

## Supplementary data

Table 2. Results from Cox regression models. First adjusted multivariable models with age and sex, then univariate models for each comorbidity index and comorbidity class. Univariate models are presented with estimated hazard ratios (HRs) and associated 95% confidence intervals for each time period. Concordance indices are given for all models as C(5), C(8), and C(14) for all time periods (up to 5, 8, and 14 years)

Model	HR 0–5 years	HR 5–8 years	HR 8–14 years	C(5)	C(8)	C(14)
<b>Adjusted</b>						
Age + Sex	–	–	–	0.75	0.74	0.74
Age + Sex + Elixhauser	–	–	–	0.76	0.75	0.74
Age + Sex + Charlson original	–	–	–	0.76	0.75	0.74
Age + Sex + Charlson updated	–	–	–	0.76	0.75	0.74
<b>Indices</b>						
Elixhauser index	1.5 (1.5–1.5)	1.4 (1.4–1.5)	1.4 (1.4–1.5)	0.59	0.58	0.56
Original Charlson index	1.5 (1.5–1.5)	1.4 (1.4–1.4)	1.4 (1.3–1.4)	0.58	0.56	0.54
Updated Charlson index	1.5 (1.5–1.5)	1.4 (1.4–1.4)	1.3 (1.3–1.4)	0.56	0.55	0.53
<b>Elixhauser</b>						
AIDS/HIV	1.1 (0.1–7.6)	–	–	0.50	0.50	0.50
Alcohol abuse	2.8 (2.2–3.5)	2.1 (1.4–3.1)	1.0 (0.5–1.9)	0.50	0.50	0.50
Blood loss anemia	3.6 (2.3–5.7)	1.5 (0.6–3.9)	2.7 (1.2–6.1)	0.50	0.50	0.50
Cardiac arrhythmias	2.6 (2.4–2.7)	2.4 (2.2–2.6)	2.0 (1.7–2.2)	0.53	0.53	0.52
Chronic pulmonary disease	2.2 (2.0–2.4)	1.7 (1.5–2.0)	1.7 (1.4–2.1)	0.52	0.51	0.51
Coagulopathy	2.6 (2.0–3.4)	1.2 (0.7–2.0)	1.1 (0.5–2.2)	0.50	0.50	0.50
Congestive heart failure	4.2 (3.9–4.6)	3.6 (3.2–4.0)	3.1 (2.6–3.6)	0.53	0.52	0.52
Deficiency anemia	2.5 (2.0–3.0)	1.9 (1.3–2.6)	2.3 (1.5–3.5)	0.50	0.50	0.50
Depression	1.5 (1.3–1.8)	1.2 (0.9–1.6)	1.3 (0.9–2.0)	0.50	0.50	0.50
Diabetes complicated	2.5 (2.2–2.9)	2.7 (2.2–3.3)	1.9 (1.4–2.7)	0.51	0.51	0.50
Diabetes uncomplicated	1.9 (1.8–2.1)	1.9 (1.7–2.2)	2.0 (1.8–2.4)	0.52	0.51	0.51
Drug abuse	2.5 (1.6–3.8)	0.9 (0.3–2.7)	1.4 (0.5–4.3)	0.50	0.50	0.50
Fluid electrolyte disorders	3.3 (2.5–4.2)	2.7 (1.8–4.1)	1.9 (1.0–3.9)	0.50	0.50	0.50
Hypertension complicated	2.3 (1.9–2.7)	1.7 (1.3–2.2)	1.9 (1.4–2.6)	0.50	0.50	0.50
Hypertension uncomplicated	1.3 (1.2–1.4)	1.4 (1.3–1.6)	1.4 (1.2–1.5)	0.52	0.52	0.52
Hypothyroidism	1.2 (1.1–1.4)	1.4 (1.1–1.7)	1.3 (1.0–1.7)	0.50	0.50	0.50
Liver disease	2.6 (2.1–3.3)	1.4 (0.9–2.2)	1.4 (0.8–2.4)	0.50	0.50	0.50
Lymphoma	3.0 (2.3–3.8)	2.2 (1.4–3.3)	1.3 (0.7–2.6)	0.50	0.50	0.50
Metastatic cancer	12.7 (10.7–15.0)	2.3 (1.1–4.8)	1.5 (0.4–6.2)	0.51	0.50	0.50
Obesity	0.7 (0.5–0.9)	1.2 (0.8–1.7)	1.0 (0.5–1.7)	0.50	0.50	0.50
Other neurological disorders	2.0 (1.7–2.4)	2.1 (1.7–2.7)	2.3 (1.8–3.1)	0.50	0.50	0.50
Paralysis	2.2 (1.4–3.3)	1.0 (0.4–2.4)	2.1 (1.0–4.8)	0.50	0.50	0.50
Peptic ulcer disease	2.1 (1.6–2.8)	2.3 (1.6–3.2)	2.0 (1.4–3.0)	0.50	0.50	0.50
Peripheral vascular disorder	3.0 (2.6–3.5)	2.8 (2.2–3.6)	1.7 (1.1–2.6)	0.51	0.51	0.50
Psychoses	2.5 (1.7–3.6)	1.1 (0.4–2.6)	1.0 (0.3–3.0)	0.50	0.50	0.50
Pulmonary circulation disorder	2.0 (1.5–2.6)	2.4 (1.7–3.5)	1.4 (0.7–2.5)	0.50	0.50	0.50
Renal failure	4.1 (3.6–4.8)	2.6 (1.9–3.5)	2.4 (1.6–3.7)	0.51	0.50	0.50
Rheumatoid arthritis	1.5 (1.4–1.7)	1.4 (1.2–1.6)	1.4 (1.2–1.7)	0.51	0.51	0.50
Solid tumor	2.9 (2.7–3.2)	1.9 (1.7–2.1)	1.5 (1.3–1.8)	0.53	0.52	0.51
Valvular disease	2.5 (2.3–2.9)	2.6 (2.2–3.1)	2.3 (1.8–2.9)	0.51	0.51	0.51
Weight loss	1.6 (0.7–3.8)	3.4 (1.4–8.3)	3.6 (0.9–14.4)	0.50	0.50	0.50
<b>Charlson</b>						
AIDS/HIV	1.1 (0.1–7.6)	–	–	0.50	0.50	0.50
Cerebrovascular disease	2.7 (2.4–3.0)	2.1 (1.7–2.4)	2.1 (1.7–2.5)	0.51	0.51	0.51
Chronic pulmonary disease	2.2 (2.0–2.4)	1.7 (1.5–2.0)	1.7 (1.4–2.1)	0.52	0.51	0.51
Congestive heart failure	4.3 (4.0–4.7)	3.7 (3.2–4.1)	3.2 (2.7–3.8)	0.53	0.52	0.52
Dementia	5.5 (4.5–6.7)	4.8 (3.3–6.9)	6.9 (3.7–12.8)	0.50	0.50	0.50
Diabetes complication	2.5 (2.1–2.9)	2.8 (2.2–3.5)	1.9 (1.3–2.9)	0.50	0.50	0.50
Diabetes no complication	1.9 (1.8–2.1)	1.9 (1.7–2.2)	2.0 (1.8–2.3)	0.52	0.52	0.51
Hemiplegia or paraplegia	2.2 (1.4–3.3)	1.0 (0.4–2.4)	2.1 (1.0–4.8)	0.50	0.50	0.50
Malignancy	3.0 (2.8–3.2)	2.0 (1.7–2.2)	1.5 (1.3–1.8)	0.53	0.52	0.51
Matastatic solid tumor	12.7 (10.7–15.0)	2.3 (1.1–4.8)	1.5 (0.4–6.2)	0.51	0.50	0.50
Mild liver disease	2.4 (1.9–3.1)	1.4 (0.9–2.2)	1.5 (0.9–2.5)	0.50	0.50	0.50
Moderate or severe liver disease	7.1 (4.5–11.2)	1.8 (0.4–7.1)	–	0.50	0.50	0.50
Myocardial infarction	2.5 (2.3–2.8)	2.3 (2.0–2.7)	1.8 (1.4–2.2)	0.52	0.51	0.51
Peptic ulcer disease	2.2 (1.8–2.6)	2.3 (1.8–2.9)	2.0 (1.5–2.7)	0.50	0.50	0.50
Peripheral vascular disease	3.0 (2.6–3.5)	2.8 (2.2–3.6)	1.7 (1.1–2.6)	0.51	0.51	0.50
Renal disease	4.1 (3.5–4.8)	2.6 (1.9–3.5)	2.3 (1.5–3.5)	0.51	0.50	0.50
Rheumatic disease	1.6 (1.4–1.8)	1.4 (1.2–1.7)	1.4 (1.2–1.7)	0.51	0.51	0.50

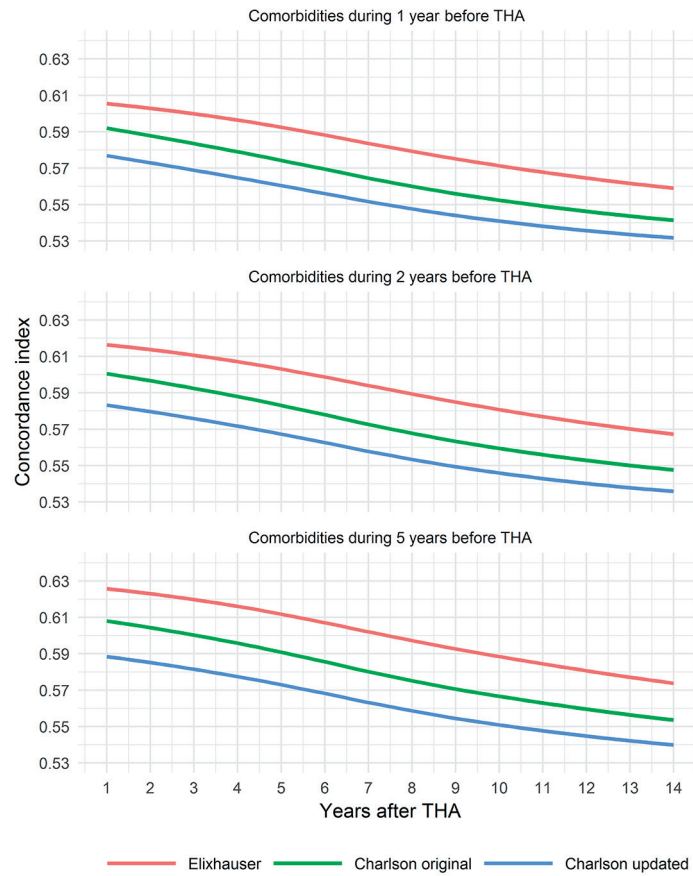


Figure 4. Comorbidity data were extracted from the National Patient Register for hospital visits during one year preceding THA. We then re-ran the analysis with comorbidity data from 2 and 5 years prior to THA. The predictive power of all comorbidity indices increased with a longer time frame. The difference was, however, small—so for simplicity the shorter time frame was preferred.