

SUPPLEMENTARY APPENDIX

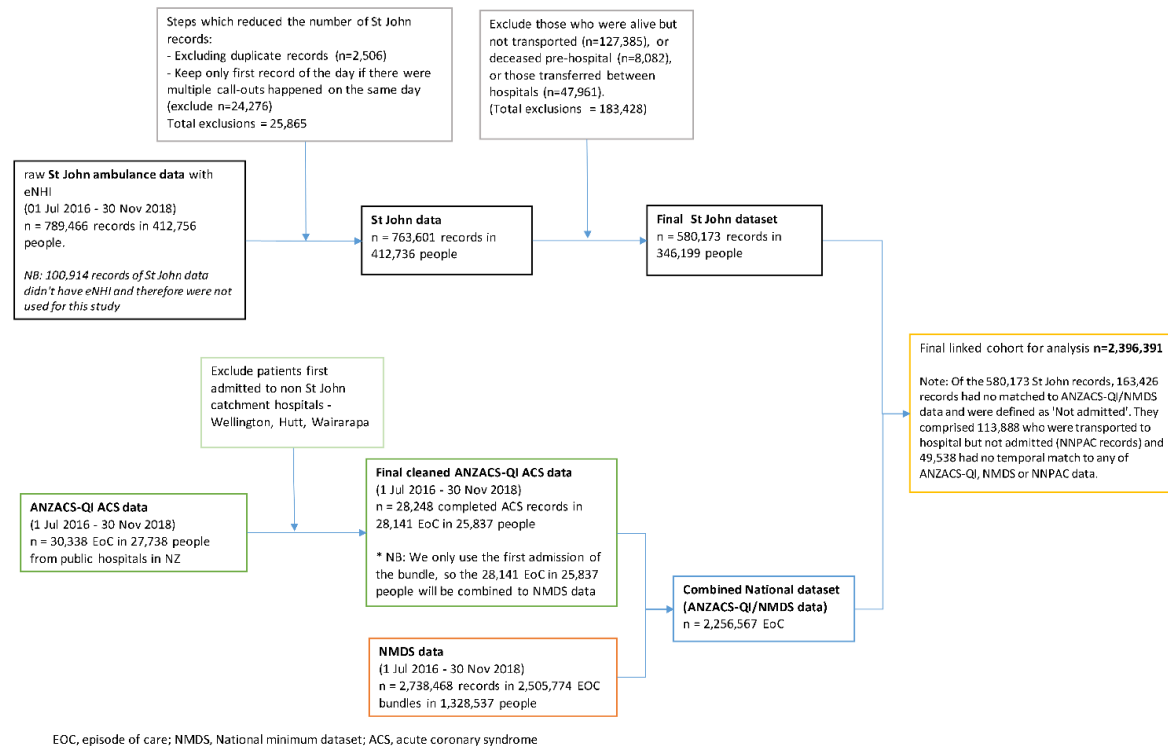
Table S1: List of ICD codes for ACS and other CHD

ACS Type	ICD codes	Description
STEMI	I210	Acute transmural myocardial infarction of anterior wall
	I211	Acute transmural myocardial infarction of inferior wall
	I212	Acute transmural myocardial infarction of other sites
	I213	Acute transmural myocardial infarction of unspecified site
	I220	Subsequent myocardial infarction of anterior wall
	I221	Subsequent myocardial infarction of inferior wall
	I228	Subsequent myocardial infarction of other sites
	I229	Subsequent myocardial infarction of unspecified site
NSTEMI	I214	Acute subendocardial myocardial infarction
	I222	Subsequent non-ST elevation (NSTEMI) myocardial infarction
USA	I200	Unstable angina
MI Unspecified	I219	Acute myocardial infarction, unspecified
Other CHD	I201	Angina pectoris with documented spasm
	I208	Other forms of angina pectoris
	I209	Angina pectoris, unspecified
	I230	Haemopericardium as current complication following acute myocardial infarction Atrial septal defect as current complication following acute

I231	myocardial infarction
	Ventricular septal defect as current complication following
I232	acute myocardial infarction
	Rupture of cardiac wall without haemopericardium as current
I233	complication following acute MI
	Rupture of chordae tendineae as current complication following
I234	acute myocardial infarction
	Rupture of papillary muscle as current complication following
I235	acute myocardial infarction
	Thrombosis of atrium, auricular appendage, and ventricle as
I236	current complications following acute MI
	Other current complications following acute myocardial
I238	infarction
	Coronary thrombosis not resulting in myocardial infarction
I240	Other forms of acute ischaemic heart disease
I248	Acute ischaemic heart disease, unspecified
I249	Aneurysm of heart
I253	Coronary artery aneurysm
I254	Ischaemic cardiomyopathy
I255	Silent myocardial ischaemia
I256	Cardiac arrest with successful resuscitation
I460	Cardiac arrest, unspecified
I469	

CHD: coronary heart disease

Appendix Figure 1: Flow chart summarising cohort construction



Appendix Table 2: Characteristics of patients with a first presentation with a STEMI diagnosis according to the initial St John clinical impressions and method of transport to hospital.

	St John suspected STEMI (n=1,982)	St John other suspected cardiac (n=737)	St John suspected non cardiac condition (n=1,109)	P value (1 vs 2)	P value (1 vs 3)	P value (2 vs 3)	Transported by St John (n=3,828)	Self presented (n=1,378)	P value
Age (years), Mean (SD)	66.3 (13.5)	68.4 (13.8)	72.6 (14.5)	<.001	<.001	<.001	68.5 (14.1)	64.3 (13.6)	<.001
Age group, n (%)									
<45	105 (5.3)	27 (3.7)	37 (3.3)				169 (4.4)	84 (6.1)	
45 -54	280 (14.1)	101 (13.7)	105 (9.5)				486 (12.7)	256 (18.6)	
55-64	525 (26.5)	160 (21.7)	176 (15.9)	0.004	<.001	<.001	861 (22.5)	365 (26.5)	<.001
65-74	493 (24.9)	187 (25.4)	245 (22.1)				925 (24.2)	347 (25.2)	
75-84	386 (19.5)	160 (21.7)	280 (25.3)				826 (21.6)	225 (16.3)	
85+	193 (9.7)	102 (13.8)	266 (24.0)				561 (14.7)	101 (7.3)	
Female, n (%)	620 (31.3)	254 (34.5)	479 (43.2)	0.114	<.001	<.001	1353 (35.3)	405 (29.4)	<.001
Ethnicity, n (%)									
Maori	178 (9.0)	69 (9.4)	137 (12.4)				384 (10.0)	217 (15.8)	
Pacific	76 (3.8)	25 (3.4)	79 (7.1)	0.983	<.001	<.001	180 (4.7)	81 (5.9)	<.001
Indian	85 (4.3)	32 (4.3)	29 (2.6)				146 (3.8)	81 (5.9)	
Other Asian	78 (3.9)	28 (3.8)	25 (2.3)				131 (3.4)	71 (5.2)	
European/Other	1565 (79.0)	583 (79.1)	839 (75.7)				2987 (78.0)	928 (67.3)	
NZ Dep13, n (%)									
1-2	324 (16.3)	124 (16.8)	172 (15.5)				620 (16.2)	221 (16.0)	
3-4	372 (18.8)	131 (17.8)	193 (17.4)				696 (18.2)	247 (17.9)	
5-6	381 (19.2)	137 (18.6)	209 (18.8)	0.817	0.570	0.969	727 (19.0)	231 (16.8)	0.085
7-8	448 (22.6)	162 (22.0)	247 (22.3)				857 (22.4)	287 (20.8)	
9-10	433 (21.8)	176 (23.9)	269 (24.3)				878 (22.9)	360 (26.1)	
Missing	24 (1.2)	7 (0.9)	19 (1.7)				50 (1.3)	33 (2.2)	

Hospital status, n (%)									
Primary PCI centre	1386 (69.9)	478 (64.9)	686 (61.9)				2550 (66.6)	928 (67.3)	
Non primary PCI centre	540 (27.3)	218 (29.6)	367 (33.1)	0.001	<.001	0.275	1125 (29.4)	393 (28.5)	0.822
Rural hospital without cathlab	56 (2.8)	41 (5.6)	56 (5.0)				153 (4.0)	57 (4.1)	
System time (from the first medical contact to arrival at hospital, mins)									
n	1972	734	1098	0.198	<.001	<.001	3804	-	-
Mean (SD)	62.6 (33.8)	60.1 (29.8)	67.6 (35.8)				63.6 (33.7)		
Median (IQR)	54.7 (41.9-74.0)	53.9 (40.7-71.6)	59.1 (44.3-80.9)				55.8 (42.4-76.0)		
Non-cardiac Charlson									
0	1546 (78.0)	520 (70.6)	595 (53.7)	<.001	<.001	<.001	2661 (69.5)	996 (72.3)	0.064
1-2	317 (16.0)	141 (19.1)	281 (25.3)				739 (19.3)	227 (16.5)	
3+	119 (6.0)	76 (10.3)	233 (21.0)				428(11.2)	155 (11.2)	
Coronary intervention status									
No Cath	208 (10.5)	137 (18.6)	556 (50.1)	<.001	<.001	<.001	901 (23.5)	309 (22.4)	0.170
Cath with intervention	1604 (80.9)	507 (68.8)	425 (38.3)				2536 (63.3)	904 (65.6)	
Cath without intervention	170 (8.6)	93 (12.6)	128 (11.5)				391 (10.2)	165 (12.0)	

NZDep13, New Zealand deprivation index 2013;PCI, percutaneous coronary intervention; Cath, catheterisation laboratory

Appendix Table 3: Proportion of patients with a final diagnosis of STEMI who were transported by ambulance with a paramedic suspected STEMI.

	Final STEMIs transported by ambulance / All final diagnoses of STEMI	Ambulance final STEMIs with suspected STEMI pre-hospital/ All ambulance final STEMI	Final STEMIs transported by ambulance and suspected of STEMI pre-hospital / all final STEMI
All	3989/5465 (73.0%)	2016/3989 (50.5%)	2016/5465 (36.9%)
Age group, years			
<45	176/264 (66.7%)	106/176 (60.2%)	106/264 (40.2%)
45-54	496/766 (64.8%)	281/496 (56.7%)	281/766 (36.7%)
55-64	896/1287 (69.6%)	534/896 (59.6%)	534/1287 (41.5%)
65-74	963/1344 (71.7%)	501/963 (52.0%)	501/1344 (37.3%)
75-84	863/1101 (78.4%)	393/863 (45.5%)	393/1101 (35.7%)
85+	595/703 (84.6%)	201/595 (33.8%)	201/703 (28.6%)
Gender			
Male	2570/3606 (71.3%)	1382/2570 (53.8%)	1382/3606 (38.3%)
Female	1419/1859 (76.3%)	634/1419 (44.7%)	634/1859 (34.1%)
Ethnicity			
Māori	410/642 (63.9%)	184/410 (44.9%)	184/642 (28.7%)
Pacific	192/277 (69.3%)	80/192 (41.7%)	80/277 (28.9%)
Indian	151/235 (64.3%)	86/151 (57.0%)	86/235 (36.6%)
Other Asian	136/210 (64.8%)	79/136 (58.1%)	79/210 (37.6%)
European/Other	3100/4101 (75.6%)	1587/3100 (51.2%)	1587/4101 (38.7%)
NZ Dep13			
1-2 (least deprived)	624/848 (73.6%)	327/624 (52.4%)	327/848 (38.6%)
3-4	704/955 (73.7%)	375/704 (53.3%)	375/955 (39.3%)
5-6	735/967 (76.0%)	385/735 (52.4%)	385/967 (39.8%)
7-8	864/1155 (74.8%)	452/864 (52.3%)	452/1155 (39.1%)
9-10 (most deprived)	896/1261 (71.1%)	439/896 (49.0%)	439/1261 (34.8%)
Missing	166/279 (59.5%)	38/166 (22.9%)	38/279 (13.6%)
Hospital status			
Primary PCI centre	2649/3636 (72.9%)	1408/2649 (53.2%)	1408/3636 (38.7%)
Non primary PCI centre	1181/1609 (73.4%)	551/1181 (46.7%)	551/1609 (34.2%)
Rural hospital without	159/220 (72.3%)	57/159 (35.8%)	57/220 (25.9%)

cathlab			
Non-cardiac Charlson index			
0	2711/3754 (72.2%)	1551/2711 (57.2%)	1551/3754 (41.3%)
1-2	788/1040 (75.8%)	326/788 (41.4%)	326/1040 (31.3%)
3+	490/671 (73.0%)	139/490 (28.4%)	139/671 (20.7%)
Coronary intervention status			
No Cath	1074/1455 (73.8%)	270/1074 (25.1%)	270/1455 (18.6%)
Cath with intervention	2505/3435 (72.9%)	1574/2505 (62.8%)	1574/3435 (45.8%)
Cath without intervention	410/575 (71.3%)	172/410 (42.0%)	172/575 (29.9%)