

**Appendix 1: Ontario Health Insurance Plan (OHIP) database and the Canadian Classification of Intervention (CCI) codes for cardiac procedures**

<b>Procedure</b>	<b>CCI (ICD-10) codes</b>	<b>OHIP fee code</b>
Left ventricular function testing by radionuclide angiography or echocardiography	3IP30DA, 3IP30DB, 3IP30DC, 3IP30DD, 3IP30HA, 3IP30HB, 3IP30HC, 3IP30HD, 3IP70KP	G560, G561, G562, G566, G567, G568, G570, G571, G572, G574, G575, G577, G578, G581, Y813 without J808+J809
Cardiac catheterization	3IP10	Z442, G297
Coronary revascularization (percutaneous coronary intervention or coronary artery bypass graft surgery)	1IJ26, 1IJ50, 1IJ55, 1IJ57, 1IJ76, 1IJ80	Z434, R742, R743

## **Appendix 2. Risk-adjustment model covariates for mortality<sup>14</sup>**

Age, sex, rural residence, neighborhood socioeconomic status, hospital type, myocardial infarction, prior heart failure (HF) hospitalization, coronary artery bypass graft surgery, percutaneous coronary intervention procedure, unstable angina, atherosclerotic disease, cardiopulmonary respiratory failure and shock, valvular heart disease, hypertension, cerebrovascular disease, renal disease, respiratory disease, pneumonia, diabetes mellitus, protein calorie malnutrition, dementia and senility, functional disability, peripheral vascular disease, cancer, trauma, major psychiatric disorders, chronic liver disease, Canadian Triage Acuity Score (CTAS), time of emergency department (ED) visit, ED length of stay, chief complaint, and number of HF ED visits in prior 3 years.

### **Appendix 3. Risk-adjustment model covariates for morbidity or death<sup>13,14</sup>**

Age, male sex, rural residence, neighborhood socioeconomic status, hospital type, prior coronary bypass surgery, prior heart failure (HF), prior acute coronary syndrome, arrhythmias, cardiopulmonary-respiratory failure and shock, valvular heart disease, peripheral vascular disease, chronic atherosclerosis, other heart disease, functional disability, stroke, renal failure, chronic obstructive pulmonary disease, diabetes and diabetes complications, fluid/electrolyte/acid-base disorders, urinary tract disorders, decubital ulcers or chronic skin ulcer, other gastrointestinal disorders, peptic ulcer disease, severe hematologic disorders, nephritis, dementia and senility, metastatic cancer and acute leukemia, cancer, chronic liver disease, end-stage renal disease or dialysis, asthma, iron deficiency and other/unspecified blood disorders, pneumonia, drug and alcohol dependence, depression, other psychiatric disorders, fibrosis of lung and other chronic lung disorders, protein-calorie malnutrition, Canadian Triage Acuity Score (CTAS), time of emergency department (ED) visit, ED length of stay, chief complaint, and number of HF ED visits in prior 3 years.

**Appendix 4. Sensitivity analysis: Effect of HF admission rate on 30-day outcomes including urgent care centres (UCCs)**

	<b>Hospital Admission Rate Tertile</b>	<b>Adjusted Hazards Ratio (95%CI)</b>	<b>p-value</b>
ED visit or hospitalization for HF (Primary outcome)	High	Referent	Referent
	Medium	1.06 (0.96-1.17)	0.230
	Low	1.19 (1.08-1.31)	<.001
ED visit for HF (Co-primary outcome)	High	Referent	Referent
	Medium	1.10 (0.98-1.23)	0.111
	Low	1.29 (1.15-1.45)	<.001
ED visit or hospitalization for cardiovascular disease	High	Referent	Referent
	Medium	1.11 (1.02-1.20)	0.013
	Low	1.17 (1.08-1.27)	<.001
ED visit or hospitalization for all-causes	High	Referent	Referent
	Medium	1.07 (1.00-1.14)	0.055
	Low	1.16 (1.09-1.23)	<.001
ED visit for cardiovascular disease	High	Referent	Referent
	Medium	1.12 (1.01-1.24)	0.036
	Low	1.24 (1.12-1.37)	<.001
ED visit for all-causes	High	Referent	Referent
	Medium	1.07 (1.00-1.15)	0.058
	Low	1.16 (1.09-1.25)	<.001

ED = emergency department, HF = heart failure