182, J188, J189
- 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

- 1. Previously validated algorithms identified patients with the diagnoses shown in Table E-

TABLE E-1 Sensitivity and Specificity for Various Codes Used to Identify Comorbidities*

| Comorbidity | Sensitivity | Specificity | Study |
|---------------------------------------|-------------|-------------|-----------------------------------|
| Diabetes | 86.0% | 97.0% | Hux (2002) ⁶⁰ |
| Hypertension | 72.0% | 95.0% | Tu (2007) ⁶¹ |
| Chronic obstructive pulmonary disease | 57.5% | 95.4% | Gershon (2009) ³⁶ |
| Congestive heart failure | 84.8% | 97.0% | Ko (2004) ⁶² |
| Coronary artery disease | 88.8% | 92.8% | Austin (2002) ⁶³ |
| Dementia | 79.3% | 99.1% | Jaakkimainen (2016) ⁶⁴ |
| Frailty | NA | NA | Weiner (2013) ³³ |

*NA = not available.