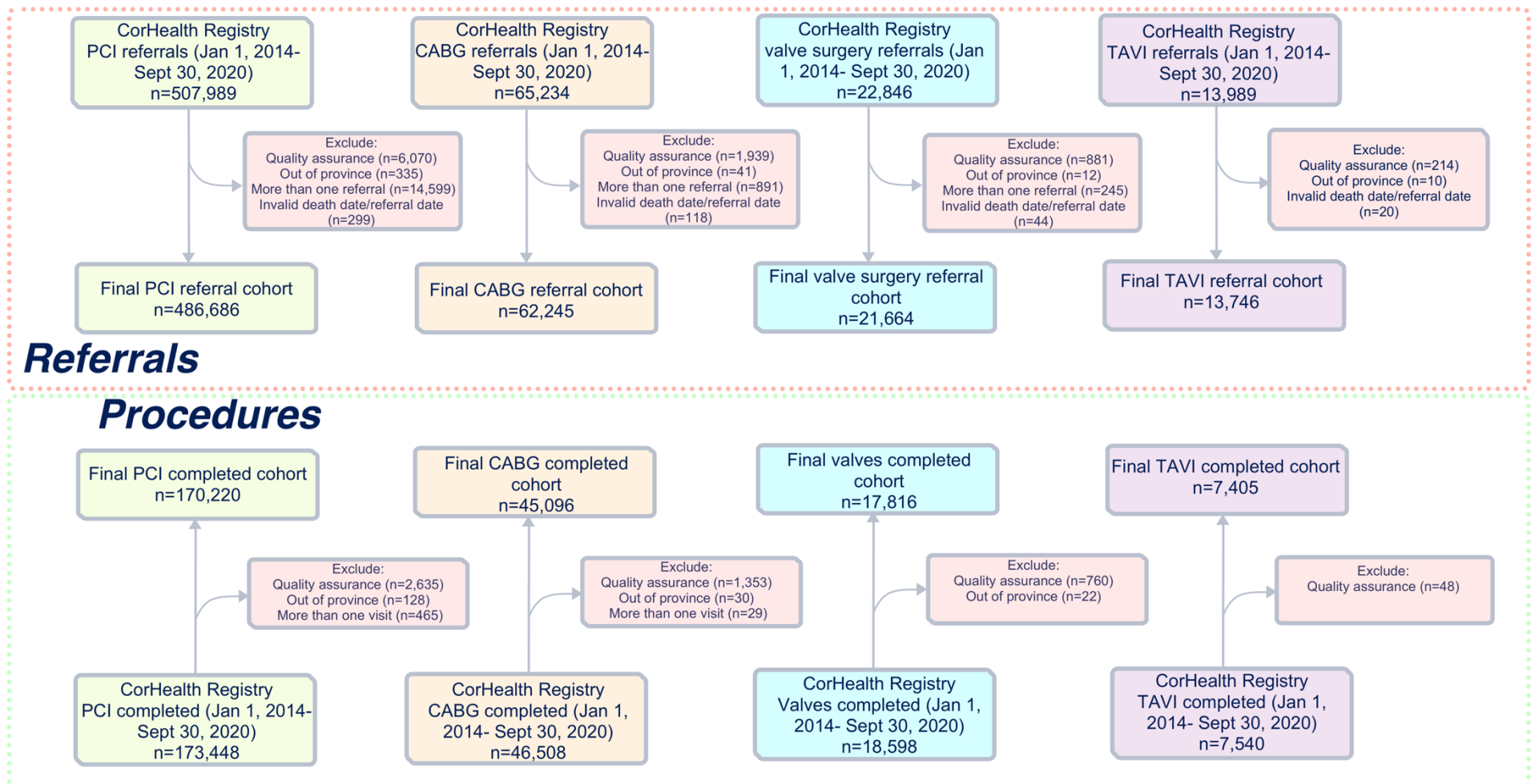
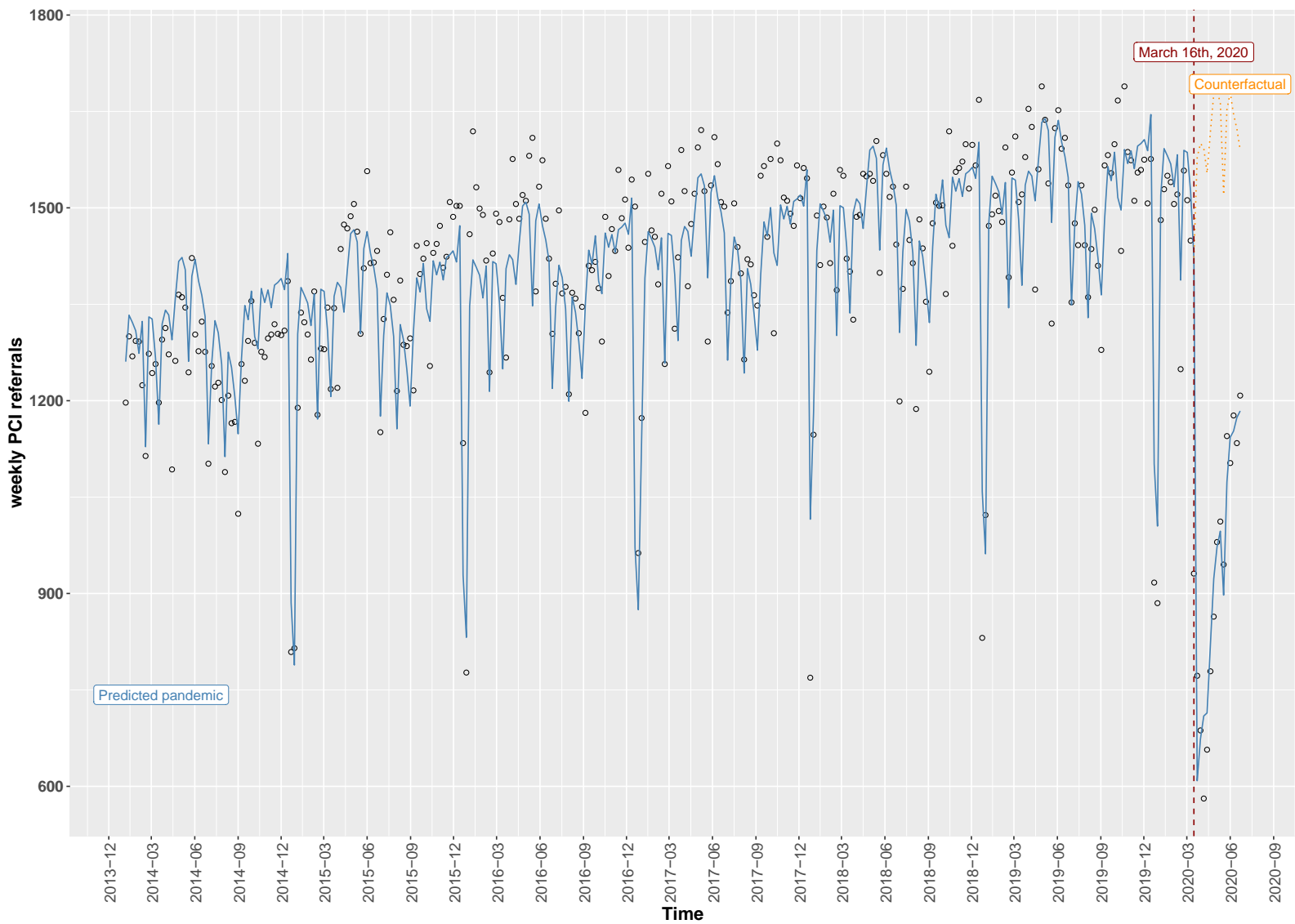


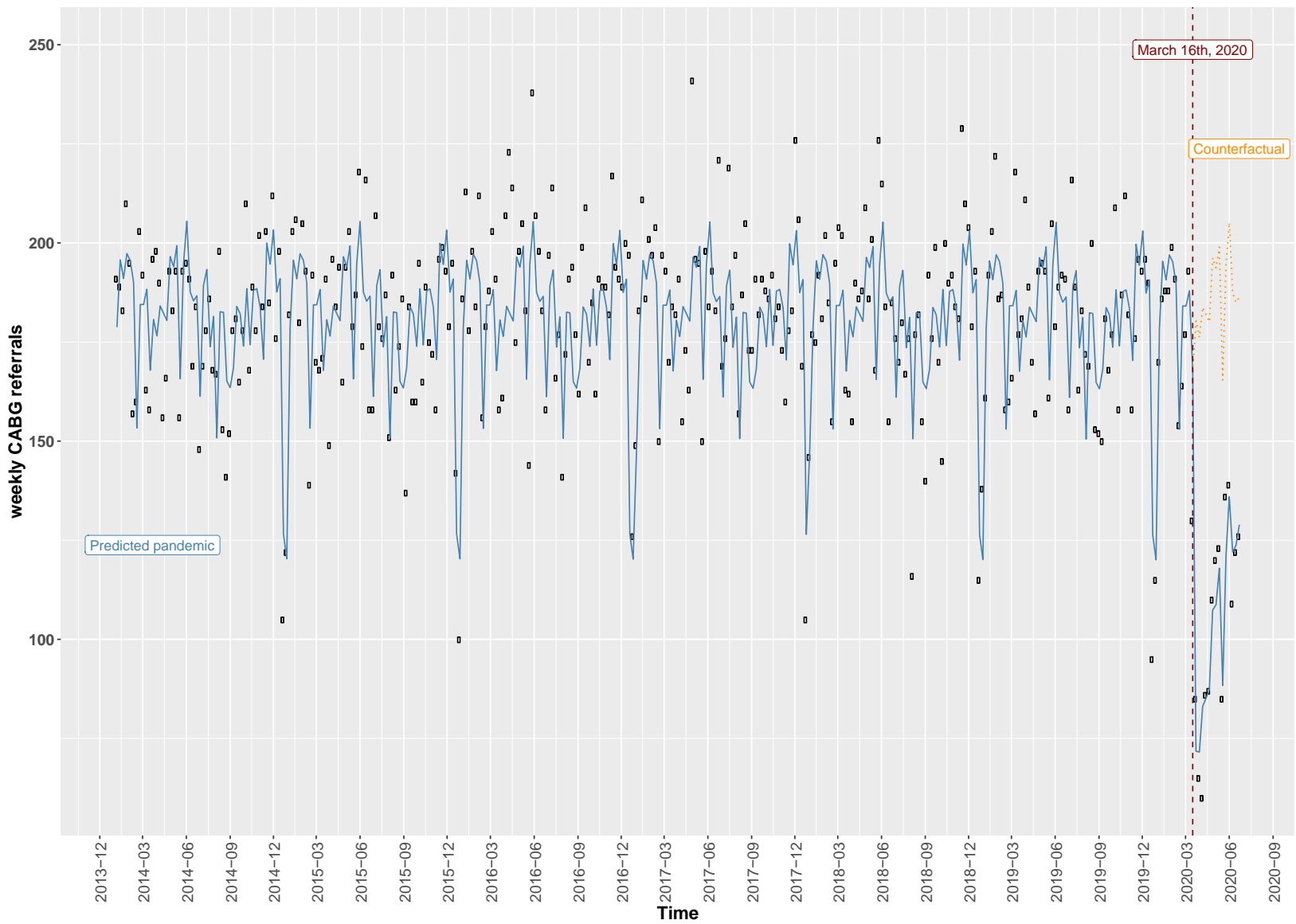
**Supplementary Material to Tam DY et al., *The impact of the COVID-19 pandemic on cardiac procedure waitlist mortality in Ontario***

**Supplemental Figure S1.** Patient flow diagram for the referral cohort of percutaneous coronary intervention (PCI) catheterizations, coronary artery bypass grafting (CABG), open valve surgery, and transcatheter aortic valve intervention (TAVI) and the procedure completed cohort of PCI, CABG, open valve surgery, and TAVI patients.

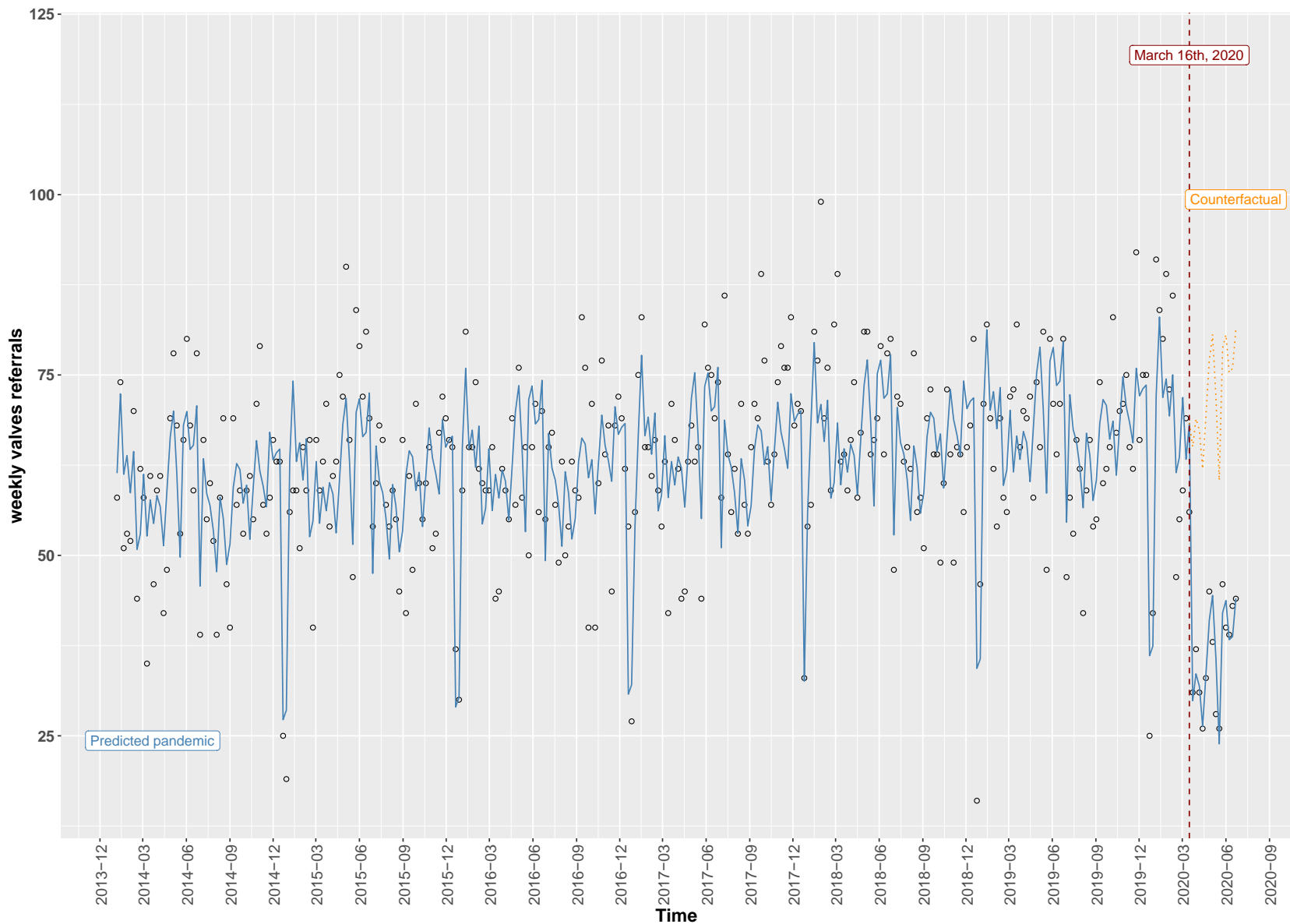




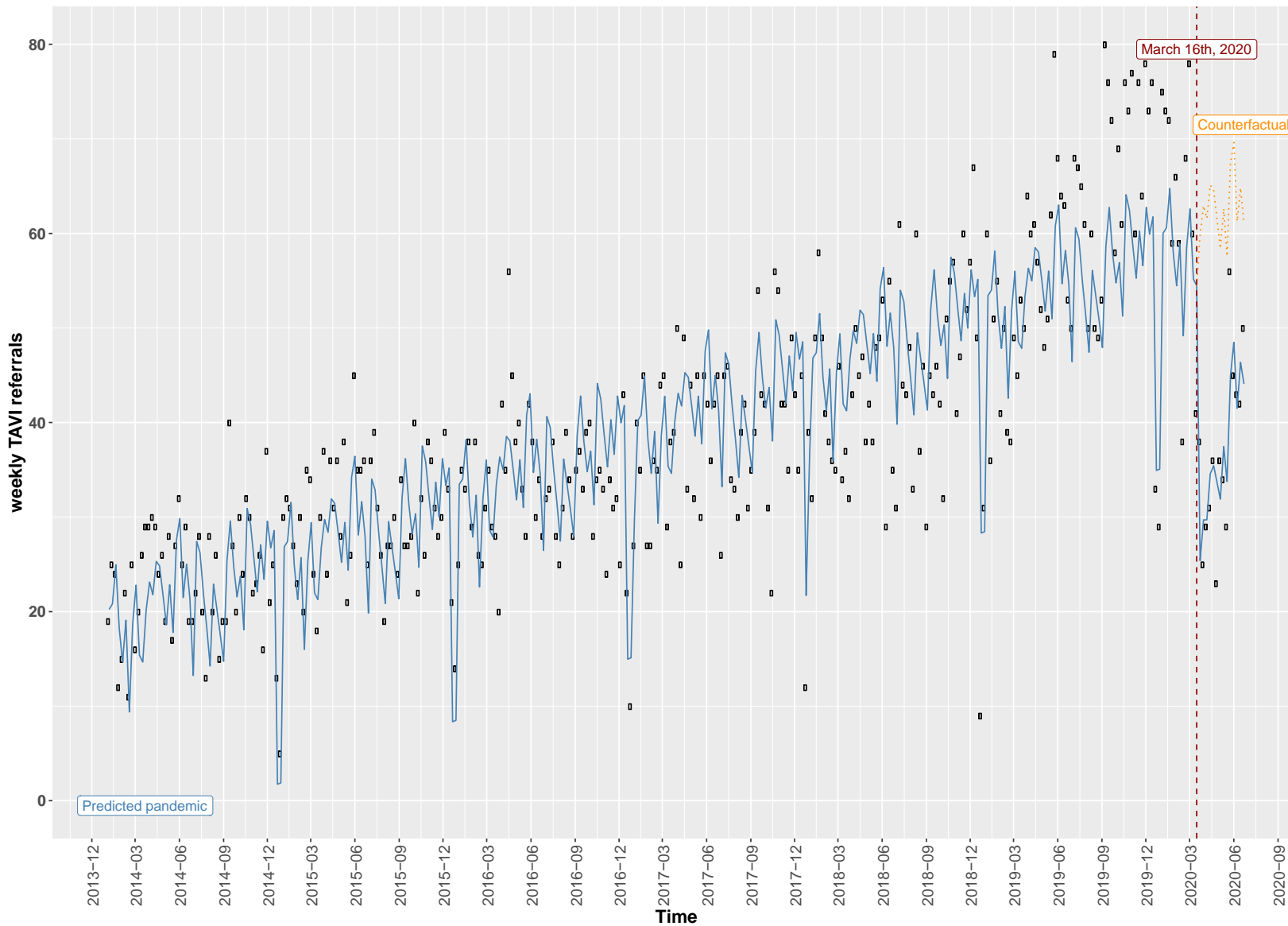
**Supplemental Figure S2.** Trends in PCI referrals before and after the pandemic. Actual number of weekly PCI referrals (dots) and model predicted referral accounting for seasonality, secular trend, and an indicator for pandemic (blue). Orange line is the counterfactual scenario (ie. if there was no pandemic) which demonstrates an increasing number of PCI referrals compared to previous weeks ( $p < 0.001$ ). The pandemic start resulted in a significant PCI referral drop in Ontario ( $p < 0.001$  for level change) but referrals began to increase over time after the pandemic start ( $p < 0.001$  for time trend after pandemic start).



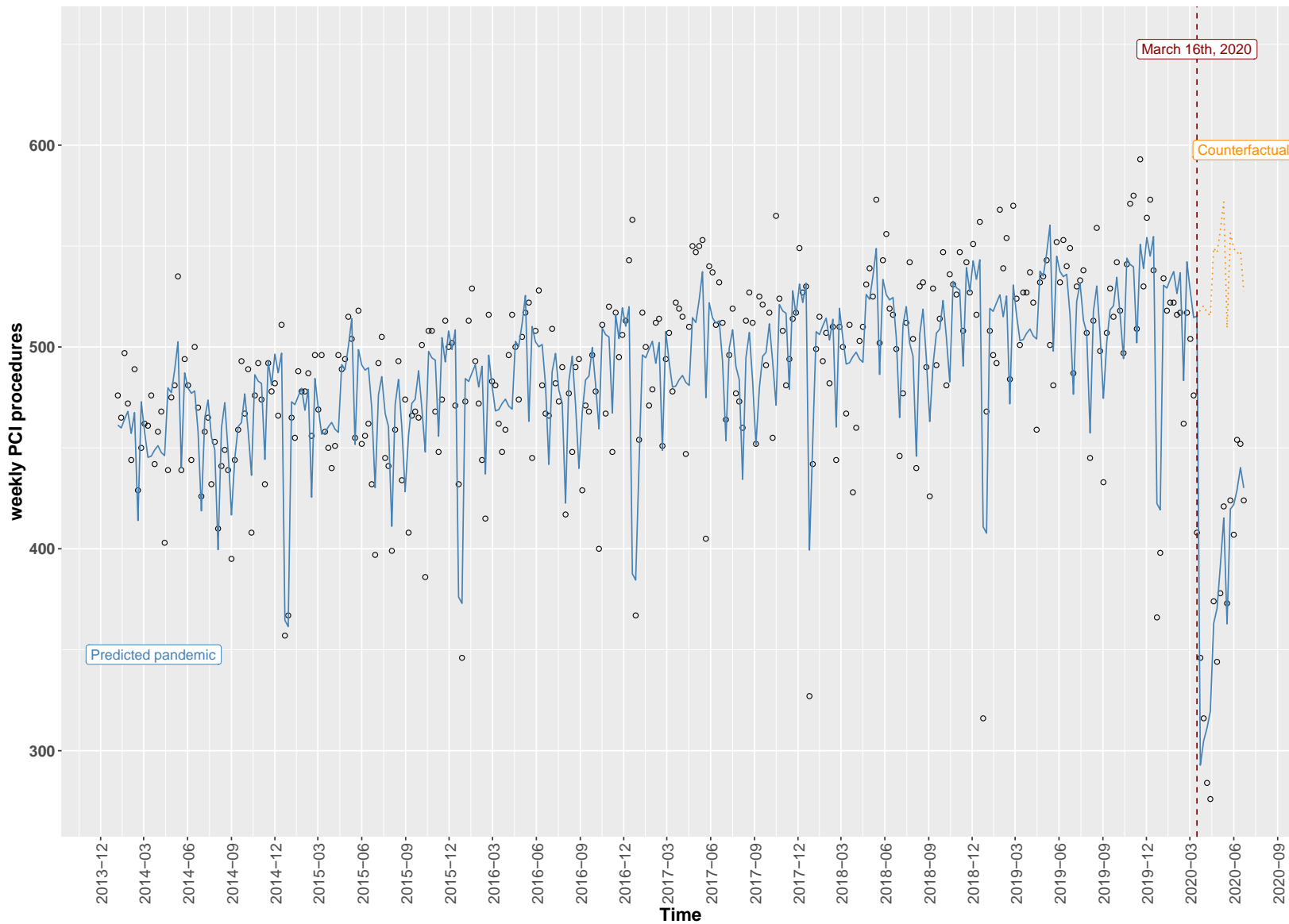
**Supplemental Figure S3.** Trends in CABG referrals before and after the pandemic. Actual number of weekly CABG referrals (dots) and model predicted referral accounting for seasonality, secular trend, and an indicator for pandemic (blue). Orange line is the counterfactual scenario (ie. if there was no pandemic) which demonstrated no change in CABG referrals with time ( $p=0.91$ ). However, the pandemic start resulted in a significant CABG referral drop in Ontario ( $p<0.001$  for level change) but referrals began to increase over time after the pandemic start ( $p<0.001$  for time trend after pandemic start).



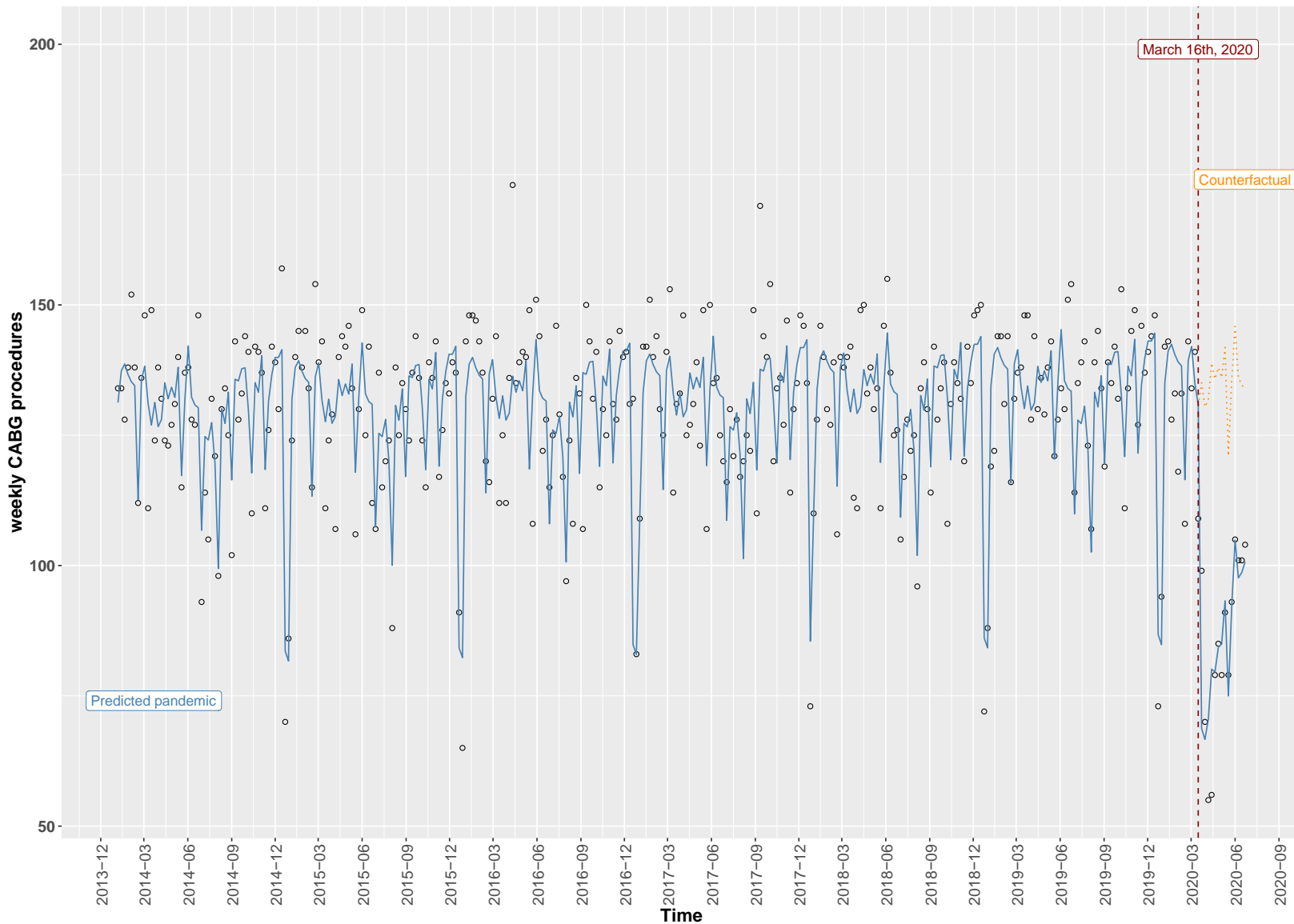
**Supplemental Figure S4.** Trends in surgical valve referrals before and after the pandemic. Actual number of weekly surgical valve referrals (dots) and model predicted referral accounting for seasonality, secular trend, and an indicator for pandemic (blue). Orange line is the counterfactual scenario (ie. if there was no pandemic) which demonstrates an increasing number of surgical valve referrals compared to previous weeks ( $p < 0.001$ ). The pandemic start resulted in a significant surgical valve referral drop in Ontario ( $p < 0.001$  for level change) and referrals did not begin increase over time after the pandemic start ( $p = 0.80$ ).



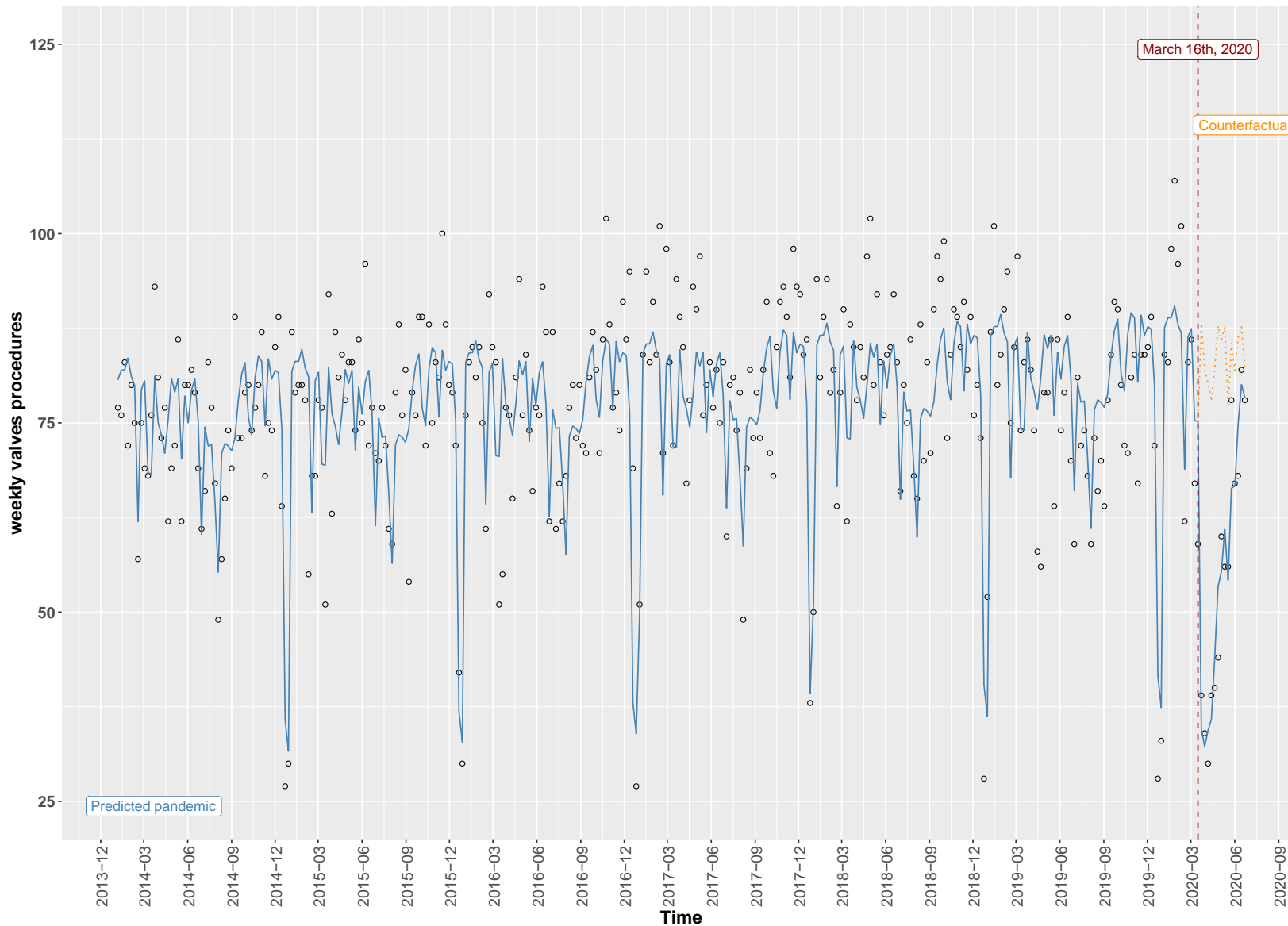
**Supplemental Figure S5.** Trends in TAVI referrals before and after the pandemic. Actual number of weekly TAVI referrals (dots) and model predicted referral accounting for seasonality, secular trend, and an indicator for pandemic (blue). Orange line is the counterfactual scenario (ie. if there was no pandemic) which demonstrates an increasing number of TAVI referrals compared to previous weeks ( $p < 0.001$ ). The pandemic start resulted in a significant TAVI referral drop in Ontario ( $p < 0.001$  for level change) but referrals began to increase over time after the pandemic start ( $p < 0.001$  for time trend after pandemic start).



**Supplemental Figure S6.** Trends in PCI completed before and after the pandemic. Actual number of weekly completed procedures (dots) and model predicted procedures accounting for seasonality, secular trend, and an indicator for pandemic (blue line). Orange line is the counterfactual scenario (ie. if there was no pandemic) which demonstrates an increasing number PCI procedures compared to previous weeks. The start of the pandemic resulted in a significant drop for PCI procedures in Ontario ( $p < 0.001$  for level change) but volume began to increase over time after the pandemic start ( $p < 0.001$  for time trend after pandemic start).

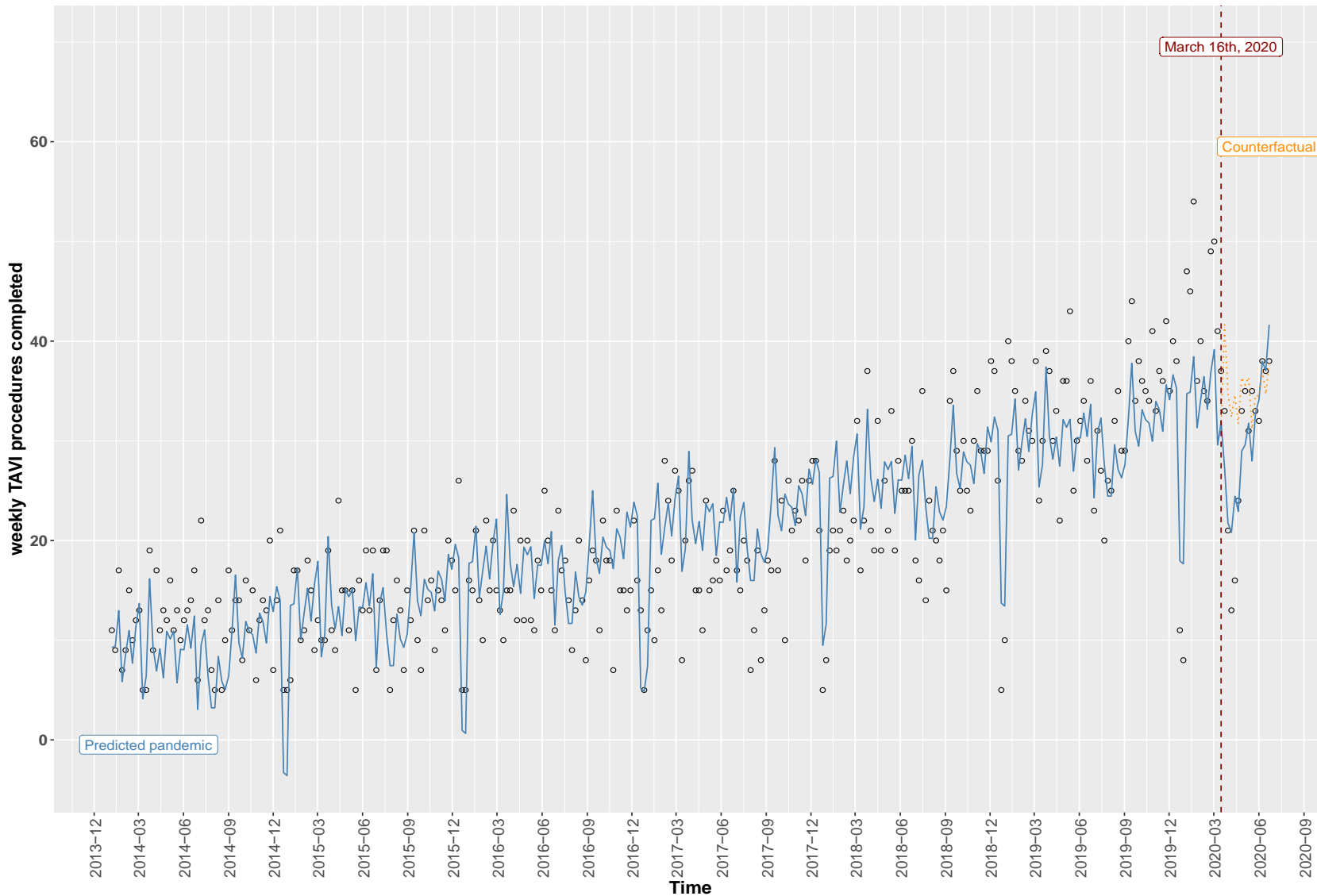


**Supplemental Figure S7.** Trends in CABG completed before and after the pandemic. Actual number of weekly completed procedures (dots) and model predicted procedures accounting for seasonality, secular trend, and an indicator for pandemic (blue line). Orange line is the counterfactual scenario (ie. if there was no pandemic) which demonstrated no change in CABG procedures completed with time ( $p=0.072$ ). The start of the pandemic resulted in a significant drop for CABG procedures in Ontario ( $p<0.001$  for level change) but volume began to increase over time after the pandemic start ( $p<0.001$  for time trend after pandemic start).



**Supplemental Figure S8.** Trends in surgical valves completed before and after the pandemic. Actual number of weekly completed procedures (dots) and model predicted procedures accounting for seasonality, secular trend, and an indicator for pandemic (blue line). Orange line is the counterfactual scenario (ie. if there was no pandemic) which demonstrates an increasing number surgical valves procedures compared to previous weeks. The start of the pandemic resulted in a significant drop for surgical valve procedures in Ontario ( $p < 0.001$  for level change) but volume began to increase over time after the pandemic start ( $p < 0.001$  for time trend after pandemic start).





**Supplemental Figure S9.** Trends in TAVI completed before and after the pandemic. Actual number of weekly completed procedures (dots) and model predicted procedures accounting for seasonality, secular trend, and an indicator for pandemic (blue line). Orange line is the counterfactual scenario (ie. if there was no pandemic) which demonstrates an increasing number TAVI procedures compared to previous weeks ( $p < 0.001$ ). The start of the pandemic resulted in a significant drop for TAVI procedures in Ontario ( $p < 0.001$  for level change) but volume began to increase over time after the pandemic start ( $p < 0.001$  for time trend after pandemic start).

**Supplemental Table S1.** Baseline characteristics of patients referred for PCI and CABG in the pandemic period (after March 15<sup>th</sup>, 2020) and in the pre-pandemic period (Before March 16<sup>th</sup>, 2020).

VARIABLE	VALUE	PCI			CABG		
		Pandemic	Pre-pandemic	SMD	Pandemic	Pre-pandemic	SMD
		N=31,390	N=455,296		N=3,728	N=58,517	
Age at index	Mean ± SD	66.7 ± 11.8	66.1 ± 11.9	0.05	67.0 ± 9.7	67.3 ± 9.9	0.03
Female sex		10,710 (34.1%)	154,514 (33.9%)	0	797 (21.4%)	12,611 (21.6%)	0
Nearest Census Based Neighbourhood Income Quintile	1 (lowest)	6,513 (20.7%)	98,802 (21.7%)	0.02	805 (21.6%)	12,051 (20.6%)	0.02
	2	6,459 (20.6%)	95,503 (21.0%)	0.01	743 (19.9%)	12,305 (21.0%)	0.03
	3	6,482 (20.6%)	94,472 (20.7%)	0	755 (20.3%)	12,276 (21.0%)	0.02
	4	6,112 (19.5%)	84,228 (18.5%)	0.02	753 (20.2%)	11,112 (19.0%)	0.03
	5 (highest)	5,824 (18.6%)	82,291 (18.1%)	0.01	672 (18.0%)	10,773 (18.4%)	0.01
Rural status		4,904 (15.6%)	61,971 (13.6%)	0.06	627 (16.8%)	8,593 (14.7%)	0.06
Procedure Urgency Priority level	Elective	2,917 (9.3%)	63,261 (13.9%)	0.14	1,232 (33.0%)	21,862 (37.4%)	0.09
	Semi-Urgent	13,512 (43.0%)	197,656 (43.4%)	0.01	1,034 (27.7%)	14,539 (24.8%)	0.07
	Urgent	14,028 (44.7%)	183,223 (40.2%)	0.09	1,149 (30.8%)	17,654 (30.2%)	0.01
	Unknown	933 (3.0%)	11,156 (2.5%)	0.03	313 (8.4%)	4,462 (7.6%)	0.03
Status at the time of cath referral	ACS	12,871 (41.0%)	166,704 (36.6%)	0.09	1,792 (48.1%)	24,354 (41.6%)	0.13
	Emergency	3,674 (11.7%)	45,958 (10.1%)	0.05	346 (9.3%)	3,628 (6.2%)	0.12
	Stable CAD	14,807 (47.2%)	242,350 (53.2%)	0.12	1,581 (42.4%)	30,139 (51.5%)	0.18
	Unknown	38 (0.1%)	284 (0.1%)	0.02	9 (0.2%)	396 (0.7%)	0.06

Diabetes		11,700 (37.3%)	177,696 (39.0%)	0.04	1,705 (45.7%)	27,622 (47.2%)	0.03
hypertension		21,408 (68.2%)	334,804 (73.5%)	0.12	2,608 (70.0%)	46,568 (79.6%)	0.22
Prior Congestive Heart failure history		4,608 (14.7%)	95,862 (21.1%)	0.17	405 (10.9%)	12,702 (21.7%)	0.3
Cerebrovascular Disease		685 (2.2%)	8,145 (1.8%)	0.03	94 (2.5%)	1,099 (1.9%)	0.04
Peripheral Vascular Disease		421 (1.3%)	5,218 (1.1%)	0.02	64 (1.7%)	845 (1.4%)	0.02
Dyslipidemia		13,912 (44.3%)	209,042 (45.9%)	0.03	1,749 (46.9%)	28,553 (48.8%)	0.04
Atrial Arrhythmia		1,819 (5.8%)	22,443 (4.9%)	0.04	138 (3.7%)	2,224 (3.8%)	0.01
Previous known CAD		6,263 (20.0%)	84,729 (18.6%)	0.03	1,117 (30.0%)	21,490 (36.7%)	0.14
Dialysis		845 (2.7%)	11,239 (2.5%)	0.01	119 (3.2%)	1,636 (2.8%)	0.02
Creatinine Level	0-110 umol/L	22,559 (71.9%)	343,263 (75.4%)	0.08	2,479 (66.5%)	40,259 (68.8%)	0.05
	111-180 umol/L	4,129 (13.2%)	56,102 (12.3%)	0.02	455 (12.2%)	7,487 (12.8%)	0.02
	>180 umol/L	1,279 (4.1%)	16,247 (3.6%)	0.03	158 (4.2%)	2,240 (3.8%)	0.02
	Unknown	3,423 (10.9%)	39,684 (8.7%)	0.07	636 (17.1%)	8,531 (14.6%)	0.07
History of smoking	Current	5,585 (17.8%)	85,509 (18.8%)	0.03	762 (20.4%)	11,618 (19.9%)	0.01
	Former	8,125 (25.9%)	128,671 (28.3%)	0.05	1,119 (30.0%)	19,565 (33.4%)	0.07
	Never	15,820 (50.4%)	213,605 (46.9%)	0.07	1,727 (46.3%)	24,998 (42.7%)	0.07
	Unknown	1,860 (5.9%)	27,511 (6.0%)	0	120 (3.2%)	2,336 (4.0%)	0.04
NYHA Class	I	23,169 (73.8%)	348,801 (76.7%)	0.15	2,651 (71.1%)	37,888 (64.8%)	0.17
	II	798 (2.5%)	10,203 (2.2%)	0.02	96 (2.6%)	1,227 (2.1%)	0.03

	III	2,319 (7.4%)	28,958 (6.4%)	0.04	318 (8.5%)	5,025 (8.6%)	0
	IV	4,220 (13.4%)	52,860 (11.6%)	0.06	513 (13.8%)	7,369 (12.6%)	0.03
	Unknown	884 (2.8%)	14,474 (3.2%)	0.02	150 (4.0%)	7,008 (12.0%)	0.3
CCS Angina Class	0	6,161 (19.6%)	84,589 (18.6%)	0.03	425 (11.4%)	6,788 (11.6%)	0.01
	1	2,695 (8.6%)	44,308 (9.7%)	0.04	280 (7.5%)	5,508 (9.4%)	0.07
	2	4,584 (14.6%)	87,307 (19.2%)	0.12	506 (13.6%)	10,433 (17.8%)	0.12
	3	3,048 (9.7%)	46,324 (10.2%)	0.02	491 (13.2%)	8,004 (13.7%)	0.01
	4	793 (2.5%)	10,362 (2.3%)	0.02	153 (4.1%)	2,253 (3.9%)	0.01
	ACS Emergent	3,642 (11.6%)	45,118 (9.9%)	0.05	122 (3.3%)	1,587 (2.7%)	0.03
	ACS High Risk	1,166 (3.7%)	20,215 (4.4%)	0.04	228 (6.1%)	2,852 (4.9%)	0.05
	ACS Intermediate Risk	5,536 (17.6%)	67,305 (14.8%)	0.08	661 (17.7%)	9,575 (16.4%)	0.04
	ACS Low Risk	3,490 (11.1%)	47,059 (10.3%)	0.03	784 (21.0%)	10,479 (17.9%)	0.08
	Unknown	275 (0.9%)	2,709 (0.6%)	0.03	78 (2.1%)	1,038 (1.8%)	0.02
Previous PCI		7,595 (24.2%)	100,909 (22.2%)	0.05	604 (16.2%)	8,720 (14.9%)	0.04

ACS, acute coronary syndrome, CAD, coronary artery disease, CCS, Canadian Cardiovascular Society, NYHA, New York Heart Association, PCI, percutaneous coronary intervention

**Supplemental Table S2.** Baseline characteristics of patients referred for valve surgery and TAVI in the pandemic period (after March 15<sup>th</sup>, 2020) and in the pre-pandemic period (Before March 16<sup>th</sup>, 2020).

VARIABLE	VALUE	Valve surgery			TAVI		
		Pandemic	Pre-pandemic	SMD	Pandemic	Pre-pandemic	SMD
		N=1,264	N=20,400		N=1,336	N=12,410	
Age at index	Mean ± SD	63.9 ± 13.9	65.9 ± 13.6	0.14	79.7 ± 8.6	80.9 ± 8.3	0.15
Female sex		517 (40.9%)	8,334 (40.9%)	0	577 (43.2%)	5,572 (44.9%)	0.03
Nearest Census Based Neighborhood Income Quintile	1	260 (20.6%)	4,049 (19.8%)	0.02	264 (19.8%)	2,523 (20.3%)	0.01
	2	250 (19.8%)	4,132 (20.3%)	0.01	297 (22.2%)	2,701 (21.8%)	0.01
	3	243 (19.2%)	4,114 (20.2%)	0.02	260 (19.5%)	2,520 (20.3%)	0.02
	4	225 (17.8%)	3,966 (19.4%)	0.04	245 (18.3%)	2,270 (18.3%)	0
	5	286 (22.6%)	4,139 (20.3%)	0.06	270 (20.2%)	2,396 (19.3%)	0.02
Rural		208 (16.5%)	3,267 (16.0%)	0.01	188 (14.1%)	1,493 (12.0%)	0.06
Procedure Urgency Priority level	Elective	204 (16.1%)	3,509 (17.2%)	0.03	-	-	.
	Semi-Urgent	127 (10.0%)	2,325 (11.4%)	0.04	-	-	
	Urgent	422 (33.4%)	7,351 (36.0%)	0.06	-	-	
	Unknown	511 (40.4%)	7,215 (35.4%)	0.1	1,336 (100.0%)	12,410 (100.0%)	.
Status at the time of cath referral	ACS	45 (3.6%)	964 (4.7%)	0.06	58 (4.3%)	515 (4.1%)	0.01
	Emergency	13 (1.0%)	294 (1.4%)	0.04	≤5	23 (0.2%)	0.04
	Stable CAD	1,095 (86.6%)	17,519 (85.9%)	0.02	627 (46.9%)	7,738 (62.4%)	0.31
	Unknown	111 (8.8%)	1,623 (8.0%)	0.03	≤700	4,134 (33.3%)	0.31

Diabetes		341 (27.0%)	5,768 (28.3%)	0.03	584 (43.7%)	5,409 (43.6%)	0
hypertension		769 (60.8%)	14,001 (68.6%)	0.16	1,177 (88.1%)	11,276 (90.9%)	0.09
Prior History of Congestive Heart failure		289 (22.9%)	7,427 (36.4%)	0.3	451 (33.8%)	6,617 (53.3%)	0.4
Cerebrovascular Disease		40 (3.2%)	528 (2.6%)	0.03	52 (3.9%)	437 (3.5%)	0.02
Peripheral Vascular Disease		12 (0.9%)	219 (1.1%)	0.01	25 (1.9%)	253 (2.0%)	0.01
Dyslipidemia		458 (36.2%)	7,762 (38.0%)	0.04	739 (55.3%)	7,006 (56.5%)	0.02
Atrial Arrhythmia		153 (12.1%)	2,258 (11.1%)	0.03	196 (14.7%)	1,900 (15.3%)	0.02
History of CAD		237 (18.8%)	3,561 (17.5%)	0.03	364 (27.2%)	3,834 (30.9%)	0.08
Dialysis		41 (3.2%)	561 (2.8%)	0.03	43 (3.2%)	416 (3.4%)	0.01
Creatinine Level	0-110 umol/L	672 (53.2%)	12,929 (63.4%)	0.21	-	-	
	111-180 umol/L	124 (9.8%)	2,201 (10.8%)	0.03	-	-	
	>180 umol/L	51 (4.0%)	626 (3.1%)	0.05	-	-	
	Unknown	417 (33.0%)	4,644 (22.8%)	0.23	1,336 (100.0%)	12,410 (100.0%)	.
History of smoking	Current	160 (12.7%)	2,704 (13.3%)	0.02	60 (4.5%)	504 (4.1%)	0.02
	Former	265 (21.0%)	5,335 (26.2%)	0.12	252 (18.9%)	3,462 (27.9%)	0.21
	Never	696 (55.1%)	10,675 (52.3%)	0.05	463 (34.7%)	4,741 (38.2%)	0.07
	Unknown	143 (11.3%)	1,686 (8.3%)	0.1	561 (42.0%)	3,703 (29.8%)	0.26
NYHA Class	I	423 (33.5%)	6,293 (30.8%)	0.02	-	-	
	II	99 (7.8%)	1,143 (5.6%)	0.09	-	-	

	III	323 (25.6%)	5,317 (26.1%)	0.01	-	-	
	IV	315 (24.9%)	5,978 (29.3%)	0.1	-	-	
	Unknown	104 (8.2%)	1,669 (8.2%)	0	1,336 (100.0%)	12,410 (100.0%)	.
CCS Angina Class	0	835 (66.1%)	13,062 (64.0%)	0.04	391 (29.3%)	4,867 (39.2%)	0.21
	1	144 (11.4%)	2,271 (11.1%)	0.01	117 (8.8%)	1,496 (12.1%)	0.11
	2	75 (5.9%)	1,403 (6.9%)	0.04	69 (5.2%)	854 (6.9%)	0.07
	3	31 (2.5%)	732 (3.6%)	0.07	40 (3.0%)	457 (3.7%)	0.04
	4	9 (0.7%)	122 (0.6%)	0.01	10 (0.7%)	67 (0.5%)	0.03
	ACS Emergent	9 (0.7%)	212 (1.0%)	0.04	≤5	20 (0.2%)	0.04
	ACS High Risk	≤5	123 (0.6%)	0.03	≤5	71 (0.6%)	0.06
	ACS Intermediate Risk	14 (1.1%)	428 (2.1%)	0.08	29 (2.2%)	180 (1.5%)	0.05
	ACS Low Risk	29 (2.3%)	409 (2.0%)	0.02	26 (1.9%)	264 (2.1%)	0.01
	Unknown	≤150	1,638 (8.0%)	0.03	646 (48.4%)	4,134 (33.3%)	0.31
Previous PCI		69 (5.5%)	1,115 (5.5%)	0	7 (0.5%)	45 (0.4%)	0.02

ACS, acute coronary syndrome, CAD, coronary artery disease, CCS, Canadian Cardiovascular Society, NYHA, New York Heart Association, PCI, percutaneous coronary intervention, TAVI, transcatheter aortic valve implantation

Urgency status, NYHA class, and creatinine levels were not available for the TAVI cohort.

**Supplemental Table S3.** Linear regression model for cardiac procedure referrals regressed by time, pandemic status, time after pandemic, and seasonality by week (not shown).

	<i>Dependent variable:</i>			
	PCI (1)	CABG (2)	TAVI (3)	Surgical valves (4)
time (week)	0.118*** (0.103, 0.133)	-0.0002 (-0.003, 0.003)	0.018*** (0.017, 0.020)	0.005*** (0.003, 0.006)
pandemic indicator	-969.856*** (- 1,068.760, -870.952)	-108.586*** (- 127.205, -89.968)	-34.571*** (- 43.310, -25.832)	-35.191*** (- 45.310, -25.073)
time after pandemic (week)	43.363*** (30.681, 56.045)	3.938*** (1.551, 6.326)	1.344** (0.223, 2.465)	-0.164 (-1.462, 1.133)
Observations	338	338	338	338
R <sup>2</sup>	0.810	0.679	0.760	0.604
Adjusted R <sup>2</sup>	0.773	0.616	0.713	0.526
Residual Std. Error (df = 282)	90.357	17.010	7.984	9.244
F Statistic (df = 55; 282)	21.885***	10.840***	16.234***	7.807***

*Note:*

\* p<0.1; \*\* p<0.05; \*\*\* p<0.01



**Supplemental Table S4.** Linear regression model for cardiac procedure completed regressed by time, pandemic status, time after pandemic, and seasonality by week (not shown).

	<i>Dependent variable:</i>			
	PCI (1)	CABG (2)	TAVI (3)	Surgical valves (4)
time (in weeks)	0.032*** (0.027, 0.037)	0.002* (-0.0002, 0.004)	0.012*** (0.011, 0.013)	0.003*** (0.002, 0.005)
pandemic indicator	-225.453*** (-257.766, -193.140)	-66.317*** (-78.580, -54.055)	-14.351*** (-20.325, -8.376)	-53.572*** (-63.417, -43.727)
time after pandemic (in weeks)	9.848*** (5.705, 13.992)	2.532*** (0.960, 4.105)	1.392*** (0.626, 2.158)	3.829*** (2.567, 5.091)
Observations	338	338	338	338
R <sup>2</sup>	0.709	0.690	0.756	0.664
Adjusted R <sup>2</sup>	0.653	0.630	0.708	0.599
Residual Std. Error (df = 282)	29.520	11.203	5.458	8.994
F Statistic (df = 55; 282)	12.509***	11.435***	15.849***	10.147***

*Note:*

\* p<0.1; \*\* p<0.05; \*\*\* p<0.01

**Supplemental Table S5.** Time to event for primary outcome and competing risk of receiving procedure

<b>Procedure</b>	<b>Outcome (median time to event [days])</b>	<b>Pandemic (median [IQR])</b>	<b>Pre-pandemic (median [IQR])</b>
<b>PCI</b>	<b>Receiving procedure</b>	2 [0, 14]	3 [0, 15]
	<b>Wait-list mortality</b>	5 [2, 12]	5 [1, 16]
<b>CABG</b>	<b>Receiving procedure</b>	6 [3, 15]	12 [5, 50]
	<b>Wait-list mortality</b>	9 [5, 23]	22 [4, 86]
<b>Surgical valves</b>	<b>Receiving procedure</b>	23 [6, 60]	64 [23, 116]
	<b>Wait-list mortality</b>	9 [1, 35]	44 [7, 112]
<b>TAVR</b>	<b>Receiving procedure</b>	36 [16, 70]	115 [64, 181]
	<b>Wait-list mortality</b>	23 [8, 41]	71 [25,158]

**Supplemental Table S6. Incidence of events (%) in competing risk models for four different cardiac procedures.**

	<b>PCI</b>		<b>CABG</b>	
	<b>Pandemic</b>	<b>Pre-Pandemic</b>	<b>Pandemic</b>	<b>Pre-Pandemic</b>
<b>Still waiting</b>	6.5	0.02	14.4	0.22
<b>Underwent Procedure</b>	88.7	94.8	73.5	84.5
<b>Offlisted</b>	4.5	5.0	11.5	14.6
<b>Death while waiting</b>	0.29	0.17	0.64	0.59
	<b>Surgical valves</b>		<b>TAVI</b>	
	<b>Pandemic</b>	<b>Pre-Pandemic</b>	<b>Pandemic</b>	<b>Pre-Pandemic</b>
<b>Still waiting</b>	34.6	1.3	38.3	1.5
<b>Underwent Procedure</b>	49.8	73.7	33.9	54.5
<b>Offlisted</b>	14.8	23.7	25.3	39.1
<b>Death while waiting</b>	0.87	1.2	2.5	5.0

**Supplemental Table S7.** Cause specific hazard models for death while awaiting PCI and CABG

<b>Variable</b>	<b>PCI HR Estimate (95%CI)</b>	<b>P-value</b>	<b>CABG HR Estimate (95%CI)</b>	<b>P-value</b>
<b>Pandemic status</b>	1.83 (1.47, 2.27)	<.0001	1.96 (1.28, 3.01)	0.0021
<b>Age</b>	1.05 (1.05, 1.06)	<.0001	1.04 (1.02, 1.05)	<.0001
<b>Female sex</b>	0.77 (0.67, 0.9)	0.0006	1.06 (0.83, 1.35)	0.63
<b>Rural status</b>	1.32 (1.11, 1.57)	0.0017	1.2 (0.91, 1.57)	0.19
<b>Atrial Arrhythmia</b>	1.15 (0.93, 1.43)	0.19	0.94 (0.62, 1.41)	0.76
<b>History of CAD</b>	1.18 (0.99, 1.39)	0.058	1.07 (0.86, 1.34)	0.54
<b>History of Congestive Heart failure</b>	3.03 (2.59, 3.53)	<.0001	2.51 (1.99, 3.16)	<.0001
<b>Dialysis</b>	2.3 (1.78, 2.96)	<.0001	3.54 (2.55, 4.91)	<.0001
<b>Diabetes</b>	1.26 (1.09, 1.45)	0.0015	1.27 (1.02, 1.59)	0.034
<b>hypertension</b>	0.97 (0.8, 1.19)	0.79	1.14 (0.83, 1.57)	0.42
<b>Cerebrovascular Disease</b>	1.92 (1.41, 2.61)	<.0001	1.64 (0.98, 2.76)	0.062
<b>Peripheral Vascular Disease</b>	1.00 (0.63, 1.58)	0.99	1.09 (0.56, 2.14)	0.79
<b>Dyslipidemia</b>	0.79 (0.69, 0.91)	0.0010	0.96 (0.78, 1.19)	0.70
<b>Previous PCI</b>	0.72 (0.6, 0.85)	0.0002	0.66 (0.48, 0.91)	0.011
<b>Neighbourhood Income Quintile 1 (lowest)</b>	1.42 (1.14, 1.78)	0.0021	1.23 (0.88, 1.71)	0.222
<b>Neighbourhood Income Quintile 2</b>	1.37 (1.09, 1.72)	0.0063	0.90 (0.63, 1.29)	0.572
<b>Neighbourhood Income Quintile 3</b>	1.17 (0.93, 1.48)	0.18	0.98 (0.69, 1.39)	0.89
<b>Neighbourhood Income Quintile 4</b>	1.26 (0.99, 1.6)	0.058	0.95 (0.66, 1.37)	0.79
<b>Neighbourhood Income Quintile 5</b>	referent		referent	
<b>ACS</b>	4.78 (4.14, 5.52)	<.0001	3.23 (2.55, 4.11)	<.0001
<b>Emergent</b>	17.34 (12.84, 23.43)	<.0001	9.83 (6.95, 13.91)	<.0001
<b>Stable</b>	referent		referent	

**Supplemental Table S8.** Cause specific hazard models for hospital admission while awaiting PCI and CABG

<b>Variable</b>	<b>PCI Estimate (95% CI)</b>	<b>P-value</b>	<b>CABG Estimate (95% CI)</b>	<b>P-value</b>
Pandemic status	1.06 (0.96, 1.17)	0.22	0.90 (0.79, 1.02)	0.11
Age	1.00 (1.00, 1.00)	0.015	1.00 (0.99, 1.00)	0.20
Female sex	0.93 (0.88, 0.98)	0.018	1.08 (1.01, 1.15)	0.019
Rural status	1.10 (1.03, 1.18)	0.0033	1.00 (0.93, 1.09)	0.82
Atrial Arrhythmia	1.43 (1.29, 1.57)	<.0001	1.05 (0.90, 1.23)	0.51
History of CAD	0.76 (0.71, 0.81)	<.0001	0.58 (0.54, 0.61)	<.0001
History of Congestive Heart Failure	1.10 (1.04, 1.17)	0.0008	0.92 (0.85, 0.99)	0.036
Dialysis	1.77 (1.56, 2.00)	<.0001	1.29 (1.11, 1.51)	<.0001
Diabetes	0.97 (0.92, 1.03)	0.41	1.07 (1.01, 1.14)	0.013
Hypertension	0.76 (0.71, 0.81)	<.0001	0.90 (0.83, 0.96)	0.0037
Cerebrovascular Disease	1.28 (1.08, 1.51)	0.0032	1.01 (0.81, 1.25)	0.90
Peripheral Vascular Disease	1.12 (0.91, 1.37)	0.27	1.21 (0.97, 1.52)	0.08
Dyslipidemia	0.82 (0.78, 0.87)	<.0001	1.00 (0.95, 1.06)	0.82
Previous PCI	3.20 (3.01, 3.41)	<.0001	1.18 (1.09, 1.27)	<.0001
Neighbourhood Income Quintile 1 (lowest)	1.07 (0.99, 1.16)	0.074	1.29 (1.18, 1.42)	<.0001
Neighbourhood Income Quintile 2	1.02 (0.94, 1.11)	0.51	1.22 (1.11, 1.34)	<.0001
Neighbourhood Income Quintile 3	1.02 (0.94, 1.11)	0.51	1.06 (0.97, 1.17)	0.16
Neighbourhood Income Quintile 4	0.98 (0.90, 1.06)	0.69	1.06 (0.96, 1.16)	0.22
Neighbourhood Income Quintile	referent		referent	

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ACS	0.87 (0.82, 0.93)	<.0001	2.04 (1.91, 2.18)	<.0001
Emergent	0.37 (0.31, 0.43)	<.0001	2.14 (1.91, 2.40)	<.0001
Stable	referent		referent	

**Supplemental Table S9.** Cause specific hazard models for death while awaiting valve surgery and TAVI

<b>Variable</b>	<b>Valve surgery HR estimate (95%CI)</b>	<b>P-value</b>	<b>TAVI HR estimate (95%CI)</b>	<b>P-value</b>
Pandemic status	1.56 (0.85, 2.89)	0.153	1.42 (1, 2.03)	0.0515
Age	1.02 (1, 1.03)	0.017	1.02 (1, 1.03)	0.0093
Female sex	1.04 (0.81, 1.34)	0.74	0.74 (0.62, 0.87)	0.0002
Rural status	0.98 (0.71, 1.37)	0.92	1.18 (0.93, 1.49)	0.165
Atrial Arrhythmia	1.23 (0.89, 1.68)	0.21	1.24 (1.02, 1.51)	0.033
History of CAD	1.16 (0.85, 1.59)	0.34	0.99 (0.84, 1.18)	0.95
History of Congestive Heart failure	3.11 (2.35, 4.13)	<.0001	2.45 (2.06, 2.92)	<.0001
Dialysis	2.16 (1.29, 3.61)	0.0033	2.72 (2.03, 3.66)	<.0001
Diabetes	1.57 (1.2, 2.06)	0.0012	1.13 (0.96, 1.32)	0.15
hypertension	0.89 (0.64, 1.25)	0.51	1.37 (0.98, 1.91)	0.067
Cerebrovascular Disease	1.41 (0.69, 2.88)	0.34	1.03 (0.69, 1.52)	0.89
Peripheral Vascular Disease	2.13 (0.99, 4.58)	0.053	1.14 (0.72, 1.83)	0.57
Dyslipidemia	0.80 (0.62, 1.03)	0.077	0.86 (0.73, 1.01)	0.063
Previous PCI	1.49 (1.01, 2.21)	0.046	1.26 (0.41, 3.9)	0.69
Neighbourhood Income Quintile 1 (lowest)	1.43 (0.94, 2.17)	0.098	1.16 (0.9, 1.5)	0.24
Neighbourhood Income Quintile 2	1.52 (1.01, 2.28)	0.046	1.08 (0.84, 1.39)	0.55
Neighbourhood Income Quintile 3	1.06 (0.68, 1.65)	0.79	0.99 (0.76, 1.28)	0.91
Neighbourhood Income Quintile 4	1.04 (0.67, 1.63)	0.85	1.21 (0.93, 1.57)	0.15
Neighbourhood Income Quintile 5	referent		referent	
ACS	3.35 (2.02, 5.56)	<.0001	N/A	

Emergent	13.49 (7.59, 23.96)	<.0001	N/A	
Missing	2.00 (1.37, 2.91)	0.0003	N/A	
Stable	referent		N/A	



**Supplemental Table S10.** Cause specific hazard competing risk models for hospital admission while awaiting valve surgery and TAVI

<b>Variable</b>	<b>Valve surgery (95% CI)</b>	<b>P-value</b>	<b>TAVR (95% CI)</b>	<b>P-value</b>
Pandemic status	0.86 (0.64, 1.16)	0.34	0.65 (0.53, 0.81)	<.0001
Age	1.00 (0.99, 1.00)	0.53	1.01 (1.00, 1.01)	0.0002
Female sex	1.10 (0.99, 1.22)	0.051	1.02 (0.94, 1.10)	0.50
Rural status	1.12 (0.98, 1.28)	0.072	1.04 (0.92, 1.17)	0.48
Atrial Arrhythmia	1.29 (1.12, 1.48)	0.0003	1.22 (1.10, 1.35)	0.0001
History of CAD	1.05 (0.93, 1.20)	0.39	1.10 (1.01, 1.20)	0.018
History of Congestive Heart Failure	2.15 (1.92, 2.40)	<.0001	1.76 (1.62, 1.91)	<.0001
Dialysis	1.72 (1.36, 2.16)	<.0001	1.54 (1.27, 1.86)	<.0001
Diabetes	1.23 (1.10, 1.38)	0.0002	1.14 (1.05, 1.23)	0.0008
Hypertension	1.12 (0.98, 1.27)	0.084	1.06 (0.91, 1.23)	0.39
Cerebrovascular Disease	1.46 (1.11, 1.92)	0.0057	1.13 (0.94, 1.37)	0.17
Peripheral Vascular Disease	1.34 (0.89, 2.01)	0.15	1.17 (0.92, 1.49)	0.19
Dyslipidemia	0.99 (0.89, 1.10)	0.88	0.94 (0.87, 1.02)	0.17
Previous PCI	1.22 (1.01, 1.47)	0.03	1.21 (0.65, 2.26)	0.52
Neighbourhood Income Quintile 1 (lowest)	1.27 (1.08, 1.49)	0.003	1.04 (0.92, 1.17)	0.51
Neighbourhood Income Quintile 2	1.23 (1.05, 1.45)	0.009	1.04 (0.92, 1.17)	0.47
Neighbourhood Income Quintile 3	1.21 (1.02, 1.42)	0.022	1.04 (0.92, 1.18)	0.46
Neighbourhood Income Quintile 4	1.03 (0.87, 1.22)	0.71	1.01 (0.89, 1.15)	0.77
Neighbourhood Income Quintile 5	Referent		referent	
ACS	2.38 (1.88, 3.02)	<.0001		
Emergent	2.55 (1.64, 3.96)	<.0001		

Missing	1.09 (0.91, 1.31)	0.32		
Stable	Referent		referent	