Appendix to:

The impact of the COVID-19 pandemic on emergency department presentations, hospitalisations, all-cause mortality and cancer notifications in Western Australia

Health Economics and Data Analytics

Curtin School of Population Health

Curtin University

Western Australia

July 2023

Emergency Department Presentations

Tables and figures in this appendix are equivalent to those included in the report *"The impact of the COVID-19 pandemic on emergency department presentations, hospitalisations, all-cause mortality and cancer notifications in Western Australia",* Curtin University 2023, without adjustment for seasonality.

Overall

Table 1: Changes in counts of all-cause emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, without seasonal correction.

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Actual	18,903				529,278			
Prediction	21,396	138	21,117	21,662	599,090	3,872	591,272	606,527
Absolute effect	-2,493	138	-2,759	-2,214	-69,812	3,872	-77,249	-61,994
Relative effect (%)	-12%	0.6%	-13%	-10%	-12%	0.6%	-13%	-10%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

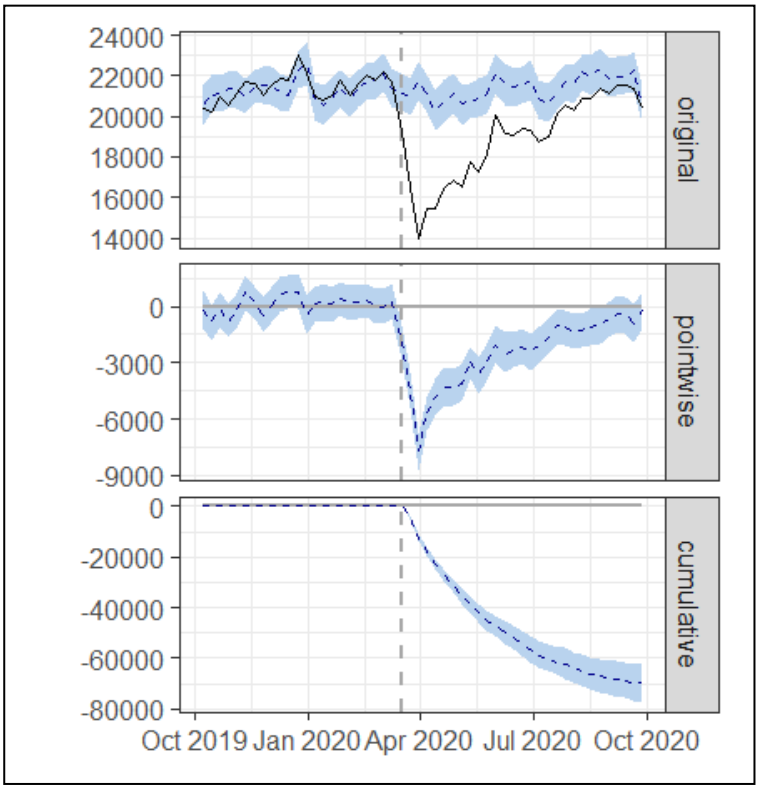

Figure 1: Weekly all-cause emergency department presentations in Western Australia, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Sex

Table 2: Changes in counts of all-cause emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, by sex, without seasonal correction.

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Females								
Actual	9,510				266,276			
Prediction	10,734	78	10,586	10,890	300,555	2,183	296,409	304,925
Absolute effect	-1,224	78	-1,380	-1,076	-34,279	2,183	-38,649	-30,133
Relative effect (%)	-11%	0.6%	-13%	-10%	-11%	0.6%	-13%	-10%
Males								
Actual	9,390				262,913			
Prediction	10,646	77	10,465	10,787	298,095	2,154	293,014	302,041
Absolute effect	-1,256	77	-1,397	-1,075	-35,182	2,154	-39,128	-30,101
Relative effect (%)	-12%	0.6%	-13%	-10%	-12%	0.6%	-13%	-10%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

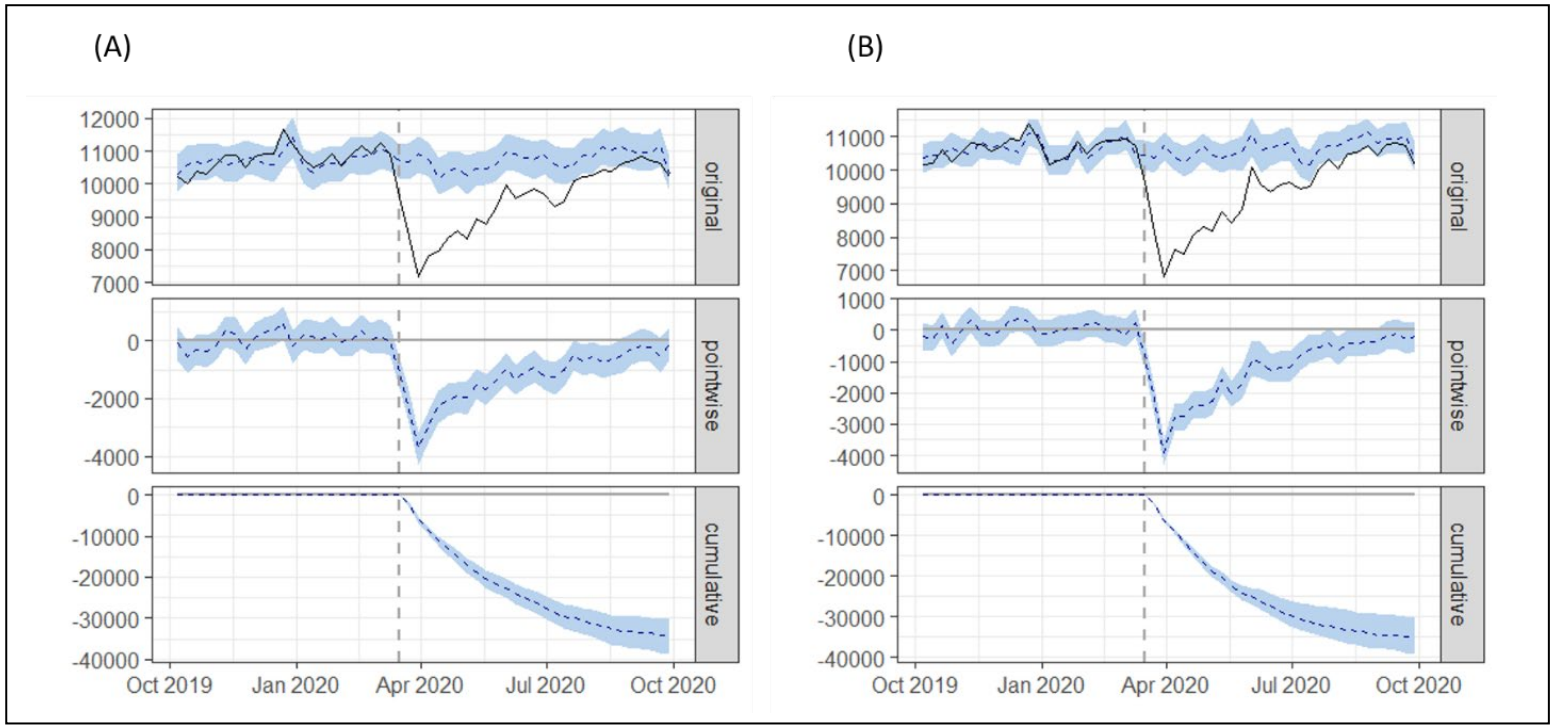

Figure 2: Weekly all-cause emergency department presentations in Western Australia among (A) Females and (B) Males, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Socio-economic status

Table 3: Changes in counts of all-cause emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by socioeconomic status, without seasonal correction.

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
High SES								
Actual	5,712				114,238			
Prediction	6,728	76	6,588	6,893	134,562	1,525	131,760	137,864
Absolute effect	-1,016	76	-1181	-876	-20,324	1,525	-23,626	-17,522
Relative effect (%)	-15%	1%	-17%	-13%	-15%	1%	-17%	-13%
Medium SES								
Actual	6,102				170,854			
Prediction	6,931	59	6,808	70,000	194,056	1,660	190,634	2,000,000
Absolute effect	-829	59	-939	-706	-23,202	1,660	-26,290	-19,780
Relative effect (%)	-12%	0.7%	-13%	-10%	-12%	0.7%	-13%	-10%
Low SES								
Actual	6,253				175,073			
Prediction	7,098	62	70,000	7,219	198,738	1,739	2,000,000	202,121
Absolute effect	-845	62	-966	-728	-23,665	1,739	-27,048	-20,386
Relative effect (%)	-12%	0.8%	-13%	-10%	-12%	0.8%	-13%	-10%

Footnote: Follow-up period ends in August 2020; this differs from other analyses due to there being a six-week period with missing postcode information in the data used, which is necessary for categorising socioeconomic status. SD: standard deviation; CI: confidence interval.

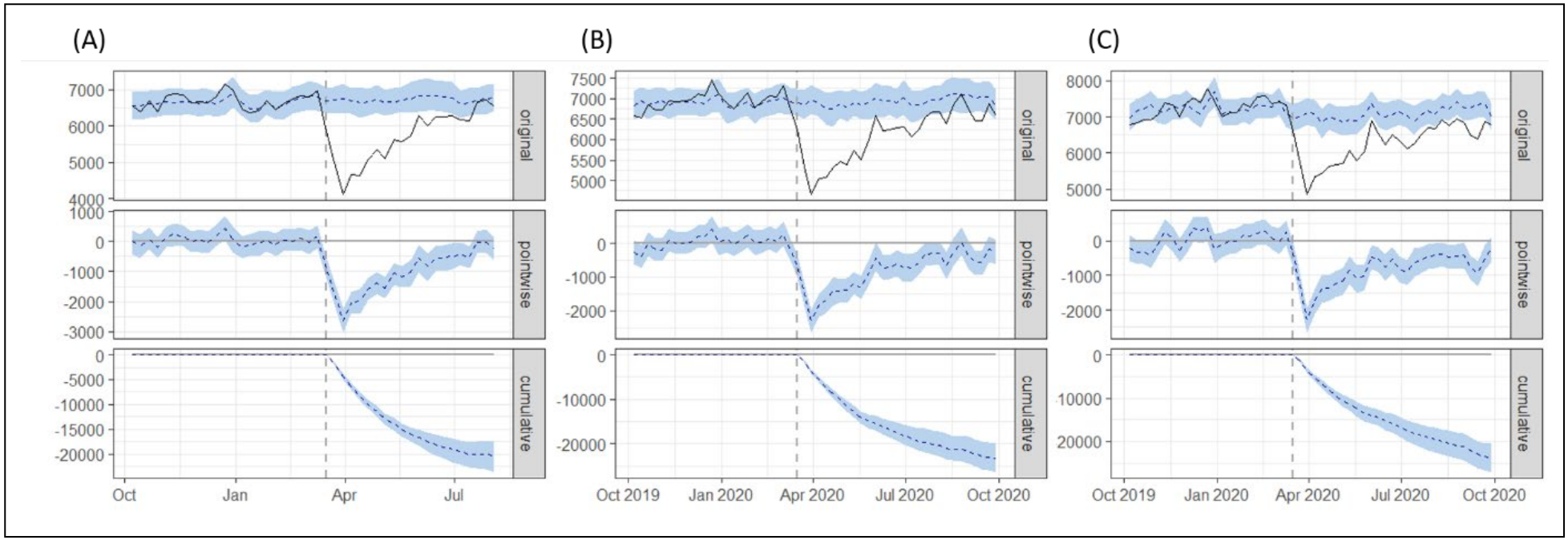

Figure 3: Weekly all-cause emergency department presentations in Western Australia among people living in areas of (A) High, (B) Medium and (C) Low socioeconomic status, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to mid-August 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

By remoteness

Table 4: Changes in counts of all-cause emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, by remoteness of patient residence, without seasonal correction.

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Metropolitan								
Actual	10,595				211,891			
Prediction	12,391	120	12,162	12,625	247,823	2,409	243,246	252,505
Absolute effect	-1,797	120	-2,031	-1,568	-35,932	2,409	-40,614	-31,355
Relative effect (%)	-14%	0.8%	-16%	-13%	-14%	0.8%	-16%	-13%
Non-metropolitan								
Actual	6,810				136,203			
Prediction	7,824	92	7,639	8,000	156,480	1,841	152,771	160,007
Absolute effect	-1,014	92	-1,190	-828	-20,277	1,841	-23,804	-16,568
Relative effect (%)	-13%	1%	-15%	-11%	-13%	1%	-15%	-11%

Footnote: Follow-up period ends in August 2020; this differs from other analyses due to there being a six-week period with missing postcode information in the data used, which is necessary for categorising remoteness. SD: standard deviation; CI: confidence interval.

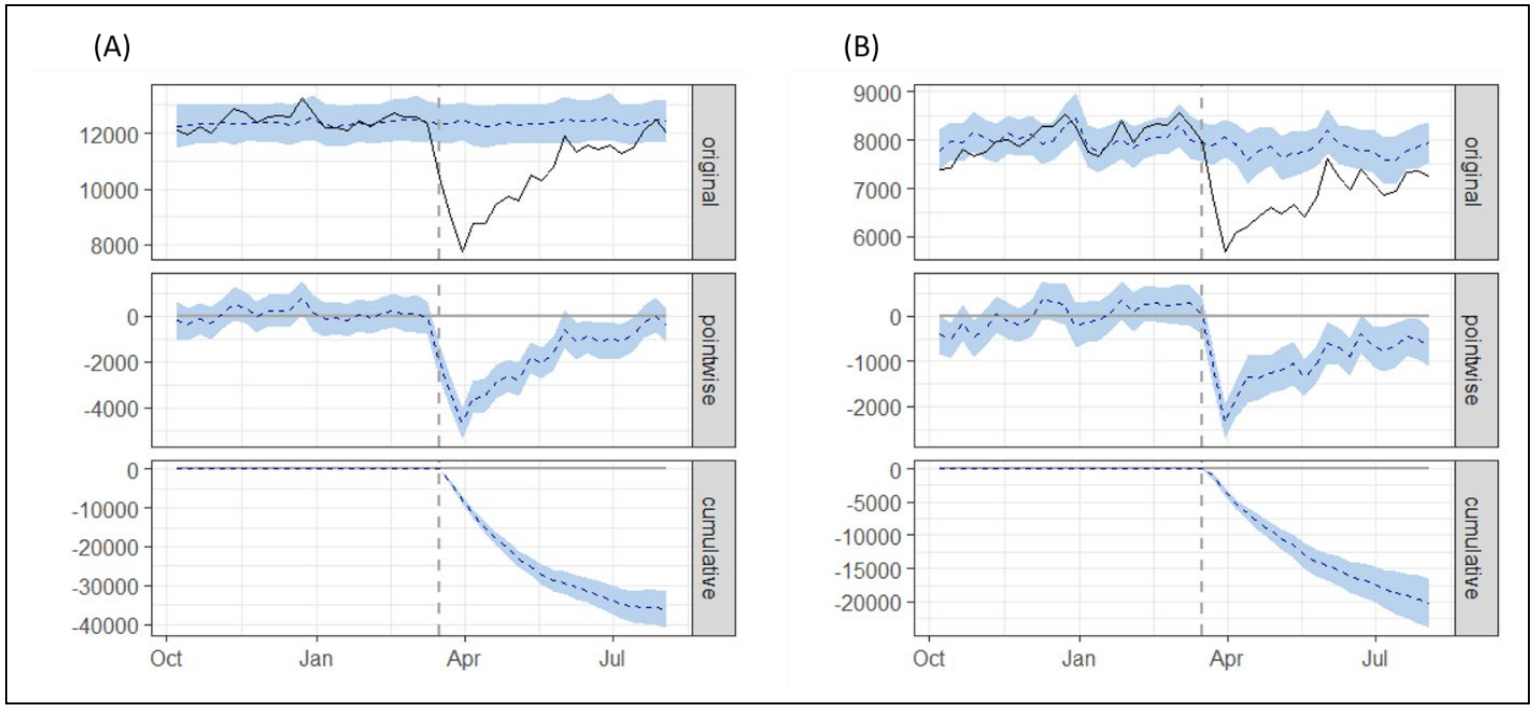

Figure 4: Weekly all-cause emergency department presentations in Western Australia among patients residing in (A) Metropolitan and (B) Non-Metropolitan areas, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to mid-August 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Admission status

Table 5: Changes in counts of emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by admission status, without seasonal correction.

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Admitted								
Actual	4,100				114,802			
Prediction	4,390	54	4,289	4,495	122,927	1,513	120,100	125,850
Absolute effect	-290	54	-395	-189	-8,125	1,513	-11,048	-5,298
Relative effect (%)	-7%	1%	-9%	-4%	-7%	1%	-9%	-4%
Non-admitted								
Actual	8,073				226,037			
Prediction	9,147	75	9,008	9,293	256,121	2,091	252,223	260,200
Absolute effect	-1,074	75	-1,220	-935	-30,084	2,091	-34,163	-26,186
Relative effect (%)	-12%	0.7%	-13%	-10%	-12%	0.7%	-13%	-10%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

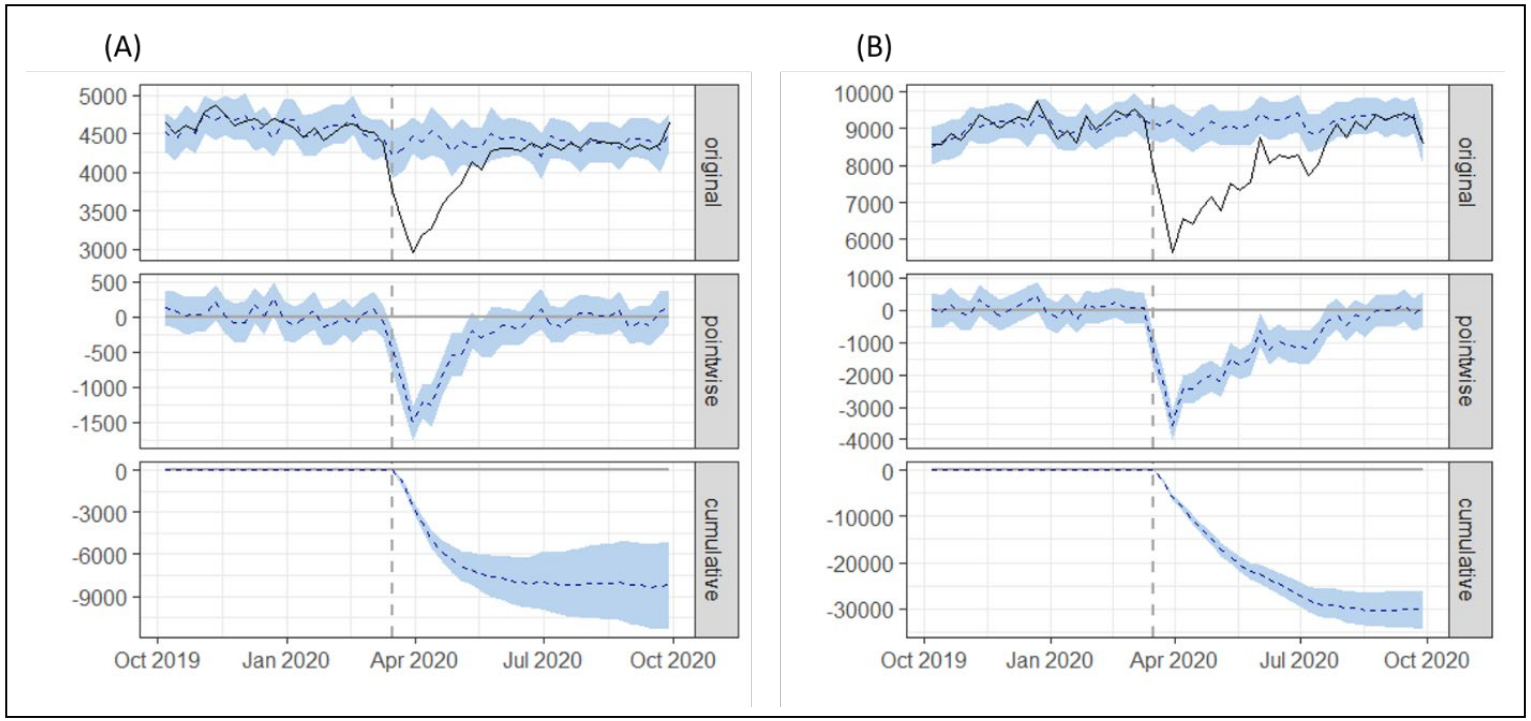

Figure 5: Weekly emergency department presentations in Western Australia, for episodes (A) Admitted to hospital and (B) Non-Admitted to hospital, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Age

Table 6: Changes in counts of all-cause emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by age group, without seasonal correction.

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Ages 0-18								
Actual	4,554				127,504			
Prediction	5,807	186	5,384	6,079	162,610	5,219	150,764	170,201
Absolute effect	-1,254	186	-1,525	-831	-35,106	5,219	-42,697	-23,260
Relative effect (%)	-21%	3%	-25%	-15%	-21%	3%	-25%	-15%
Ages 19-44								
Actual	6,664				186,605			
Prediction	7,000	88	6,834	7,179	200,000	2,459	191,361	201,008
Absolute effect	-339	88	-514	-170	-9,504	2,459	-14,403	-4,756
Relative effect (%)	-5%	1%	-7%	-3%	-5%	1%	-7%	-3%
Ages 45-64								
Actual	3,969				111,128			
Prediction	4,191	42	4,110	4,274	117,344	1,183	115,088	119,662
Absolute effect	-222	42	-305	-141	-6,216	1,183	-8,534	-3,960
Relative effect (%)	-5%	1%	-7%	-3%	-5%	1%	-7%	-3%
Ages 65+								
Actual	3,716				104,041			
Prediction	4,222	54	4,111	4,326	118,209	1,506	115,100	121,139
Absolute effect	-506	54	-611	-395	-14,168	1,506	-17,098	-11,059
Relative effect (%)	-12%	1%	-14%	-10%	-12%	1%	-14%	-10%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

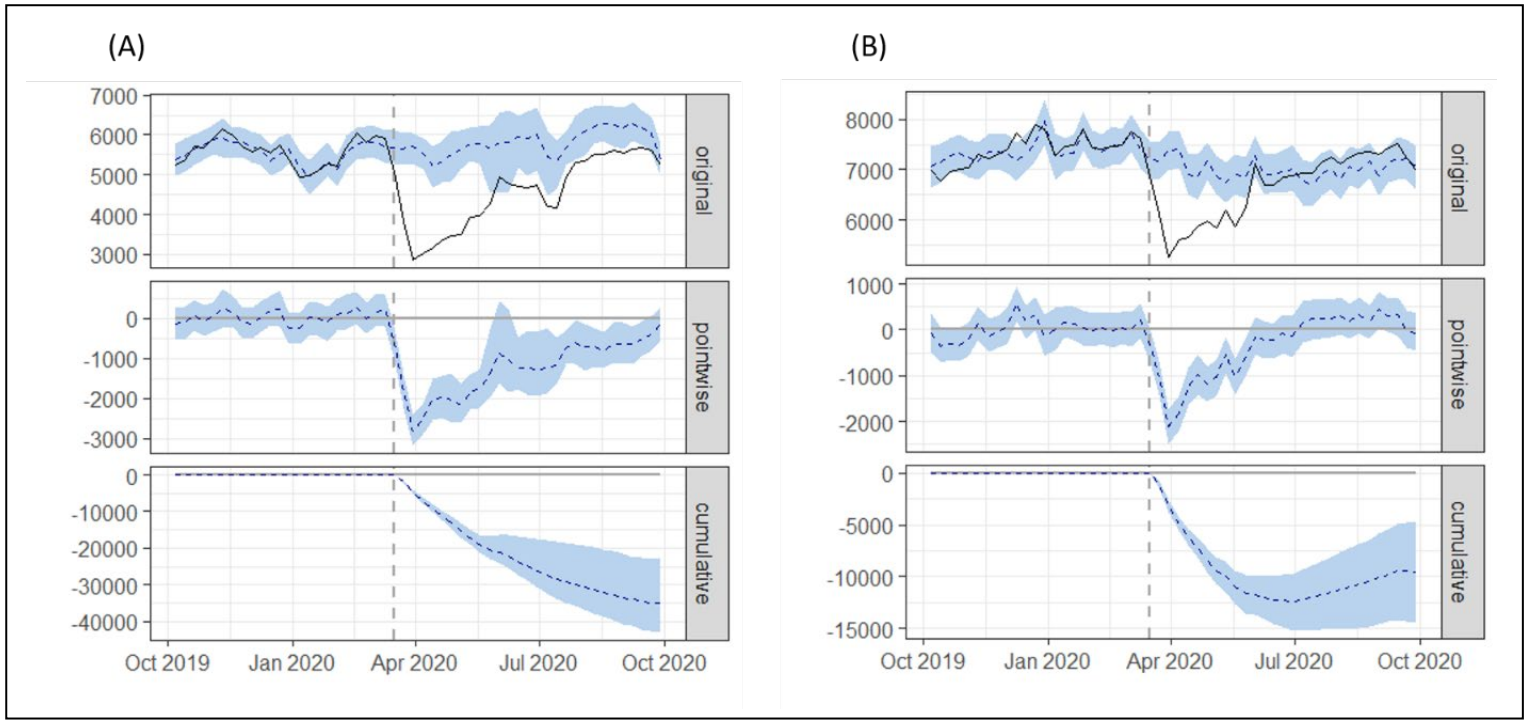

Figure 6: Weekly all-cause emergency department presentations in Western Australia among patients aged (A) 0-18, (B) 19-44, (C) 45-64, and (D) 65+, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

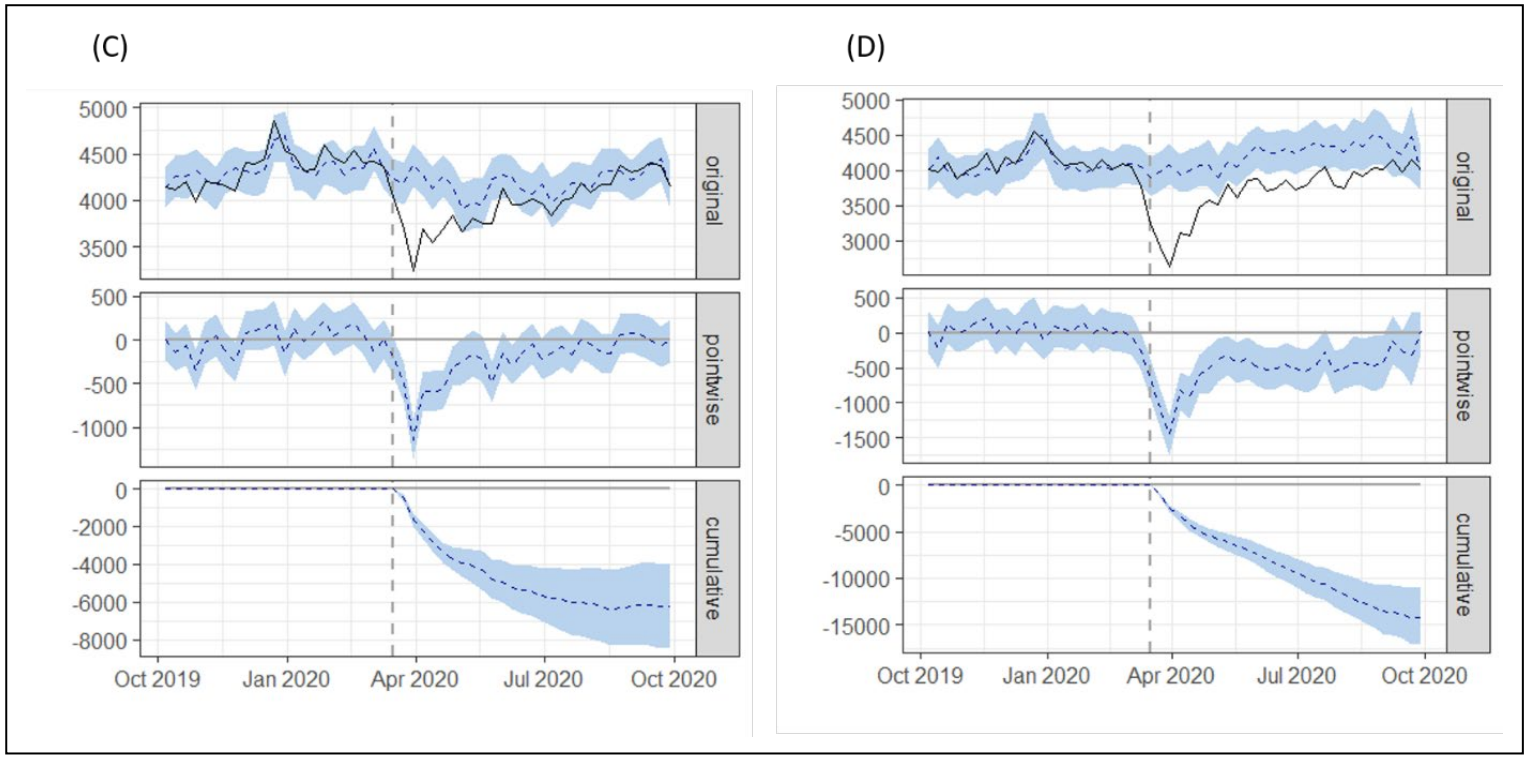

Figure 6 cont.: Weekly all-cause emergency department presentations in Western Australia among patients aged (A) 0-18, (B) 19-44, (C) 45-64, and (D) 65+, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Arrival mode

Table 7: Changes in counts of emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by arrival mode, without seasonal correction.

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Ambulance								
Actual	3,459				96,858			
Prediction	3,827	38	3,755	3,903	107,166	1,056	105,152	109,275
Absolute effect	-368	38	-443	-296	-10,308	1,056	-12,417	-8,294
Relative effect (%)	-10%	1%	-11%	-8%	-10%	1%	-11%	-8%
Non-ambulance								
Actual	18,903				529,278			
Prediction	21,396	138	21,117	21,662	599,090	3,872	591,272	606,527
Absolute effect	-2,493	138	-2,759	-2,214	-69,812	3,872	-77,249	-61,994
Relative effect (%)	-12%	0.9%	-13%	-10%	-12%	0.9%	-13%	-10%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval. Arrival mode of "Ambulance" includes helicopter and Royal Flying Doctor Service arrivals. Non-ambulance includes private transport, public transport, hospital transport, police/correctional services and taxi.

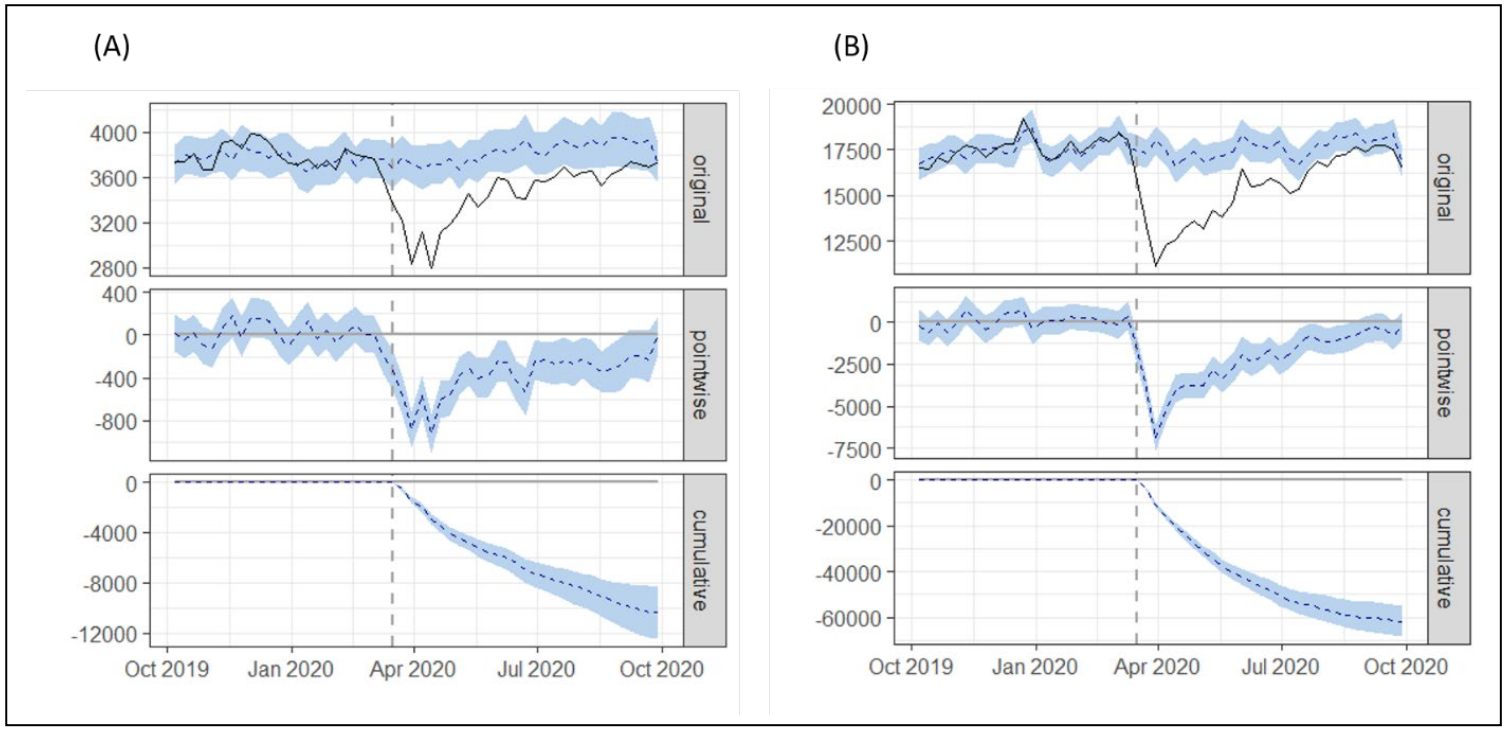

Figure 7: Weekly emergency department presentations in Western Australia among patients arriving by (A) Ambulance and (B) Non-ambulance, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Day of week

Table 8: Changes in counts of all-cause emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by day of week, without seasonal correction.

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Weekdays								
Actual	13,510				378,266			
Prediction	15,230	109	15,013	15,443	426,434	3,040	420,367	432,417
Absolute effect	-1,720	109	-1,934	-1,504	-48,168	3,040	-54,151	-42,101
Relative effect (%)	-11%	0.6%	-13%	-10%	-11%	0.6%	-13%	-10%
Weekends								
Actual	5,373				150,447			
Prediction	6,189	47	6,096	6,276	173,306	1,310	170,680	175,739
Absolute effect	-816	47	-903	-723	-22,859	1,310	-25,292	-20,233
Relative effect (%)	-13%	0.7%	-14%	-12%	-13%	0.7%	-14%	-12%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

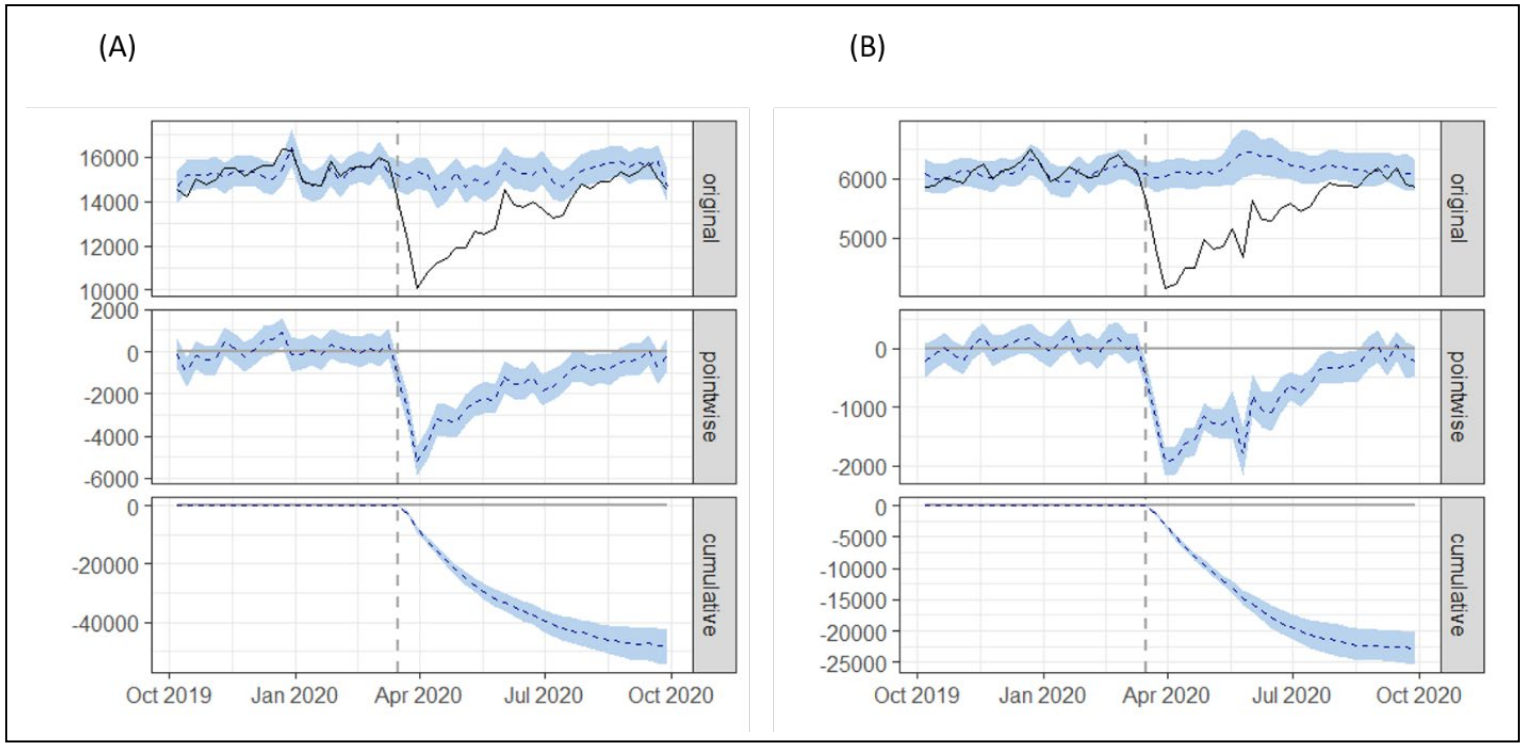

Figure 8: Weekly all-cause emergency department presentations in Western Australia on (A) Weekdays and (B) Weekends, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Time of day

Table 9: Changes in counts of all-cause emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 according to time of day, without seasonal correction

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Working hours (8am – 4pm)								
Actual	9,682				271,090			
Prediction	10,524	74	10,385	10,675	294,685	2,082	290,772	298,892
Absolute effect	-843	74	-993	-703	-23,595	2,082	-27,802	-19,682
Relative effect (%)	-8%	0.7%	-9%	-7%	-8%	0.7%	-9%	-7%
Evening (4pm – midnight)								
Actual	6,951				194,639			
Prediction	8,028	100	7,784	8,178	224,781	2,802	217,945	228,970
Absolute effect	-1,076	100	-1,226	-832	-30,142	2,802	-34,331	-23,306
Relative effect (%)	-13%	1%	-15%	-11%	-13%	1%	-15%	-11%
Night-time (midnight – 8am)								
Actual	2,270				63,547			
Prediction	2,750	40	2,677	2,827	76,998	1,110	74,946	79,149
Absolute effect	-480	40	-557	-407	-13,451	1,110	-15,602	-11,399
Relative effect (%)	-17%	1%	-20%	-15%	-17%	1%	-20%	-15%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

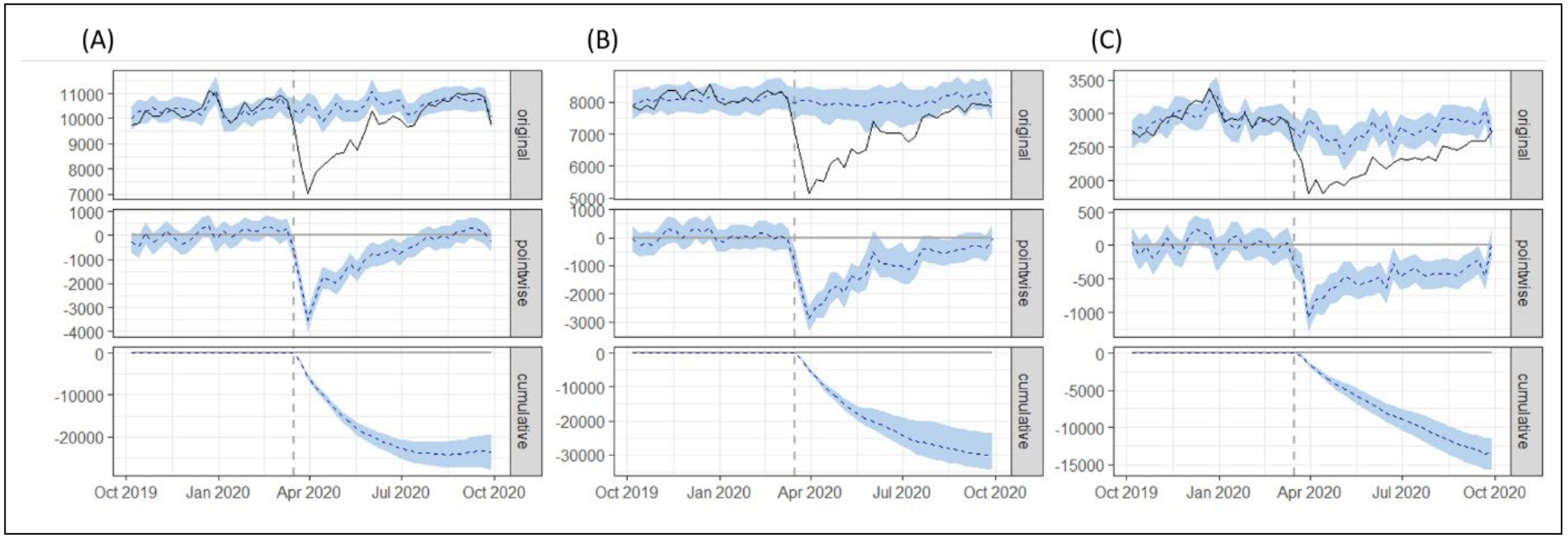

Figure 9: Weekly all-cause emergency department presentations in Western Australia during (A) Working hours, (B) Evening, and (C) Night-time, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Triage category

Table 10: Changes in counts of emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by triage category, without seasonal correction.

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Resuscitation								
Actual	146				4,087			
Prediction	159	3	152	165	4,446	94	4,265	4,625
Absolute effect	-13	3	-19	-6	-359	94	-538	-178
Relative effect (%)	-8%	2%	-12%	-4%	-8%	2%	-12%	-4%
Immediate								
Actual	2,548				71,350			
Prediction	2,768	30	2,710	2,834	77,509	848	75,867	79,343
Absolute effect	-220	30	-285	-161	-6,159	848	-7,993	-4,517
Relative effect (%)	-8%	1%	-10%	-6%	-8%	1%	-10%	-6%
Urgent								
Actual	6,260				175,279			
Prediction	7,072	108	6,850	7,256	198,026	3,024	191,810	203,158
Absolute effect	-812	108	-996	-590	-22,747	3,024	-27,879	-16,531
Relative effect (%)	-11%	1%	-14%	-9%	-11%	1%	-14%	-9%
Semi-urgent								
Actual	8,185				229,167			
Prediction	9,431	76	9,281	9,583	264,061	2,127	259,872	268,325
Absolute effect	-1,246	76	-1,398	-1,097	-34,894	2,127	-39,158	-30,705
Relative effect (%)	-13%	0.7%	-15%	-12%	-13%	0.7%	-15%	-12%
Non-urgent								
Actual	1,758				49,224			
Prediction	1,845	41	1,770	1,923	51,657	1,144	49,547	53,845
Absolute effect	-87	41	-165	-12	-2,433	1,144	-4,621	-323
Relative effect (%)	-5%	2%	-9%	-0.7%	-5%	2%	-9%	-0.7%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

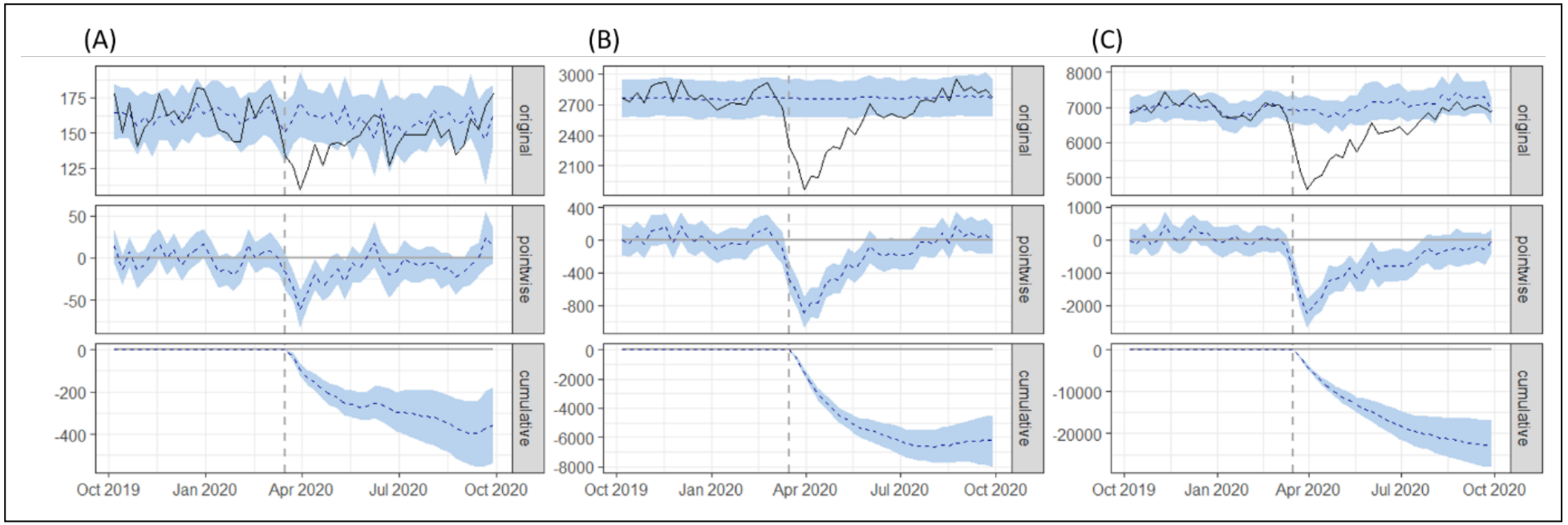

Figure 10: Weekly emergency department presentations in Western Australia for triage levels of (A) Resuscitation, (B) Emergency, (C) Urgent, (D) Semi-urgent, and (E) Non-urgent, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

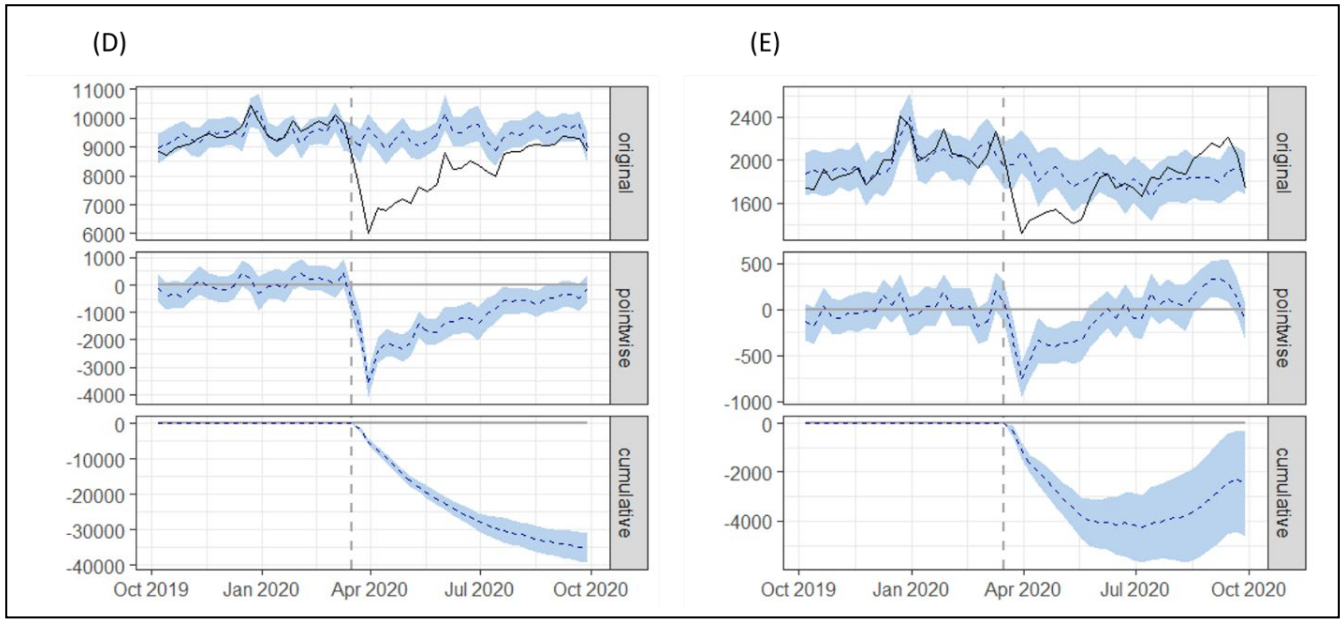

Figure 10 cont.: Weekly emergency department presentations in Western Australia for triage levels of (A) Resuscitation, (B) Emergency, (C) Urgent, (D) Semi-urgent, and (E) Non-urgent, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Major diagnostic categories (ICD chapters)

Table 11: Changes in counts of emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by ICD chapter, without seasonal correction.

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Diseases of the blood and blood-forming organs								
Actual	77				2,168			
Prediction	86	2	82	90	2,403	58	2,289	2,515
Absolute effect	-8	2	-12	-4	-235	58	-347	-121
Relative effect (%)	-10%	2%	-14%	-5%	-10%	2%	-14%	-5%
Diseases of the circulatory system								
Actual	717				20,074			
Prediction	719	13	697	748	20,121	364	19,503	20,942
Absolute effect	-2	13	-31	20	-47	364	-868	571
Relative effect (%)	-0.2%	2%	-4%	3%	-0.2%	2%	-4%	3%
Diseases of the digestive system								
Actual	1,145				32,052			
Prediction	1,163	19	1,124	1,198	32,557	528	31,473	33,548
Absolute effect	-18	19	-53	21	-505	528	-1,496	579
Relative effect (%)	-2%	2%	-5%	2%	-2%	2%	-5%	2%
Diseases of the ear and mastoid process								
Actual	230				6,427			
Prediction	340	23	297	394	9,516	645	8,327	11,038
Absolute effect	-110	23	-165	-68	-3,089	645	-4,611	-1,900
Relative effect (%)	-32%	5%	-42%	-23%	-32%	5%	-42%	-23%
Endocrine, nutritional and metabolic diseases								
Actual	160				4,476			
Prediction	197	6	184	208	5,513	167	5,143	5,815
Absolute effect	-37	6	-48	-24	-1,037	167	-1,339	-667
Relative effect (%)	-19%	3%	-23%	-13%	-19%	3%	-23%	-13%
Diseases of the eye and adnexa								
Actual	208				5,819			
Prediction	270	8	250	284	7,555	234	7,008	7,955
Absolute effect	-62	8	-76	-42	-1,736	234	-2,136	-1,189
Relative effect (%)	-23%	2%	-27%	-17%	-23%	2%	-27%	-17%
Diseases of the genitourinary system								
Actual	782				21,901			
Prediction	849	17	818	883	23,764	476	22,901	24,715
Absolute effect	-67	17	-101	-36	-1,863	476	-2,814	-1,000
Relative effect (%)	-8%	2%	-11%	-4%	-8%	2%	-11%	-4%
Certain infectious and parasitic diseases								
Actual	717				20,070			
Prediction	1,278	41	1,208	1,378	35,777	1,142	33,817	38,580
Absolute effect	-561	41	-661	-491	-15,707	1,142	-18,510	-13,747
Relative effect (%)	-44%	2%	-48%	-41%	-44%	2%	-48%	-41%
Injury, poisoning and certain other consequences of external causes								

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Actual	5,346				149,698			
Prediction	5,642	56	5,534	5,755	157,974	1,575	154,942	161,135
Absolute effect	-296	56	-408	-187	-8,276	1,575	-11,437	-5,244
Relative effect (%)	-5%	0.9%	-7%	-3%	-5%	0.9%	-7%	-3%
Mental and behavioural disorders								
Actual	804				22,524			
Prediction	885	15	858	918	24,787	423	24,037	25,710
Absolute effect	-81	15	-114	-54	-2,263	423	-3,186	-1,513
Relative effect (%)	-9%	2%	-12%	-6%	-9%	2%	-,2%	-6%
Diseases of the musculoskeletal system and connective tissue								
Actual	776				21,731			
Prediction	902	15	871	931	25,267	432	24,385	26,080
Absolute effect	-126	15	-155	-95	-3,536	432	-4,349	-2,654
Relative effect (%)	-14%	2%	-17%	-11%	-14%	2%	-17%	-11%
Neoplasms								
Actual	52				1,464			
Prediction	54	2	51	58	1,521	51	1,418	1,621
Absolute effect	-2	2	-6	2	-57	51	-157	46
Relative effect (%)	-4%	3%	-10%	3%	-4%	3%	-10%	3%
Diseases of the nervous system								
Actual	288				8,066			
Prediction	295	5	286	304	8,260	125	8,016	8,499
Absolute effect	-7	5	-15	2	-194	125	-433	50
Relative effect (%)	-2%	2%	-5%	0.6%	-2%	2%	-5%	0.6%
Certain conditions originating in the perinatal period								
Actual	26				723			
Prediction	27	1	25	29	768	27	712	821
Absolute effect	-2	1	-3	0.4	-45	27	-98	11
Relative effect (%)	-6%	3%	-12%	2%	-6%	3%	-12%	2%
Pregnancy, childbirth and the puerperium								
Actual	229				6,402			
Prediction	243	5	233	251	6,816	127	6,516	7,039
Absolute effect	-15	5	-23	-4	-414	127	-637	-114
Relative effect (%)	-6%	2%	-9%	-2%	-6%	2%	-9%	-2%
Diseases of the respiratory system								
Actual	1,219				34,138			
Prediction	1,767	252	1,247	2,247	49,481	7,046	34,909	62,916
Absolute effect	-548	252	-1,028	-28	-15,343	7,046	-28,778	-771
Relative effect (%)	-29%	11%	-46%	-2%	-29%	11%	-46%	-2%
Diseases of the skin and subcutaneous tissue								
Actual	710				19,882			
Prediction	805	22	762	851	22,546	615	21,346	23,815
Absolute effect	-95	22	-140	-52	-2,664	615	-3,933	-1,464
Relative effect (%)	-12%	2%	-17%	-7%	-12%	2%	-17%	-7%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

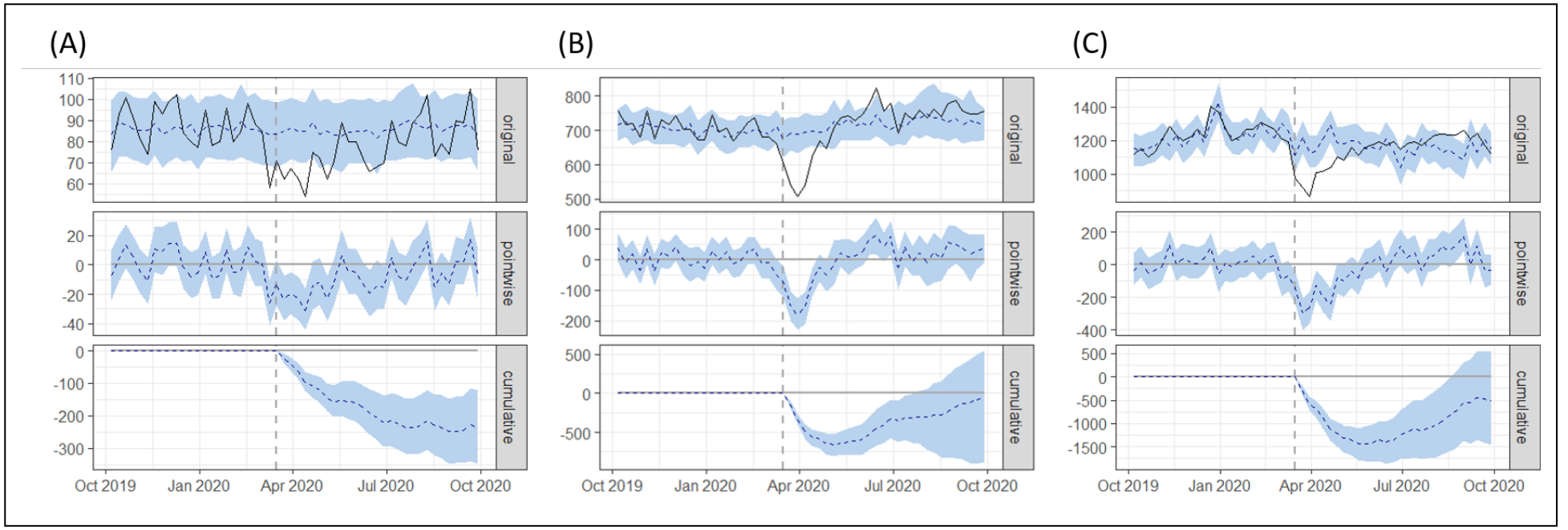

Figure 11: Weekly emergency department presentations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

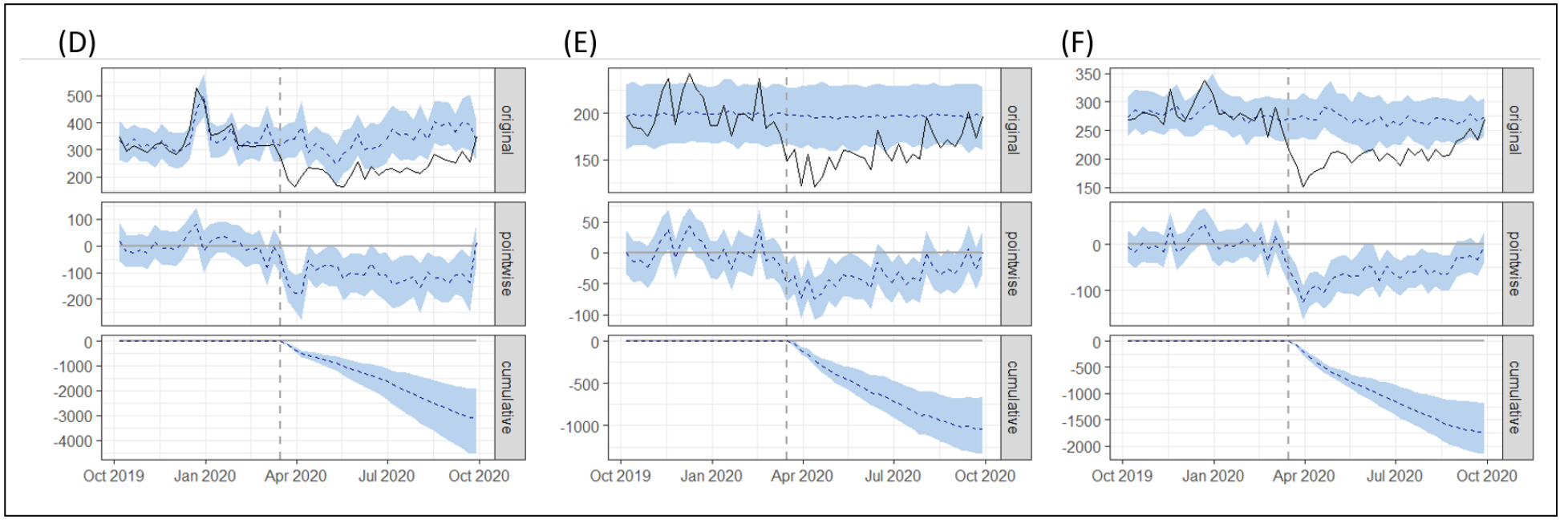

Figure 11 cont.: Weekly emergency department presentations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

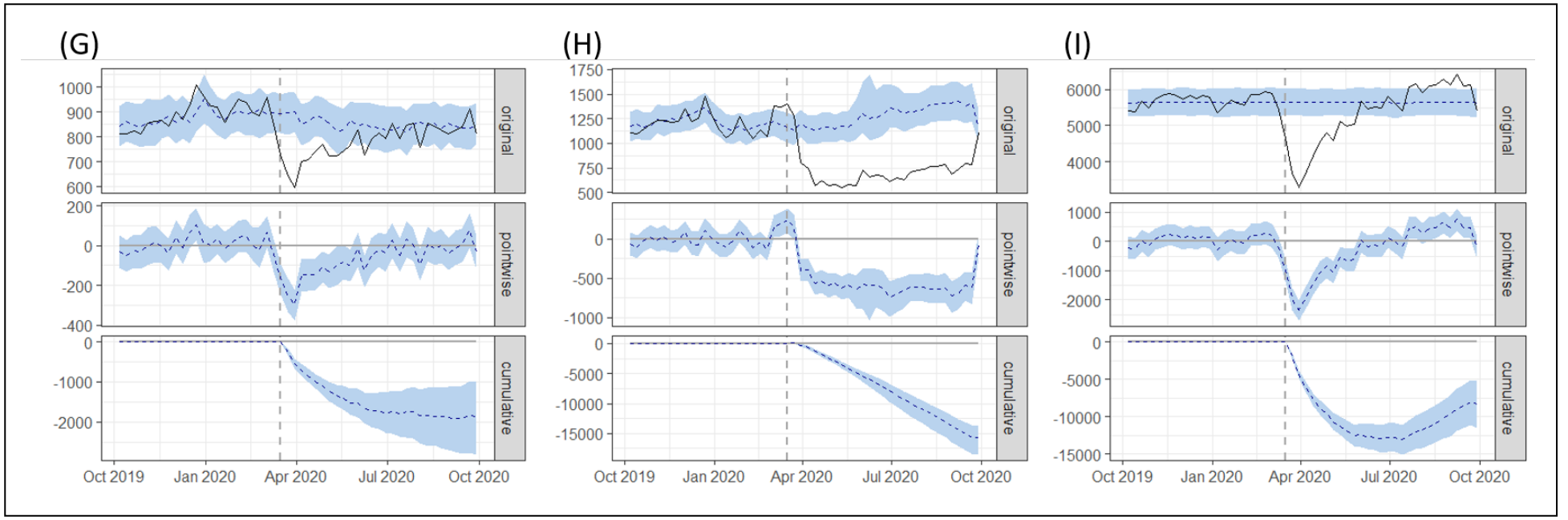

Figure 11 cont.: Weekly emergency department presentations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

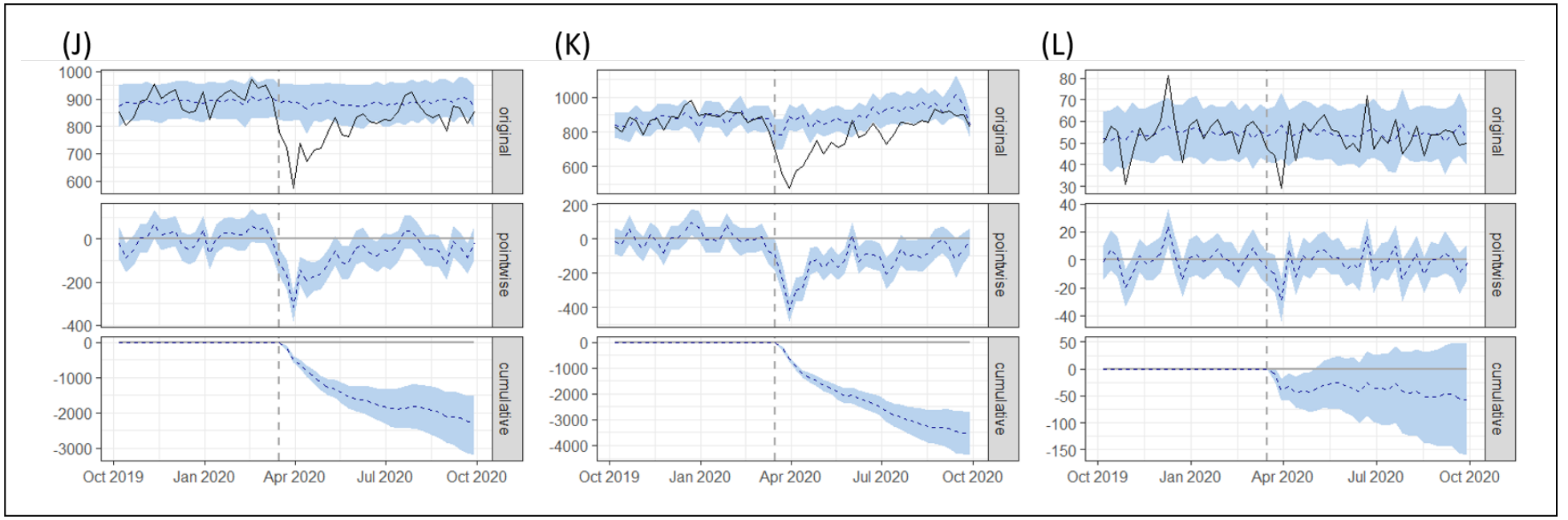

Figure 11 cont.: Weekly emergency department presentations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

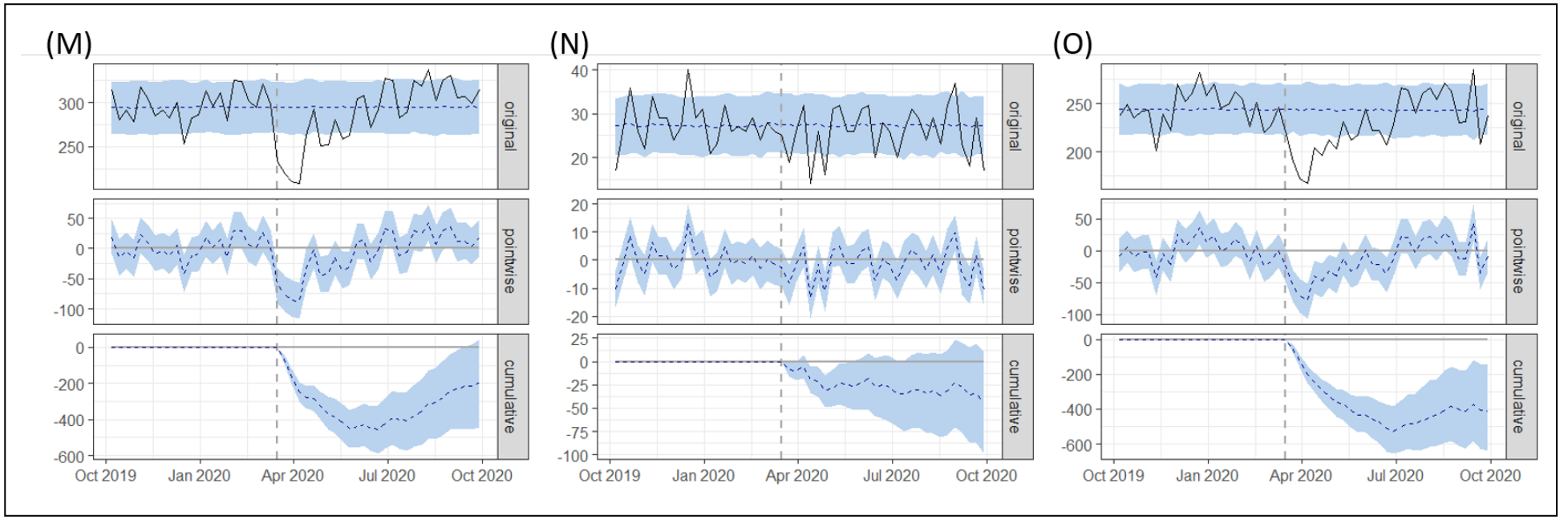

Figure 11 cont.: Weekly emergency department presentations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

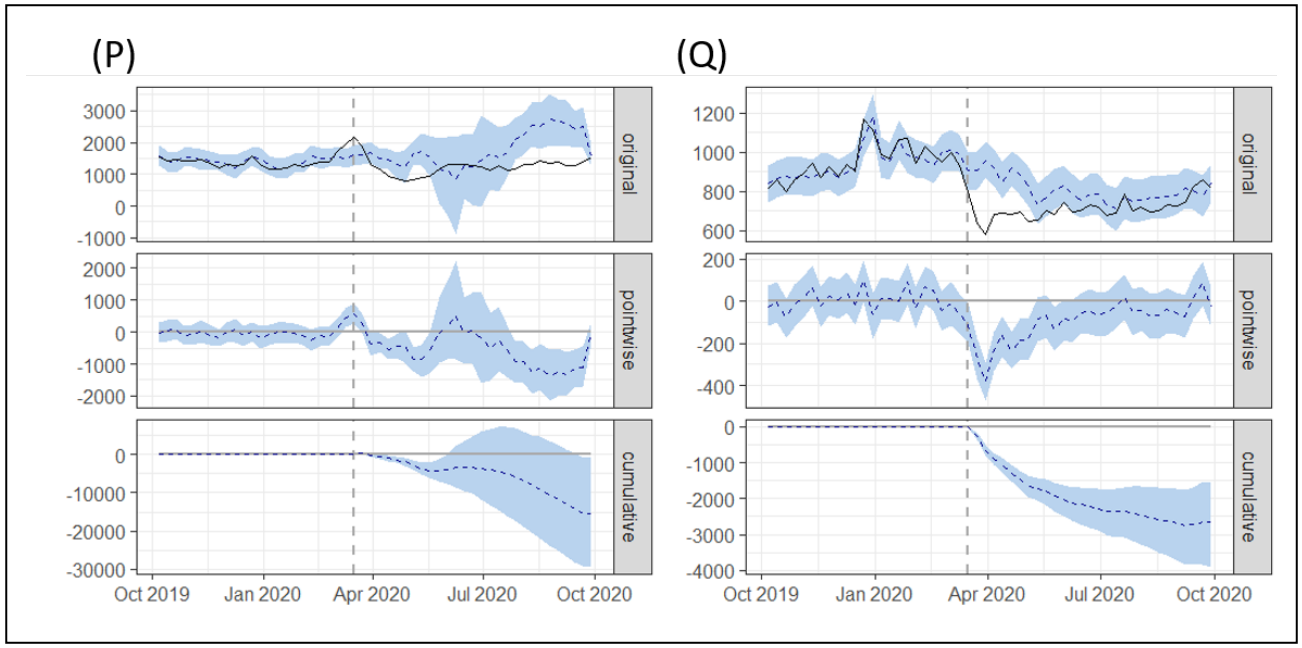

Figure 11 cont.: Weekly emergency department presentations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

External causes of injury

Table 12: Changes in counts of injury-related emergency department presentations in Western Australia following the introduction of strict COVID-19 public health measures on 23rd March 2020 by external causes of injury, without seasonal correction

Posterior inference	Average number of presentations per week				Cumulative number of presentations over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Transport and pedestrian								
Actual	175				4,906			
Prediction	157	4	150	164	4,383	105	4,191	4,598
Absolute effect	19	4	11	26	523	105	308	715
Relative effect (%)	12%	3%	7%	17%	12%	3%	7%	17%
Falls								
Actual	656				18,360			
Prediction	664	13	636	689	18,585	373	17,805	19,286
Absolute effect	-8	13	-33	20	-225	373	-926	555
Relative effect (%)	-1%	2%	-5%	3%	-1%	2%	-5%	3%
Force								
Actual	690				19,323			
Prediction	702	14	673	726	19,644	378	18,839	20,332
Absolute effect	-11	14	-36	17	-321	378	-1,009	484
Relative effect (%)	-2%	2%	-5%	3%	-2%	2%	-5%	3%
Others and unknown								
Actual	3,825				107,109			
Prediction	4,137	62	4,028	4,275	115,823	1,750	112,789	119,697
Absolute effect	-311	62	-450	-203	-8,714	1,750	-12,588	-5680
Relative effect (%)	-8%	1%	-11%	-5%	-8%	1%	-11%	-5%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

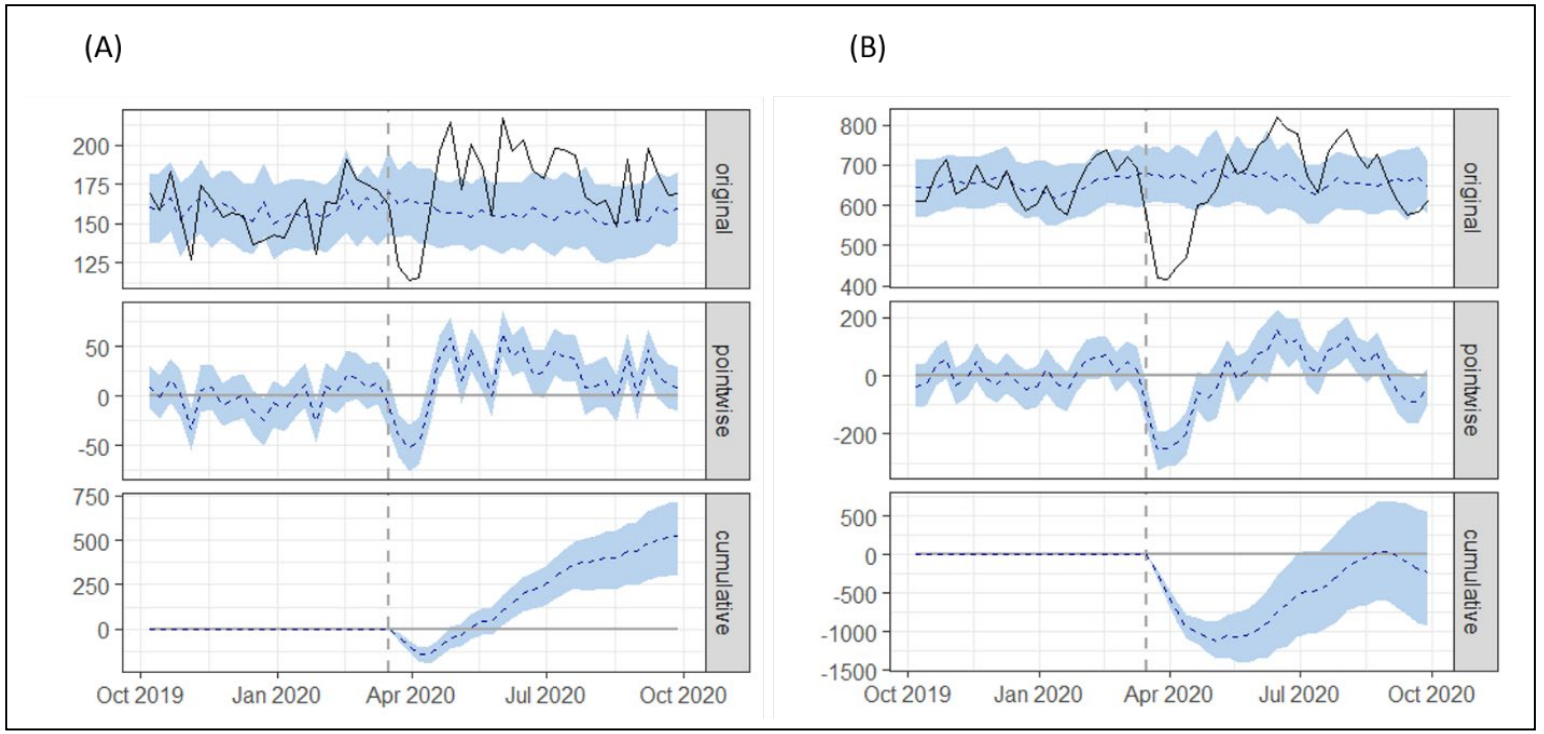

Figure 12: Weekly injury-related emergency department presentations in Western Australia by external cause of injury: (A) Transport and pedestrian, (B) Falls, (C) Force, and (D) Others and unknown, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

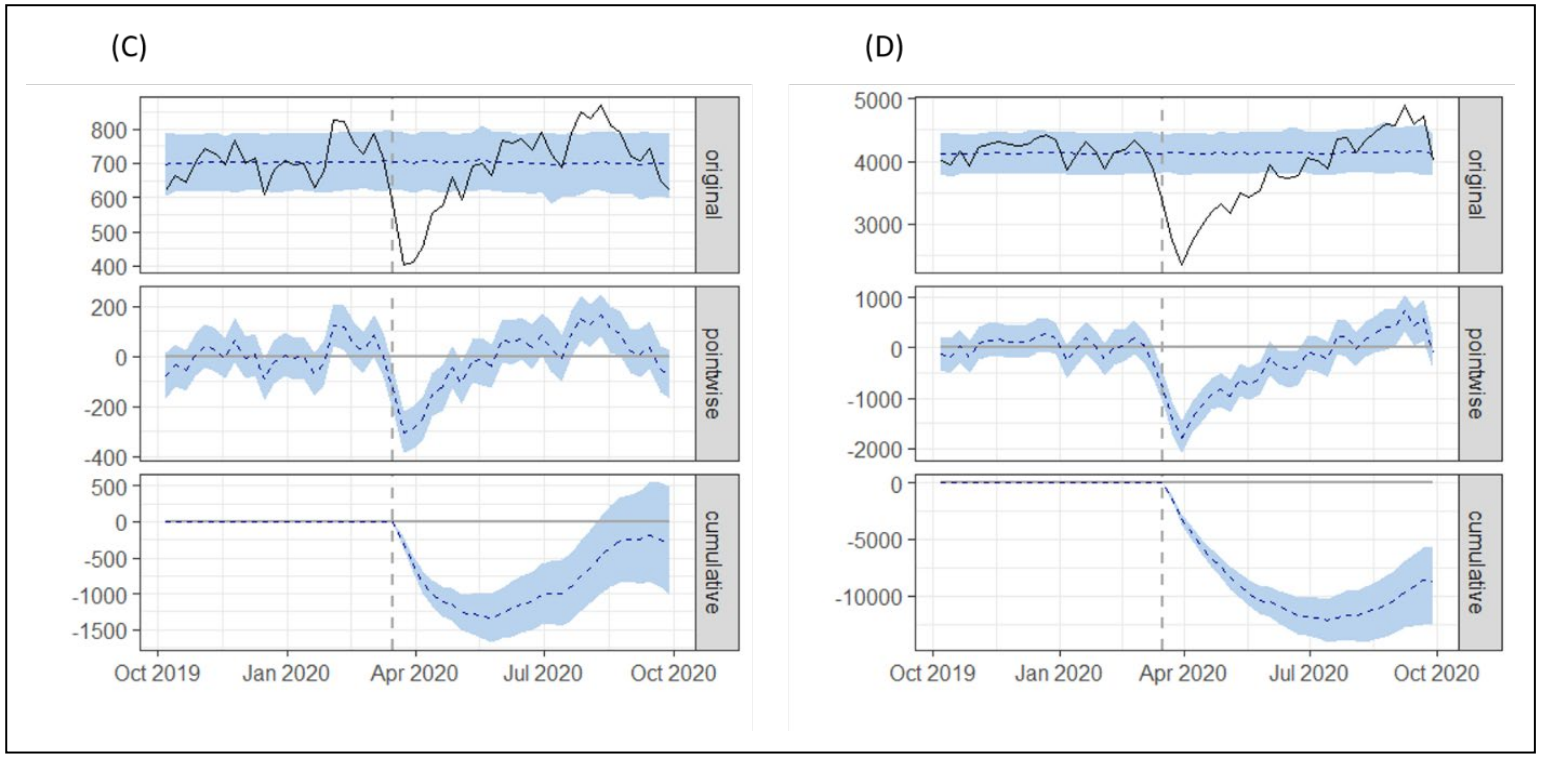

Figure 12 cont.: Weekly injury-related emergency department presentations in Western Australia by external cause of injury: (A) Transport and pedestrian, (B) Falls, (C) Force, and (D) Others and unknown, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Hospitalisations

Overall

Table 13: Changes in counts of all-cause hospitalisations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, without seasonal correction.

Posterior inference	Average number of admissions per week				Cumulative number of admissions over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Actual	21,214				593,989			
Prediction	23,384	385	22,619	24,131	654,757	10,771	633,322	675,656
Absolute effect	-2,170	385	-2,917	-1,405	-60,768	10,771	-81,667	-39,333
Relative effect (%)	-9%	2%	-12%	-6%	-9%	2%	-12%	-6%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

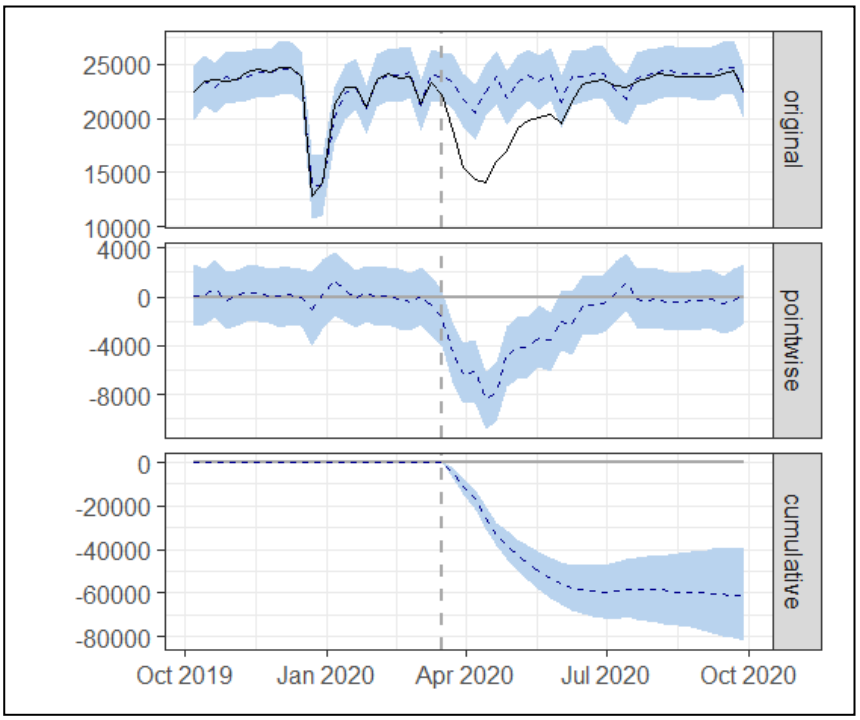

Figure 13: Weekly all-cause hospitalisations in Western Australia, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Sex

Table 14: Changes in counts of hospitalisations in Western Australia following the introduction of strict COVID-19 public health measures on 23rd March 2020, by sex, without seasonal correction

Posterior inference	Average number of admissions per week				Cumulative number of admissions over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Females								
Actual	10,967				307,068			
Prediction	12,045	190	11,675	12,441	337,268	5,312	326,907	348,356
Absolute effect	-1,079	190	-1,475	-709	-30,200	5,312	-41,288	-19,839
Relative effect (%)	-9%	1%	-12%	-6%	-9%	1%	-12%	-6%
Males								
Actual	10,247				286,919			
Prediction	11,333	188	10,964	11,692	317,312	5,251	307,000	327,384
Absolute effect	-1,085	188	-1,445	-717	-30,393	5,251	-40,465	-20,081
Relative effect (%)	-10%	2%	-12%	-7%	-10%	2%	-12%	-7%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

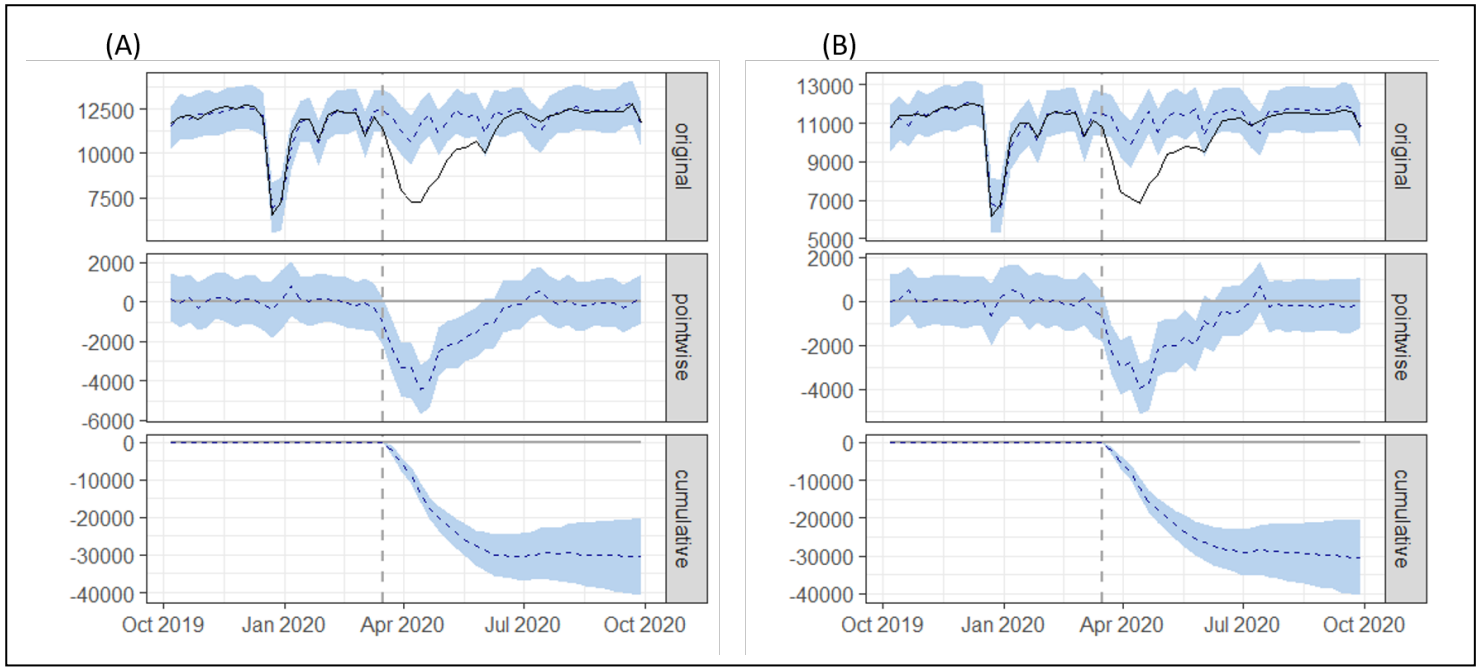

Figure 14: Weekly hospitalisations in Western Australia among (A) Females and (B) Males, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Socio-economic status

Table 15: Changes in counts of hospitalisations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by socio-economic status of patients' residential area, without seasonal correction.

Posterior inference	Average number of admissions per week				Cumulative number of admissions over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
High SES								
Actual	8,377				234,552			
Prediction	9,204	175	8,865	9,539	257,713	4,906	248,221	267,094
Absolute effect	-827	175	-1,162	-488	-23,161	4,906	-32,542	-13,669
Relative effect (%)	-9%	2%	-12%	-6%	-9%	2%	-12%	-6%
Medium SES								
Actual	6,827				191,152			
Prediction	7,461	116	7,233	7,693	208,905	3,258	202,532	215,410
Absolute effect	-634	116	-866	-406	-17,753	3,258	-24,258	-11,380
Relative effect (%)	-9%	1%	-11%	-6%	-9%	1%	-11%	-6%
Low SES								
Actual	5,821				162,985			
Prediction	6,442	88	6,267	6,614	180,383	2,477	175,472	185,203
Absolute effect	-621	88	-793	-446	-17,398	2,477	-22,218	-12,487
Relative effect (%)	-10%	1%	-12%	-7%	-10%	1%	-12%	-7%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

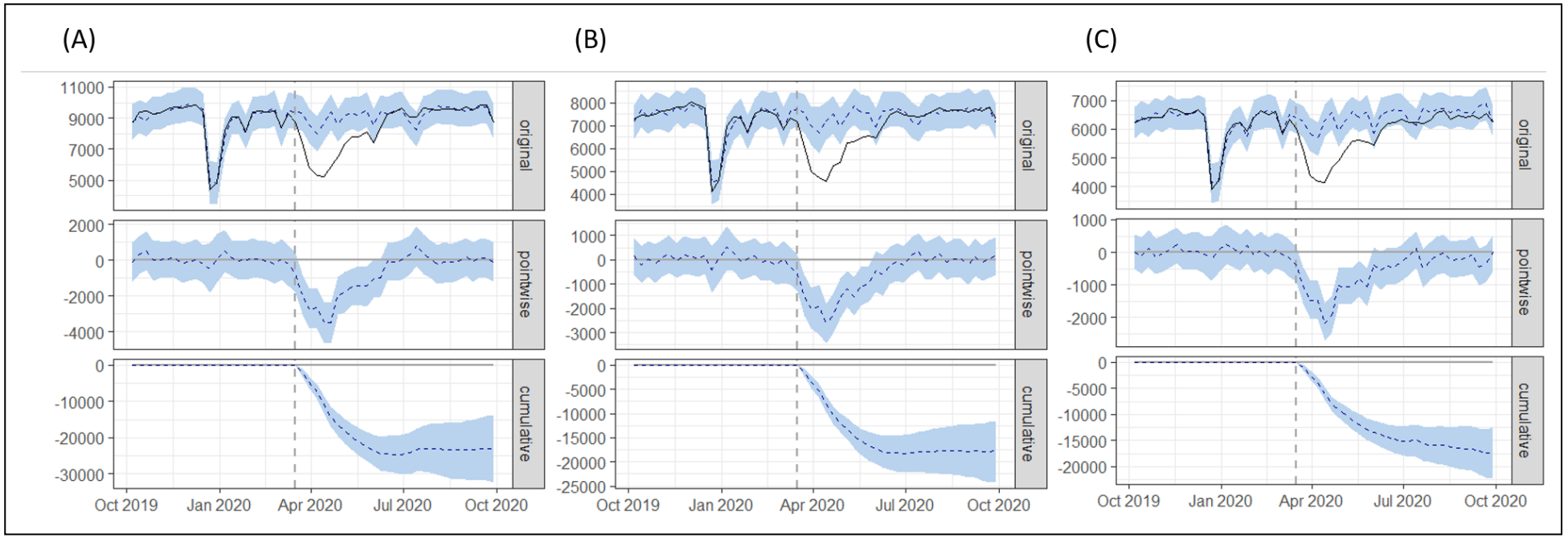

Figure 15: Weekly hospitalisations in Western Australia among patients in areas of (A) High, (B) Medium and (C) Low socio-economic status, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Remoteness

Table 16: Changes in counts of hospitalisations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, by remoteness of patient residence, without seasonal correction.

Posterior inference	Average number of admissions per week				Cumulative number of admissions over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Metropolitan								
Actual	15,925				445,904			
Prediction	17,476	291	16,916	18,044	489,333	8,139	473,653	505,218
Absolute effect	-1,551	291	-2,118	-991	-43,429	8,139	-59,314	-27,749
Relative effect (%)	-9%	2%	-12%	-6%	-9%	2%	-12%	-6%
Non-metropolitan								
Actual	4,980				139,449			
Prediction	5,498	81	5,337	5,649	153,955	2,262	149,432	158,175
Absolute effect	-518	81	-669	-357	-14,506	2,262	-18,726	-9,983
Relative effect (%)	-9%	1%	-12%	-7%	-9%	1%	-12%	-7%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

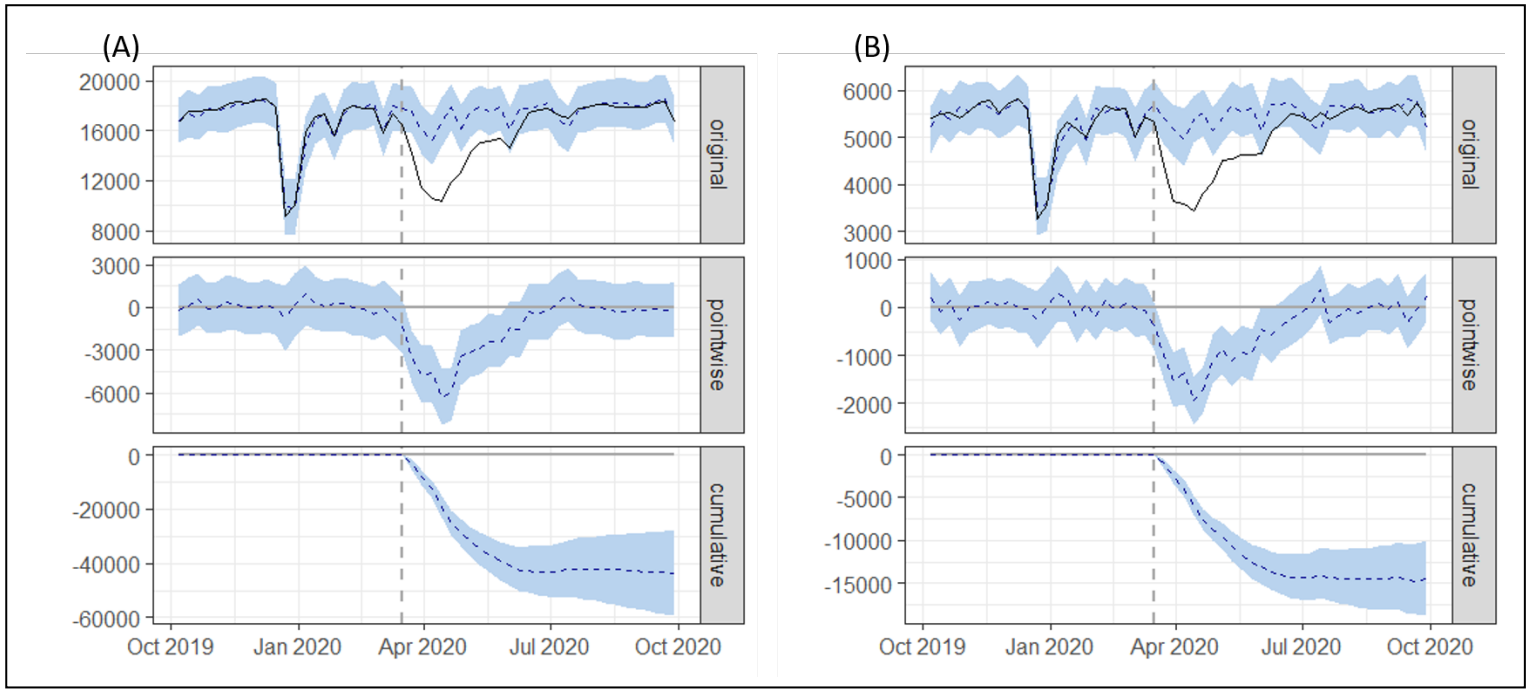

Figure 16: Weekly hospitalisations in Western Australia among patients residing in (A) Metropolitan and (B) Non-Metropolitan areas, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Age

Table 17: Changes in counts of hospitalisations in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by age group, without seasonal correction

Posterior inference	Average number of admissions per week				Cumulative number of admissions over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Ages 0-18								
Actual	1,662				46,529			
Prediction	1,982	37	1,907	2,051	55,493	1,032	53,399	57,438
Absolute effect	-320	37	-390	-245	-8,964	1,032	-10,909	-6,870
Relative effect (%)	-16%	2%	-19%	-13%	-16%	2%	-19%	-13%
Ages 19-44								
Actual	4,679				131,005			
Prediction	5,066	77	4,912	5,218	141,841	2,152	137,536	146,115
Absolute effect	-387	77	-540	-233	-10,836	2,152	-15,110	-6,531
Relative effect (%)	-8%	1%	-10%	-5%	-8%	1%	-10%	-5%
Ages 45-64								
Actual	6,211				173,907			
Prediction	6,793	117	6,574	7,000	190,204	3,286	184,073	200,000
Absolute effect	-582	117	-819	-363	-16,297	3,286	-22,921	-10,166
Relative effect (%)	-9%	2%	-12%	-6%	-9%	2%	-12%	-6%
Ages 65+								
Actual	8,662				242,548			
Prediction	9,538	156	9,239	9,833	267,057	4,355	258,698	275,326
Absolute effect	-875	156	-1,171	-577	-24,509	4,355	-32,778	-16,150
Relative effect (%)	-9%	2%	-12%	-6%	-9%	2%	-12%	-6%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

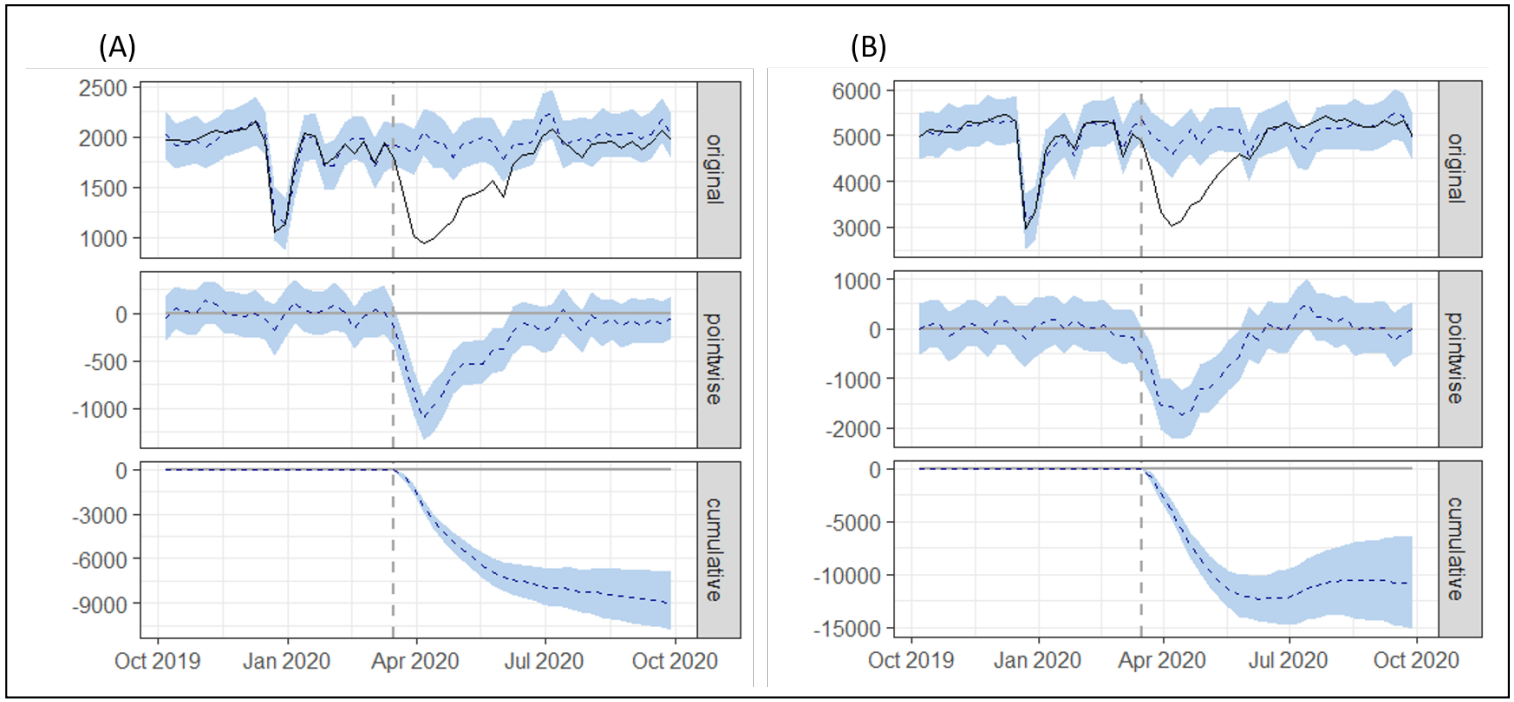

Figure 17: Weekly hospitalisations in Western Australia among patients aged (A) 0-18, (B) 19-44, (C) 45-64, and (D) 65+, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

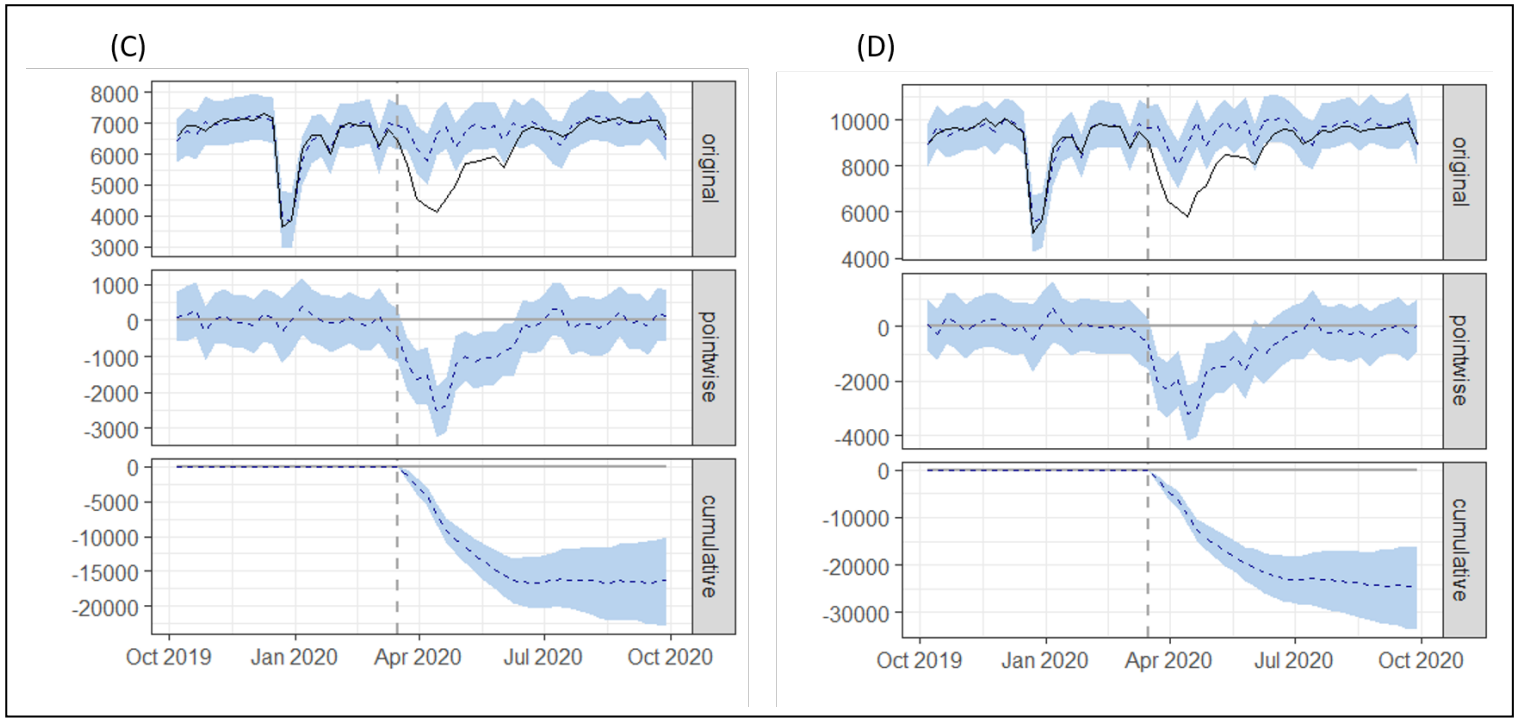

Figure 17 cont.: Weekly hospitalisations in Western Australia among patients aged (A) 0-18, (B) 19-44, (C) 45-64, and (D) 65+, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Planned procedures

Table 18: Changes in counts of hospitalisations in Western Australia for Dialysis and Chemotherapy procedures following the introduction of strict COVID-19 public health measures on 23 March 2020 without seasonal correction.

Posterior inference	Average number of admissions per week				Cumulative number of admissions over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Chemotherapy								
Actual	1,741				48,736			
Prediction	1,780	18	1,745	1,813	49,849	493	48,870	50,764
Absolute effect	-40	18	-72	-5	-1,113	493	-2,028	-134
Relative effect (%)	-2%	1%	-4%	0.3%	-2%	1%	-4%	0.3%
Dialysis								
Actual	3,314				92,800			
Prediction	3,319	23	3,279	3,365	92,943	651	91,815	94,232
Absolute effect	-5	23	-51	35	-143	651	-1,432	985
Relative effect (%)	-0.2%	0.7%	-1%	1%	-0.2%	0.7%	-1%	1%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

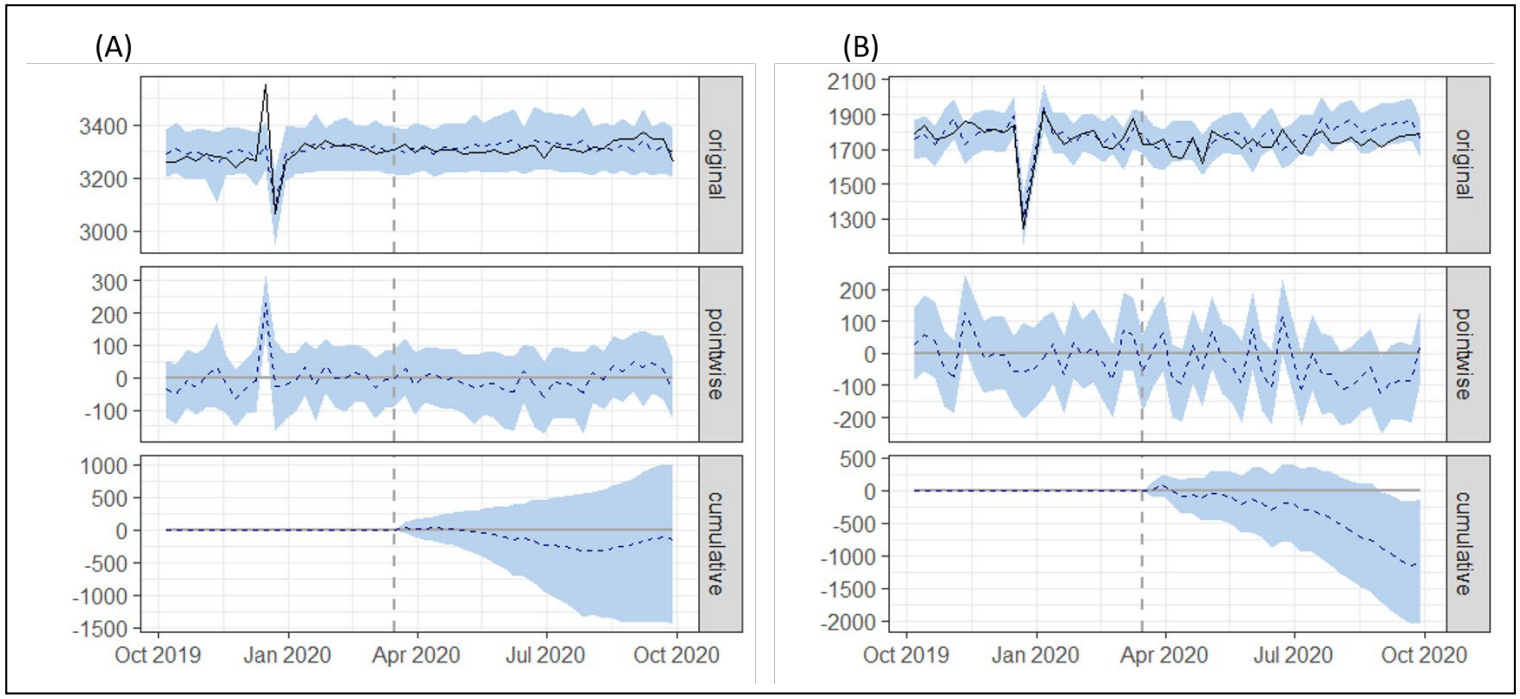

Figure 18: Weekly hospitalisations in Western Australia among patients admitted for (A) Dialysis and (B) Chemotherapy, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

With and without procedures

Table 19: Changes in counts of hospitalisations with and without procedures in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, without seasonal correction.

Posterior inference	Average number of services per week				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Without procedure								
Actual	2,367				66,277			
Prediction	2,736	34	2,678	2,807	76,622	940	74,985	78,595
Absolute effect	-369	34	-440	-311	-10,345	940	-12,318	-8,708
Relative effect (%)	-13%	1%	-16%	-12%	-13%	1%	-16%	-12%
With procedure								
Actual	18,847				527,712			
Prediction	20,609	360	19,846	21,314	577,043	10,075	555,692	596,789
Absolute effect	-1,762	360	-2,467	-999	-49,331	10,075	-69,077	-27,980
Relative effect (%)	-9%	2%	-12%	-5%	-9%	2%	-12%	-5%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

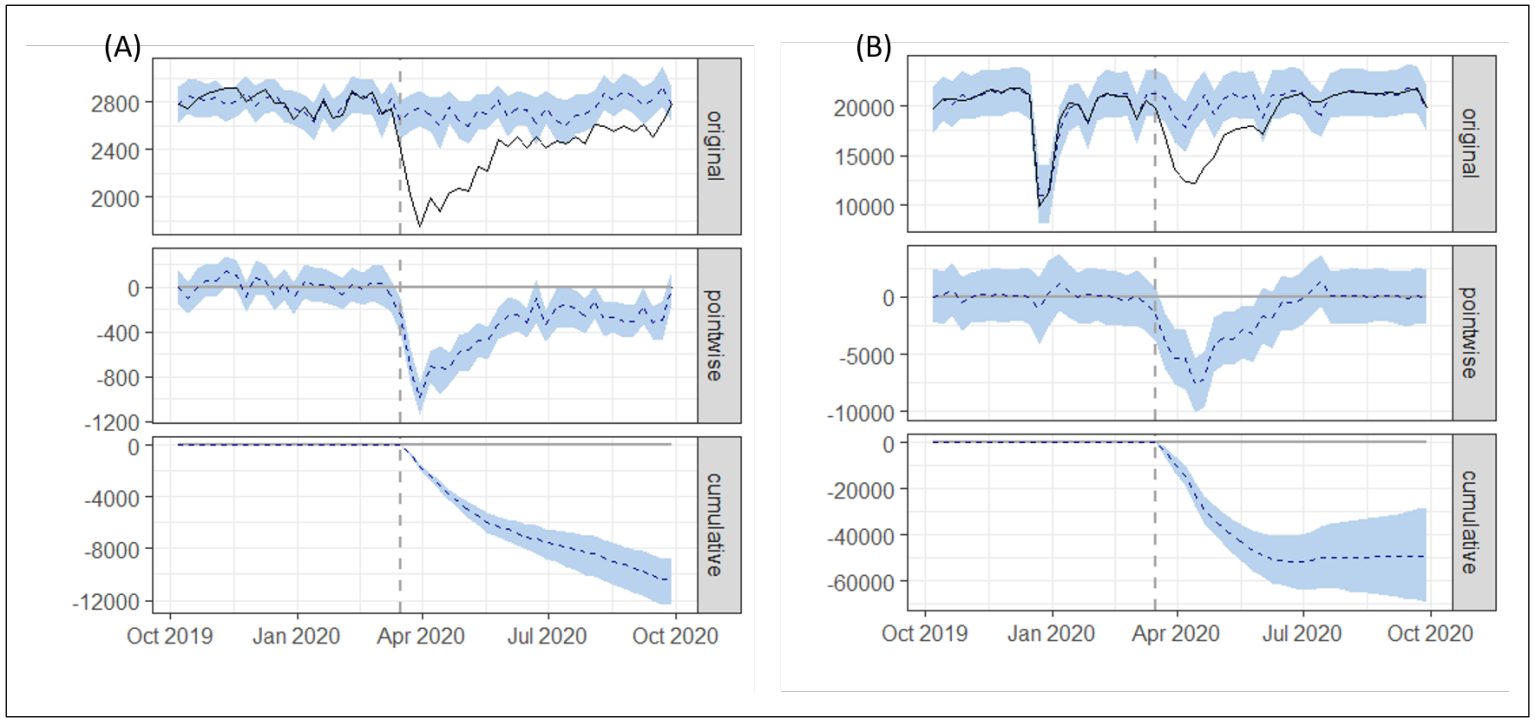

Figure 19: Weekly hospitalisations in Western Australia among patients, for hospitalisations (A) Without and (B) With procedures, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Major diagnostic categories (ICD chapters)

Table 20: Changes in counts of hospital admissions in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by major diagnostic category, without seasonal correction.

Posterior inference	Average number of services per week				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Diseases of the blood and blood-forming organs								
Actual	400				11,198			
Prediction	414	9	397	432	11,604	251	11,123	12,098
Absolute effect	-15	9	-32	3	-406	251	-900	75
Relative effect (%)	-4%	2%	-7%	0.7%	-4%	2%	-7%	0.7%
Diseases of the circulatory system								
Actual	1,404				39,320			
Prediction	1,527	28	1,475	1,582	42,755	772	41,287	44,291
Absolute effect	-123	28	-178	-70	-3,435	772	-4,971	-1,967
Relative effect (%)	-8%	2%	-11%	-5%	-8%	2%	-11%	-5%
Diseases of the digestive system								
Actual	3,277				91,747			
Prediction	3,727	93	3,542	3,913	104,349	2,601	99,187	109,566
Absolute effect	-450	93	-636	-266	-12,602	2,601	-17,819	-7,440
Relative effect (%)	-12%	2%	-16%	-8%	-12%	2%	-16%	-8%
Diseases of the ear and mastoid process								
Actual	788				22,064			
Prediction	993	29	939	1,051	27,798	812	26,289	29,418
Absolute effect	-205	29	-263	-151	-5,734	812	-7354	-4,225
Relative effect (%)	-21%	2%	-25%	-16%	-21%	2%	-25%	-16%
Endocrine, nutritional and metabolic diseases								
Actual	551				15,428			
Prediction	596	16	566	625	16,698	439	15,845	17,496
Absolute effect	-45	16	-74	-15	-1,270	439	-2,068	-417
Relative effect (%)	-7%	2%	-12%	-3%	-7%	2%	-12%	-3%
Diseases of the eye and adnexa								
Actual	926				25,918			
Prediction	1,110	39	1,037	1,187	31,089	1,082	29,026	33,233
Absolute effect	-185	39	-261	-111	-5,171	1,082	-7,315	-3,108
Relative effect (%)	-17%	3%	-22%	-11%	-17%	3%	-22%	-11%
Diseases of the genitourinary system								
Actual	1,299				36,377			
Prediction	1,480	39	1,406	1,554	41,433	1,089	39,371	43,514
Absolute effect	-181	39	-255	-107	-5,056	1,089	-7,137	-2,994
Relative effect (%)	-12%	2%	-16%	-8%	-12%	2%	-16%	-8%
Certain infectious and parasitic diseases								
Actual	319				8,929			
Prediction	426	14	396	448	11,928	384	11,094	12,541
Absolute effect	-107	14	-129	-77	-2,999	384	-3,612	-2,165
Relative effect (%)	-25%	3%	-29%	-20%	-25%	3%	-29%	-20%
Injury, poisoning and certain other consequences of external causes								

Posterior inference	Average number of services per week				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Actual	1,434				40,146			
Prediction	1,524	17	1,491	1,557	42,658	471	41,755	43,594
Absolute effect	-90	17	-123	-57	-2,512	471	-3,448	-1,609
Relative effect (%)	-6%	1%	-8%	-4%	-6%	1%	-8%	-4%
Mental and behavioural disorders								
Actual	642				17,962			
Prediction	666	15	632	690	18,650	429	17,702	19,306
Absolute effect	-25	15	-48	9	-688	429	-1,344	260
Relative effect (%)	-4%	2%	-7%	2%	-4%	2%	-7%	2%
Diseases of the musculoskeletal system and connective tissue								
Actual	1,963				54,977			
Prediction	2,184	62	2,059	2,298	61,150	1,746	57,663	64,336
Absolute effect	-220	62	-334	-96	-6,173	1,746	-9,359	-2,686
Relative effect (%)	-10%	3%	-15%	-5%	-10%	3%	-15%	-5%
Neoplasms								
Actual	3,193				89,410			
Prediction	3,368	56	3,257	3,480	94,291	1,579	91,187	97,443
Absolute effect	-174	56	-287	-63	-4,881	1,579	-8,033	-1,777
Relative effect (%)	-5%	2%	-8%	-2%	-5%	2%	-8%	-2%
Diseases of the nervous system								
Actual	1,031				28,865			
Prediction	1,074	47	982	1,143	30,068	1,305	27,501	32,015
Absolute effect	-43	47	-113	49	-1,203	1,305	-3,150	1,364
Relative effect (%)	-4%	4%	-10%	5%	-4%	4%	-10%	5%
Certain conditions originating in the perinatal period								
Actual	373				10,449			
Prediction	360	4	352	368	10,082	114	9,855	10,302
Absolute effect	13	4	5.3	21	367	114	148	594
Relative effect (%)	4%	1%	1%	6%	4%	1%	1%	6%
Pregnancy, childbirth and the puerperium								
Actual	967				27,087			
Prediction	988	8	970	1,004	27,658	228	27,161	28,118
Absolute effect	-20	8	-37	-3	-571	228	-1,031	-74
Relative effect (%)	-2%	0.8%	-4%	-0.3%	-2%	0.8%	-4%	-0.3%
Diseases of the respiratory system								
Actual	893				24,998			
Prediction	1,314	30	1,254	1,374	36,794	840	35,117	38,461
Absolute effect	-421	30	-481	-361	-11,796	840	-13,463	-10,119
Relative effect (%)	-32%	2%	-35%	-29%	-32%	2%	-35%	-29%
Diseases of the skin and subcutaneous tissue								
Actual	961				26,906			
Prediction	1,060	27	1,007	1,115	29,675	769	28,191	31,226
Absolute effect	-99	27	-154	-46	-2,769	769	-4,320	-1,285
Relative effect (%)	-9%	2%	-14%	-5%	-9%	2%	-14%	-5%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval

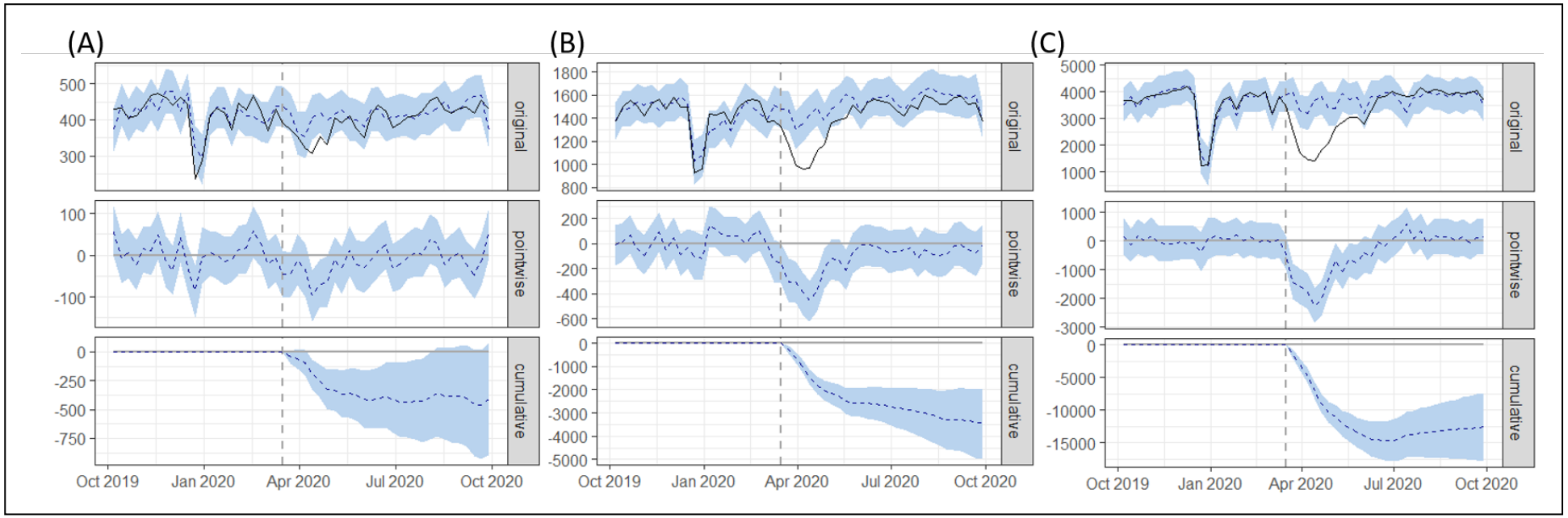

Figure 20: Weekly hospitalisations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

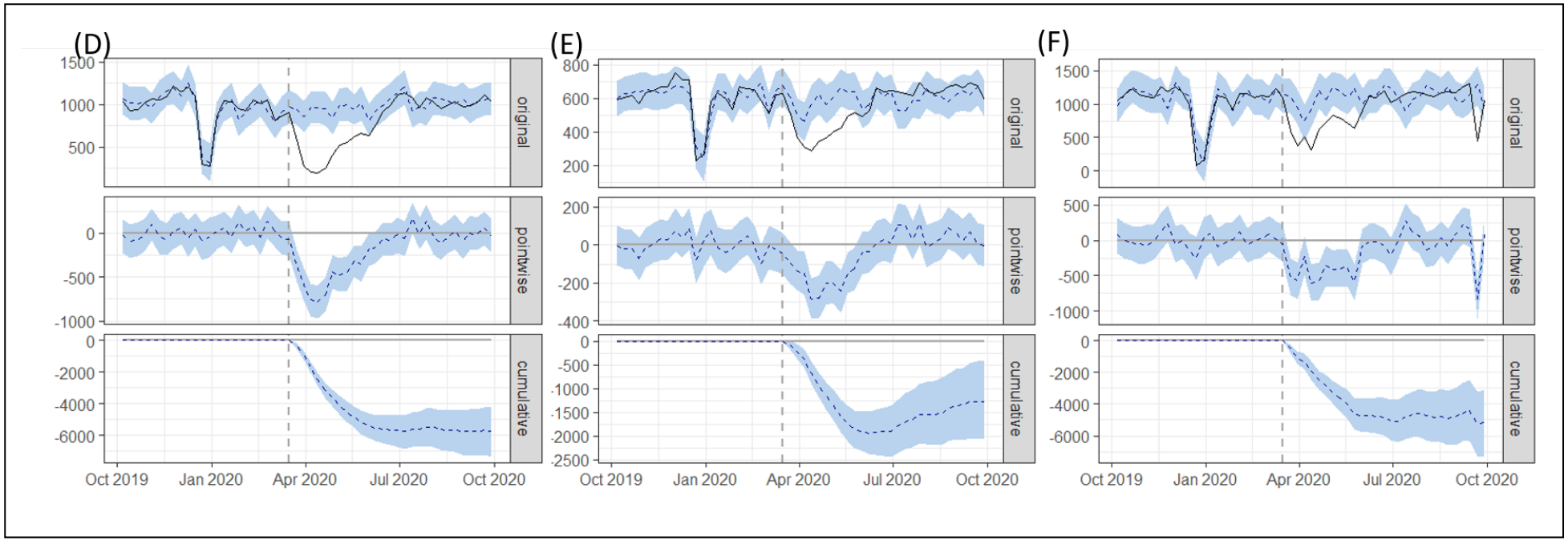

Figure 20 cont.: Weekly hospitalisations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

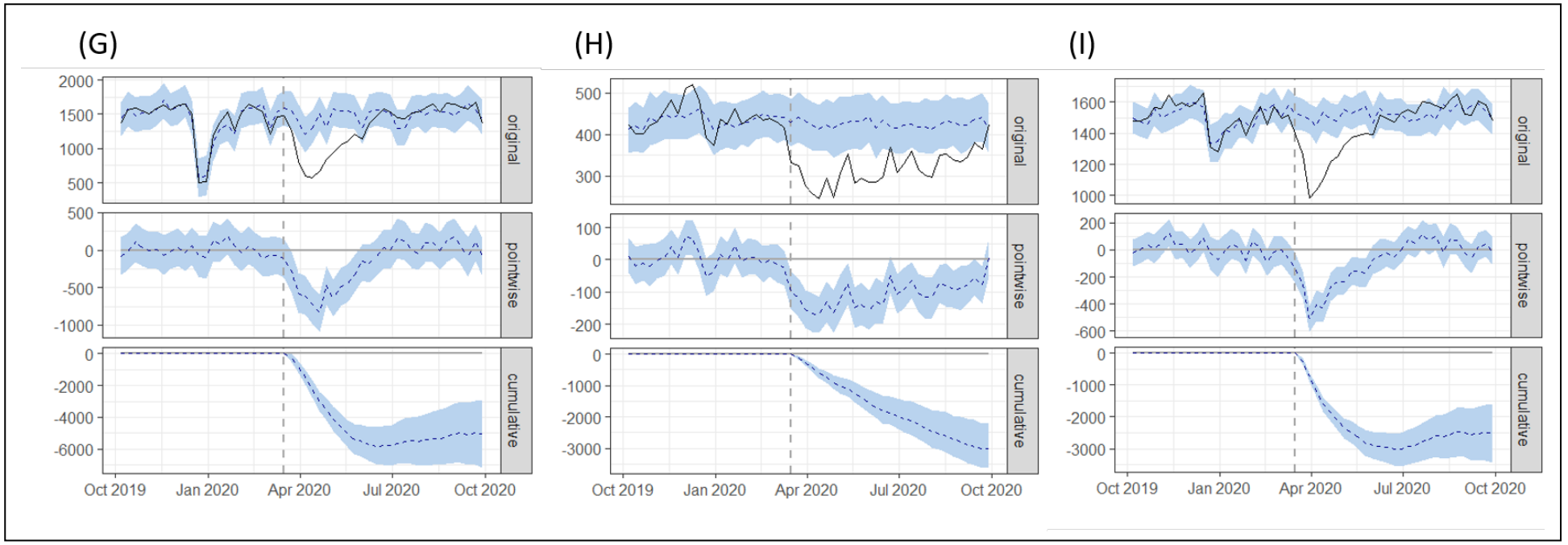

Figure 20 cont.: Weekly hospitalisations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

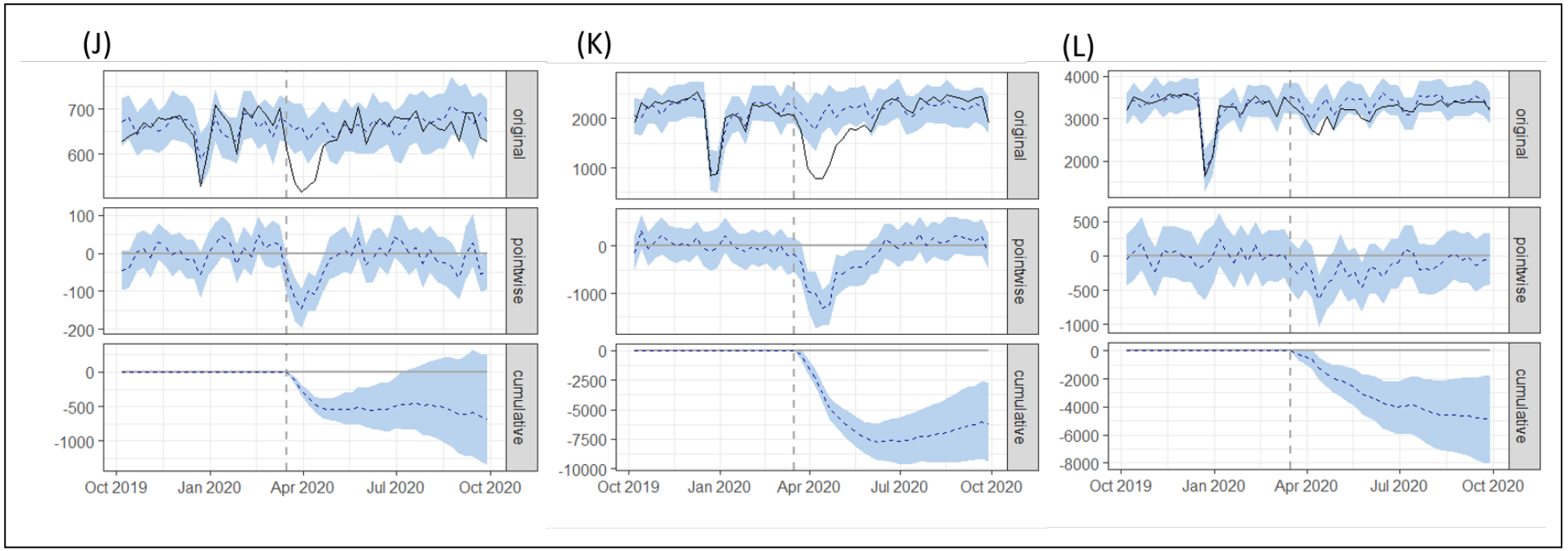

Figure 20 cont.: Weekly hospitalisations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

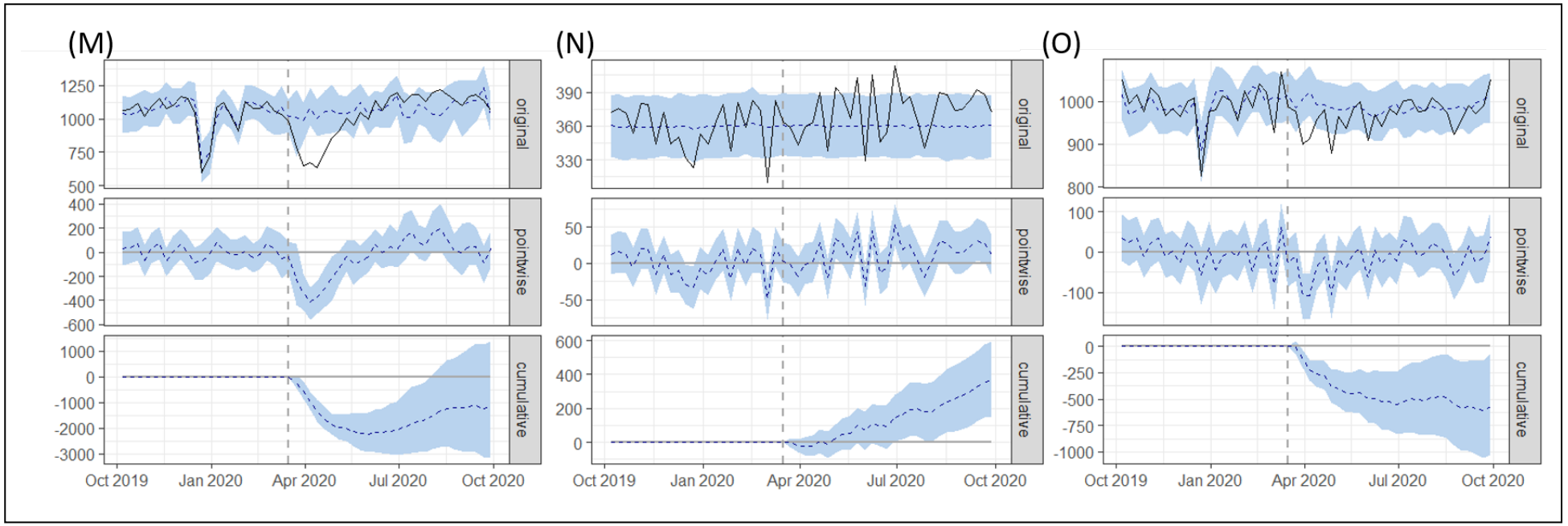

Figure 20 cont.: Weekly hospitalisations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

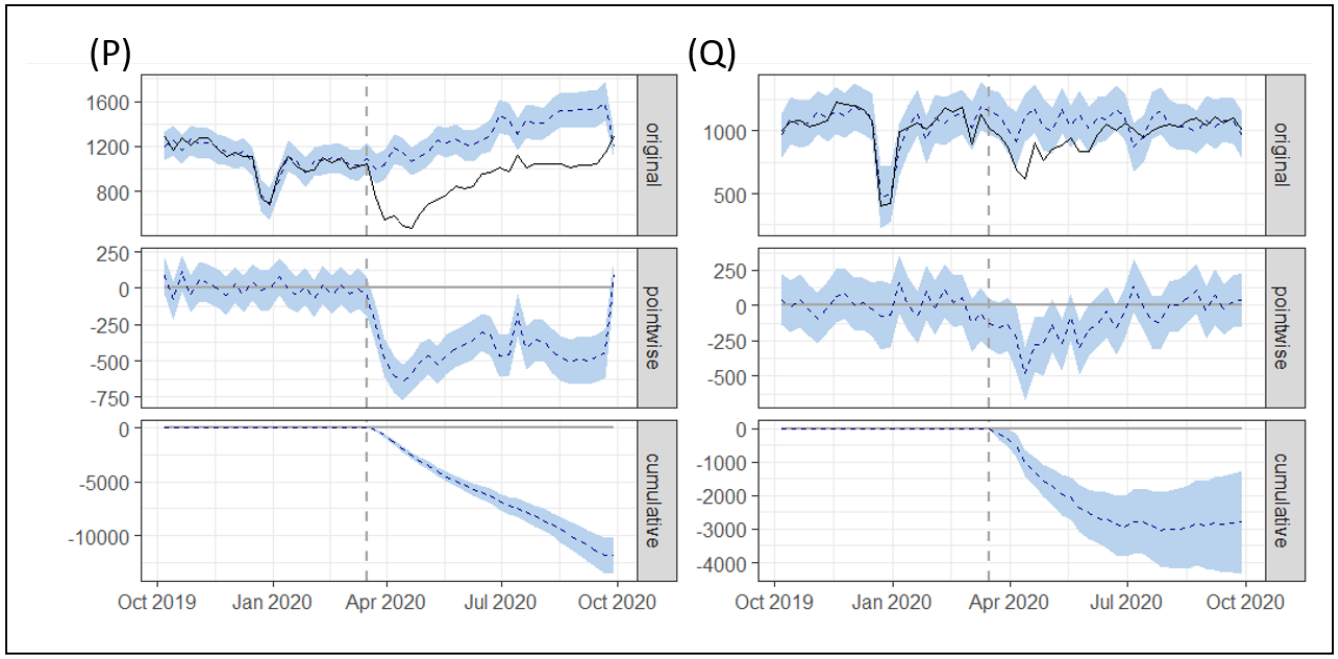

Figure 20 cont.: Weekly hospitalisations in Western Australia for (A) Diseases of the blood and blood-forming organs, (B) Diseases of the circulatory system, (C) Diseases of the digestive system, (D) Diseases of the ear and mastoid process, (E) Endocrine, nutritional and metabolic diseases, (F) Diseases of the eye and adnexa, (G) Diseases of the genitourinary system, (H) Infectious and parasitic disorders, (I) Injury, poisoning and certain other consequences of external causes, (J) Mental and behavioural disorders, (K) Diseases of the musculoskeletal system and connective tissue, (L) Neoplasms, (M) Diseases of the nervous system, (N) Certain conditions originating in the perinatal period, (O) Pregnancy, childbirth and the puerperium, (P) Diseases of the respiratory system, and (Q) Diseases of the skin and subcutaneous tissue, without seasonal correction.

Footnote: Top panel displays weekly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the weekly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Overall length of stay during hospitalisations

Table 21: Changes in the average length of stay during hospitalisation in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, without seasonal correction.

Posterior inference	Average length of stay of hospitalisations			
	Count	SD	95% CI	
Actual	2			
Prediction	2	0.0	2	2
Absolute effect	0.0	0.0	0.0	0.1
Relative effect (%)	1%	1%	-1%	4%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

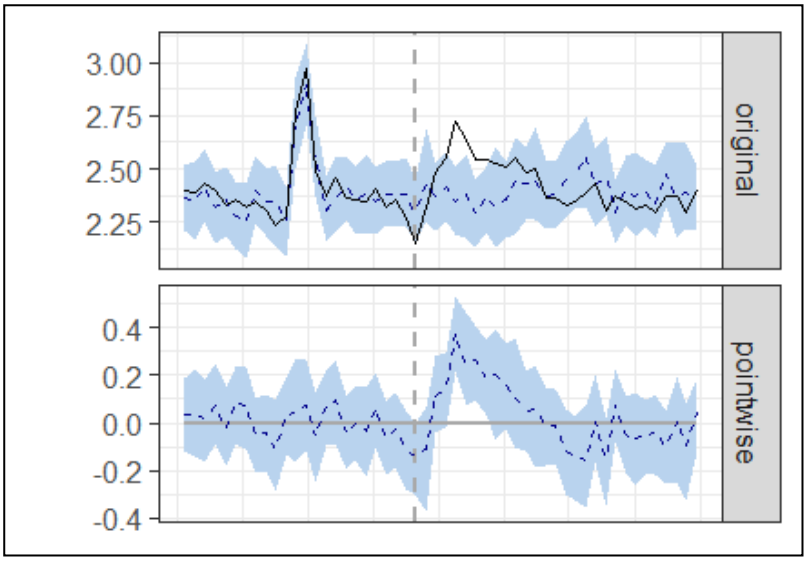

Figure 21: Weekly average length of stay during hospitalisations in Western Australia, without seasonal correction.

Footnote: Top panel displays average length of stay of hospitalisations admitted each week from October 2019 to end September 2020 (solid line) and the expected ALOS based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Lower panel displays the weekly difference between observed and expected ALOS. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Average cost per hospitalisation

Table 22: Changes in the average cost per hospitalisation in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, without seasonal correction.

Posterior inference	Average cost per hospitalisation			
	Count	SD	95% CI	
Actual	5,069			
Prediction	4,932	43	4,826	4,986
Absolute effect	137	43	83	243
Relative effect (%)	3%	1%	2%	5%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

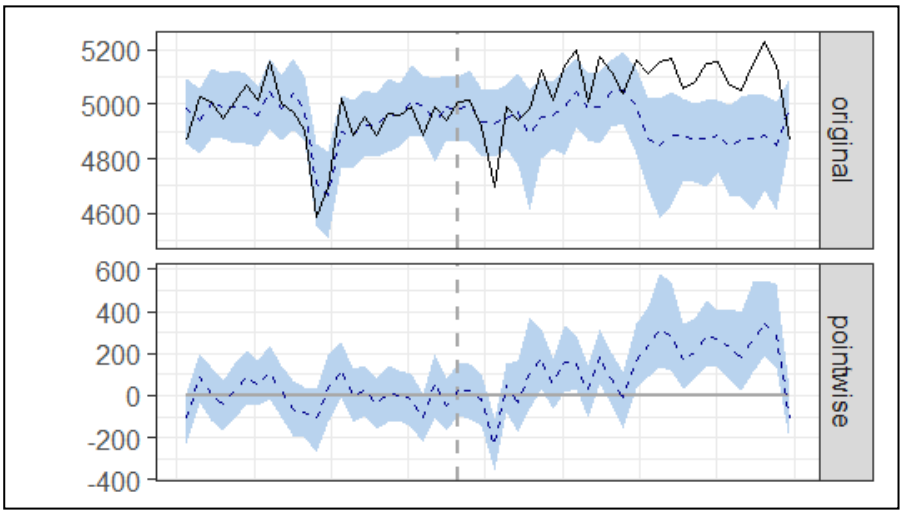

Figure 22: Average cost of hospitalisations in Western Australia, per week, without seasonal correction.

Footnote: Top panel displays average cost per hospitalisation for each week from October 2019 to end September 2020 (solid line) and the expected average cost based on the prior 5 years' service data (dashed line). Shaded areas represent 95% confidence intervals. Lower panel displays the weekly difference between observed and expected costs. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Cancer diagnoses

Tables and figures in this appendix are equivalent to those included in the main report, without adjustment for seasonality.

Overall

Table 23: Changes in counts of new cancer diagnoses in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, without seasonal correction.

Posterior inference	Average number of diagnoses per month				Cumulative number of diagnoses over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Actual	1,034				6,203			
Prediction	1,244	59	1,138	1,377	7,467	354	6,828	8,262
Absolute effect	-211	59	-343	-104	-1,264	354	-2,059	-625
Relative effect (%)	-17%	4%	-25%	-9%	-17%	4%	-25%	-9%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

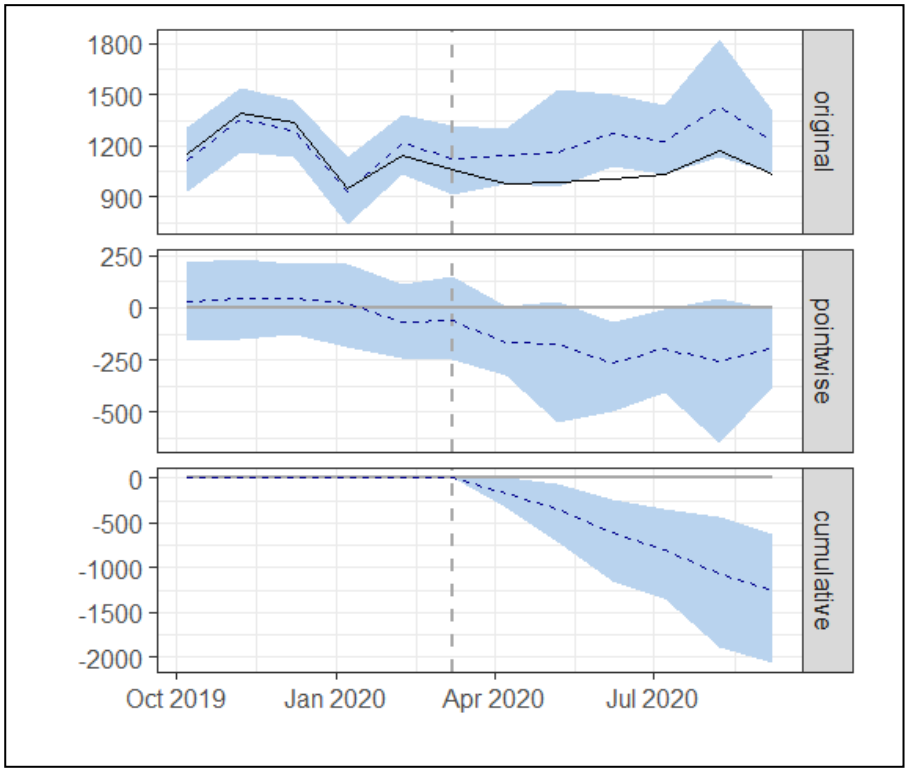

Figure 23: Monthly cancer diagnoses in Western Australia, without seasonal correction.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Sex

Table 24: Changes in counts of new cancer diagnoses in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, by sex, without seasonal correction

Posterior inference	Average number of diagnoses per month				Cumulative number of diagnoses over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Females								
Actual	444				2,663			
Prediction	537	17	504	569	3,221	101	3,024	3,415
Absolute effect	-93	17	-125	-60	-558	101	-752	-361
Relative effect (%)	-17%	3%	-22%	-12%	-17%	3%	-22%	-12%
Males								
Actual	588				3,528			
Prediction	670	44	550	738	4,019	263	3,297	4,427
Absolute effect	-82	44	-150	38	-491	263	-899	231
Relative effect (%)	-12%	6%	-20%	7%	-12%	6%	-20%	7%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

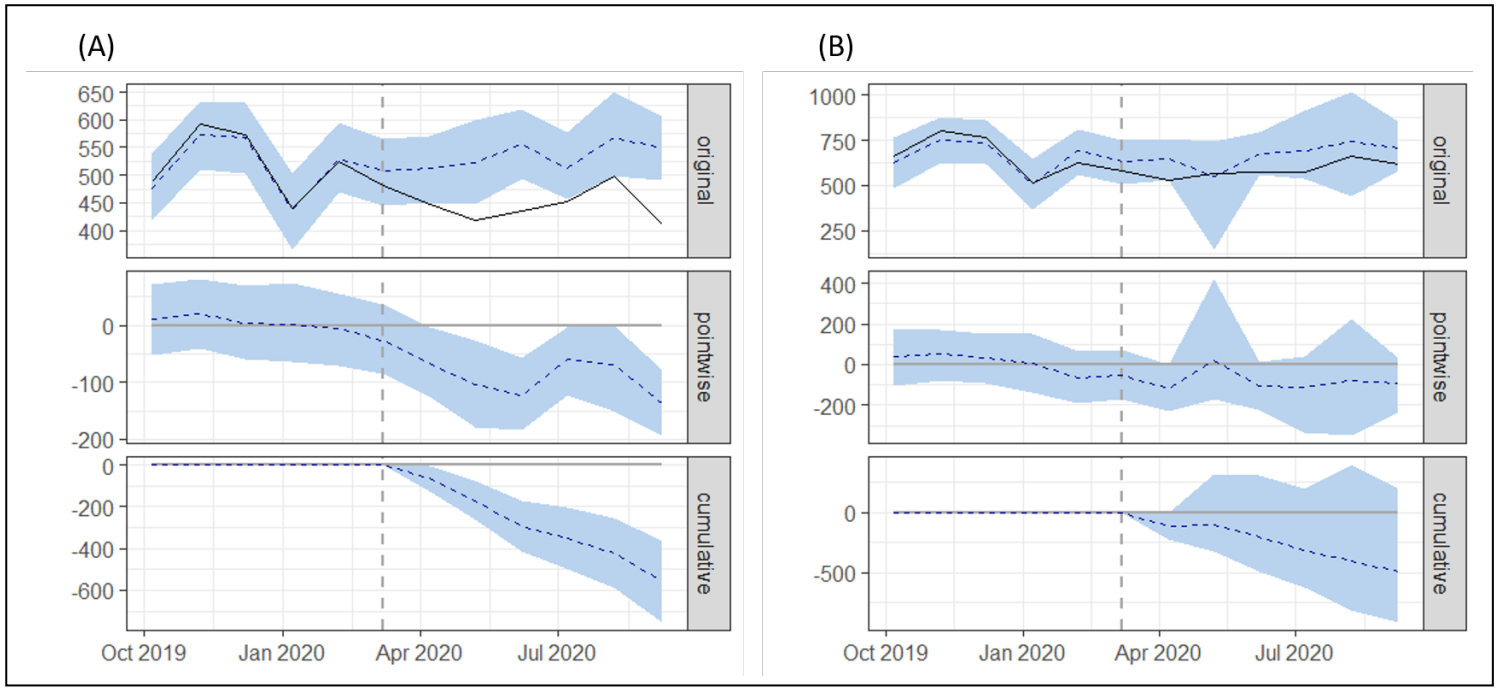

Figure 24: Monthly cancer diagnoses in Western Australia among (A) Females and (B) Males, without seasonal correction.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Socioeconomic status

Table 25: Changes in counts of new cancer diagnoses in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by socioeconomic status of patients' residential area, without seasonal correction.

Posterior inference	Average number of diagnoses per month				Cumulative number of diagnoses over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
High SES								
Actual	450				2,701			
Prediction	538	28	490	600	3,230	169	2,938	3,602
Absolute effect	-88	28	-150	-39	-529	169	-901	-237
Relative effect (%)	-16%	4%	-25%	-8%	-16%	4%	-25%	-8%
Medium SES								
Actual	298				1,785			
Prediction	339	15	309	369	2,031	91	1,854	2,215
Absolute effect	-41	15	-72	-11	-246	91	-430	-69
Relative effect (%)	-12%	4%	-19%	-4%	-12%	4%	-19%	-4%
Low SES								
Actual	286				1,716			
Prediction	336	14	307	362	2,015	84	1,843	2,172
Absolute effect	-50	14	-76	-21	-299	84	-456	-127
Relative effect (%)	-15%	4%	-21%	-7%	-15%	4%	-21%	-7%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

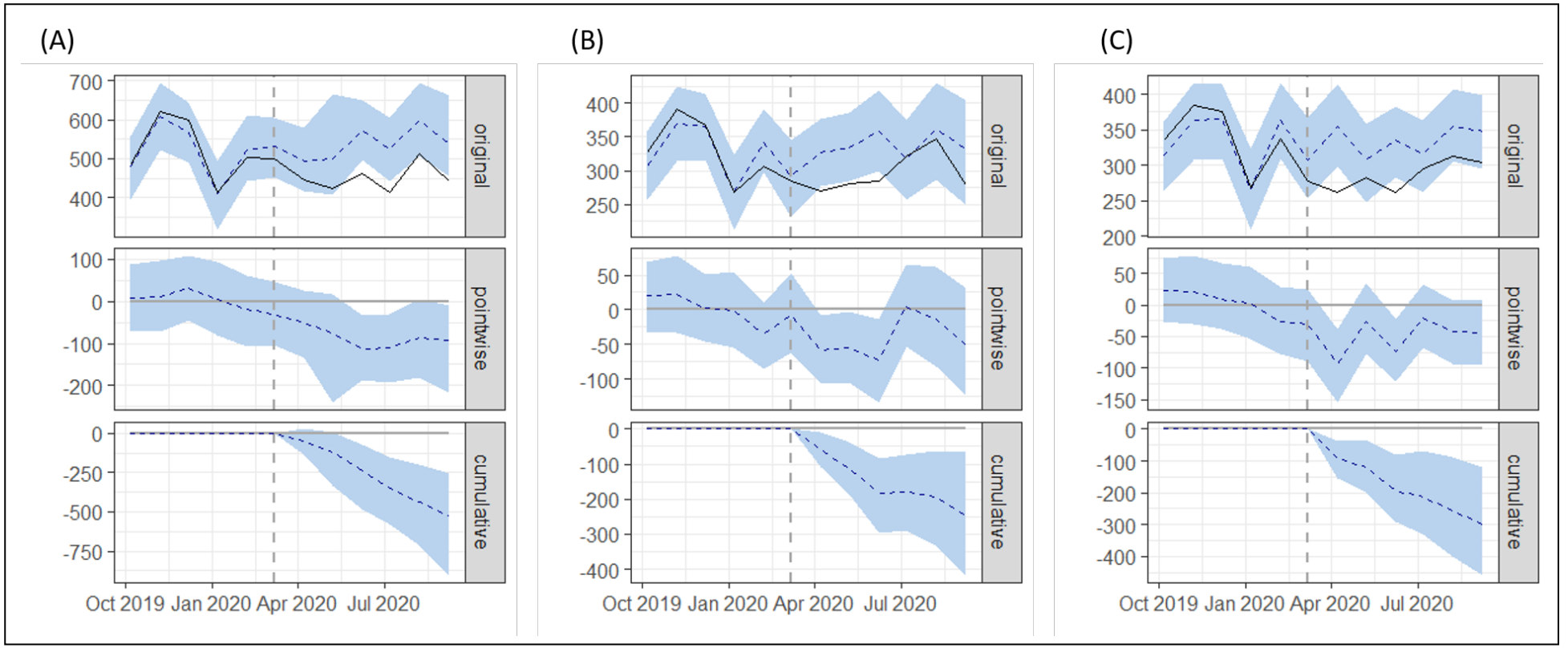

Figure 25: Monthly cancer diagnoses in Western Australia among residents of (A) High, (B) Medium and (C) Low socioeconomic status areas, without seasonal correction.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Age

Table 26: Changes in counts of new cancer diagnoses in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 by age group, without seasonal correction.

Posterior inference	Average number of diagnoses per month				Cumulative number of diagnoses over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Ages 19-44								
Actual	84				507			
Prediction	97	6	87	108	580	33	520	646
Absolute effect	-12	6	-23	-2	-73	33	-139	-13
Relative effect (%)	-12%	5%	-22%	-2%	-12%	5%	-22%	-2%
Ages 45-64								
Actual	352				2,109			
Prediction	413	19	382	452	2,477	114	2,291	2,711
Absolute effect	-61	19	-100	-30	-368	114	-602	-182
Relative effect (%)	-15%	4%	-22%	-8%	-15%	4%	-22%	-8%
Ages 65+								
Actual	590				3,542			
Prediction	723	33	657	786	4,340	199	3,941	4,716
Absolute effect	-133	33	-196	-67	-798	199	-1,174	-399
Relative effect (%)	-18%	4%	-25%	-10%	-18%	4%	-25%	-10%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

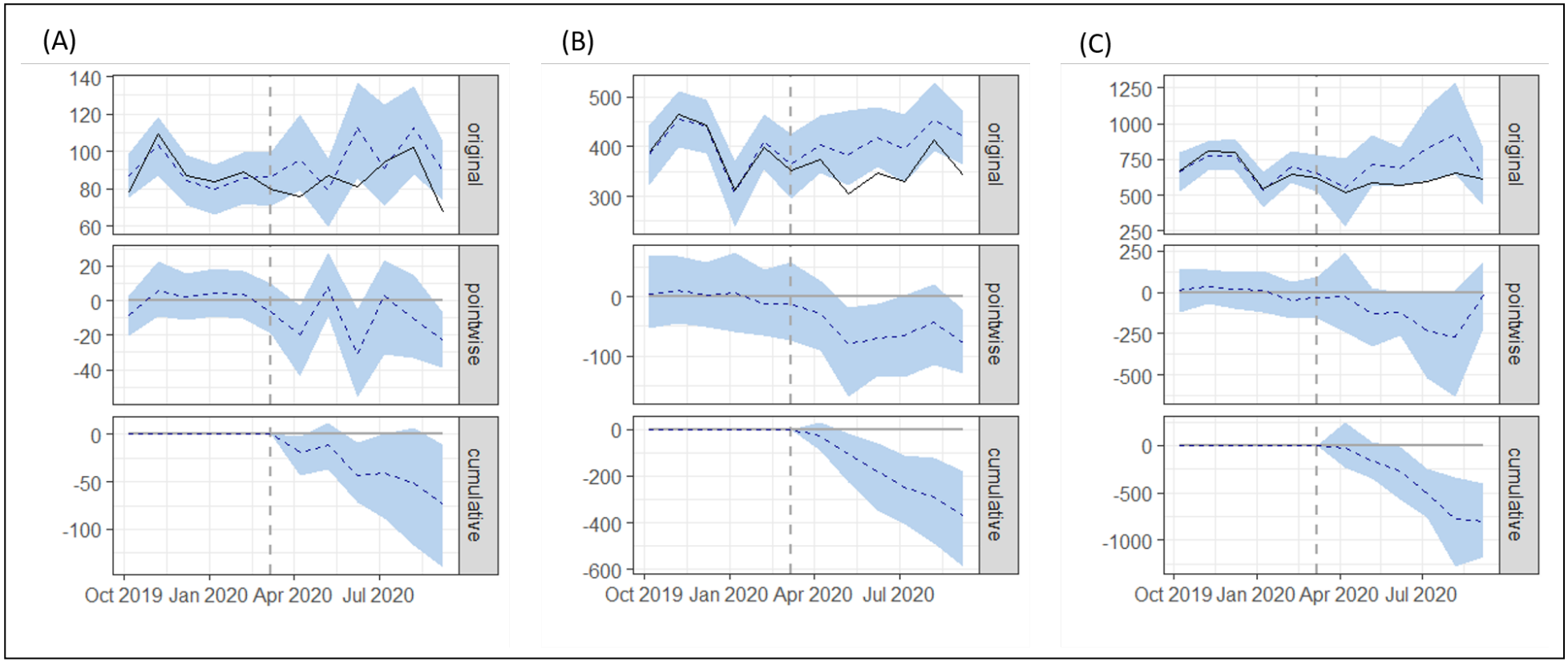

Figure 26: Monthly cancer diagnoses in Western Australia among patients aged (A) 19-44, (B) 45-64, and (C) 65+, without seasonal correction.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Remoteness

Table 27: Changes in counts of new cancer diagnoses in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, by remoteness of patient residence, without seasonal correction.

Posterior inference	Average number of diagnoses per month				Cumulative number of diagnoses over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Metropolitan areas								
Actual	798				4,791			
Prediction	952	42	877	1,034	5,713	251	5,261	6,202
Absolute effect	-154	42	-235	-78	-922	251	-1411	-470
Relative effect (%)	-16%	4%	-23%	-9%	-16%	4%	-23%	-9%
Non-metropolitan areas								
Actual	235				1,412			
Prediction	283	14	256	310	1,698	83	1,535	1,860
Absolute effect	-48	14	-75	-21	-286	83	-448	-123
Relative effect (%)	-17%	4%	-24%	-8%	-17%	4%	-24%	-8%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

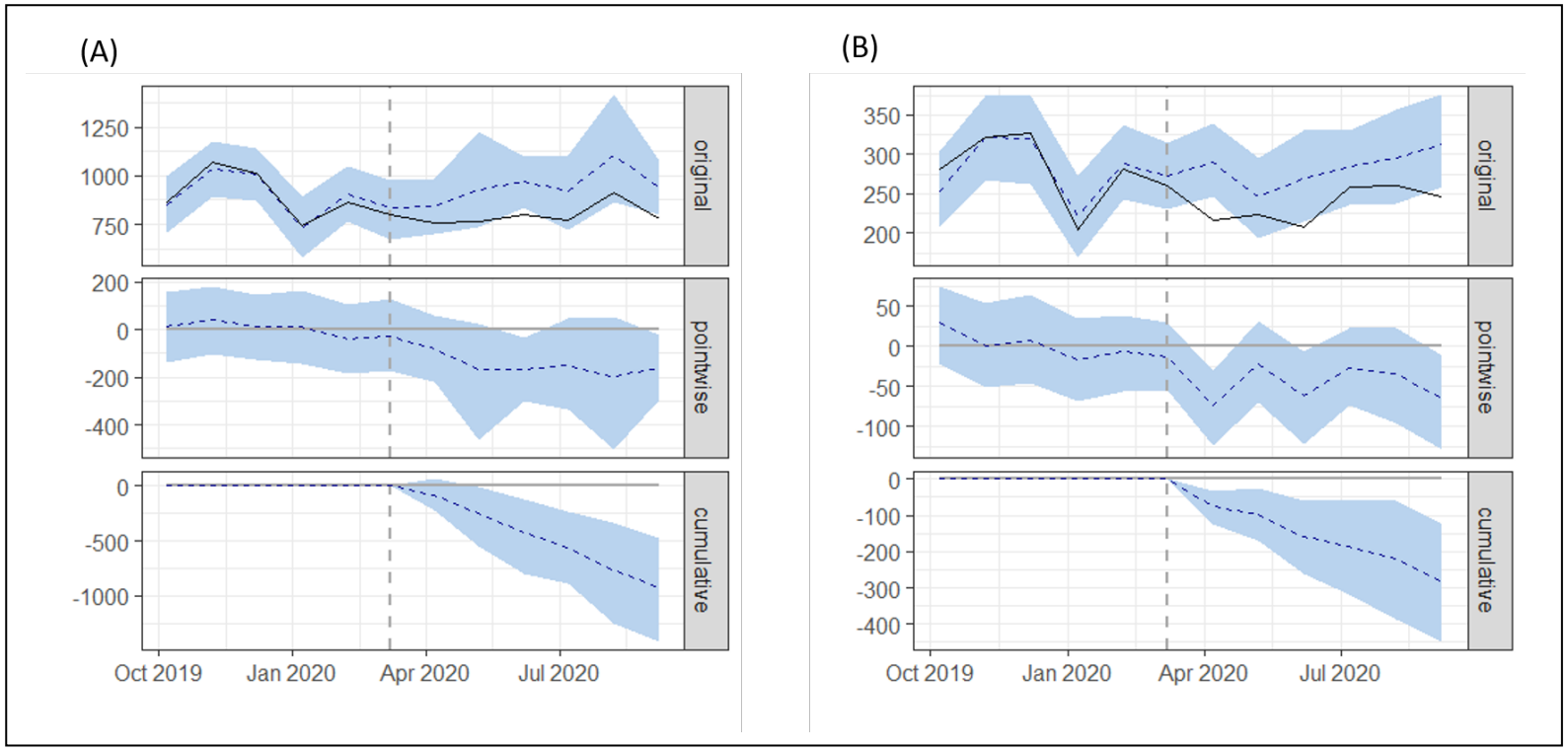

Figure 27: Monthly cancer diagnoses in Western Australia among patients living in (A) Metropolitan and (B) Non-Metropolitan areas, without seasonal correction.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Cancer type

Table 28: Changes in counts of new cancer diagnoses in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020 for the 5 most common cancer types, without seasonal correction.

Posterior inference	Average number of diagnoses per month				Cumulative number of diagnoses over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Breast								
Actual	142				852			
Prediction	167	4	160	174	1,000	21	960	1,046
Absolute effect	-25	4	-32	-18	-148	21	-194	-108
Relative effect (%)	-15%	2%	-19%	-11%	-15%	2%	-19%	-11%
Prostate								
Actual	199				1,195			
Prediction	226	17	194	258	1,356	104	1,164	1,547
Absolute effect	-27	17	-59	5	-161	104	-352	31
Relative effect (%)	-11%	7%	-23%	3%	-11%	7%	-23%	3%
Melanoma								
Actual	106				636			
Prediction	128	14	100	157	770	86	601	940
Absolute effect	-22	14	-51	6	-134	86	-304	35
Relative effect (%)	-16%	10%	-32%	6%	-16%	10%	-32%	6%
Colorectal								
Actual	90				540			
Prediction	93	13	69	114	558	75	412	684
Absolute effect	-3	13	-24	21	-18	75	-144	128
Relative effect (%)	-1%	14%	-21%	31%	-1%	14%	-21%	31%
Lung								
Actual	79				476			
Prediction	104	6	93	115	621	34	556	690
Absolute effect	-24	6	-36	-13	-145	34	-214	-80
Relative effect (%)	-23%	4%	-31%	-14%	-23%	4%	-31%	-14%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

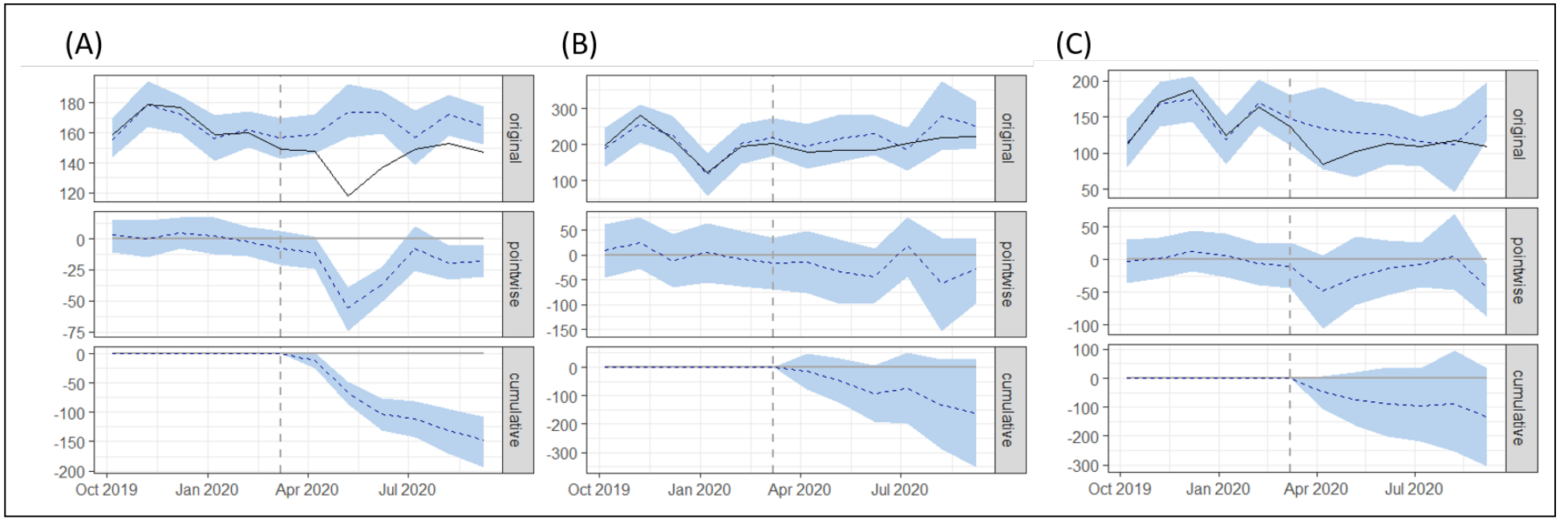

Figure 28: Monthly diagnoses in Western Australia of (A) Breast cancer, (B) Prostate cancer, (C) Melanoma, (D) Colorectal cancer, and (E) Lung cancer, without seasonal correction.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

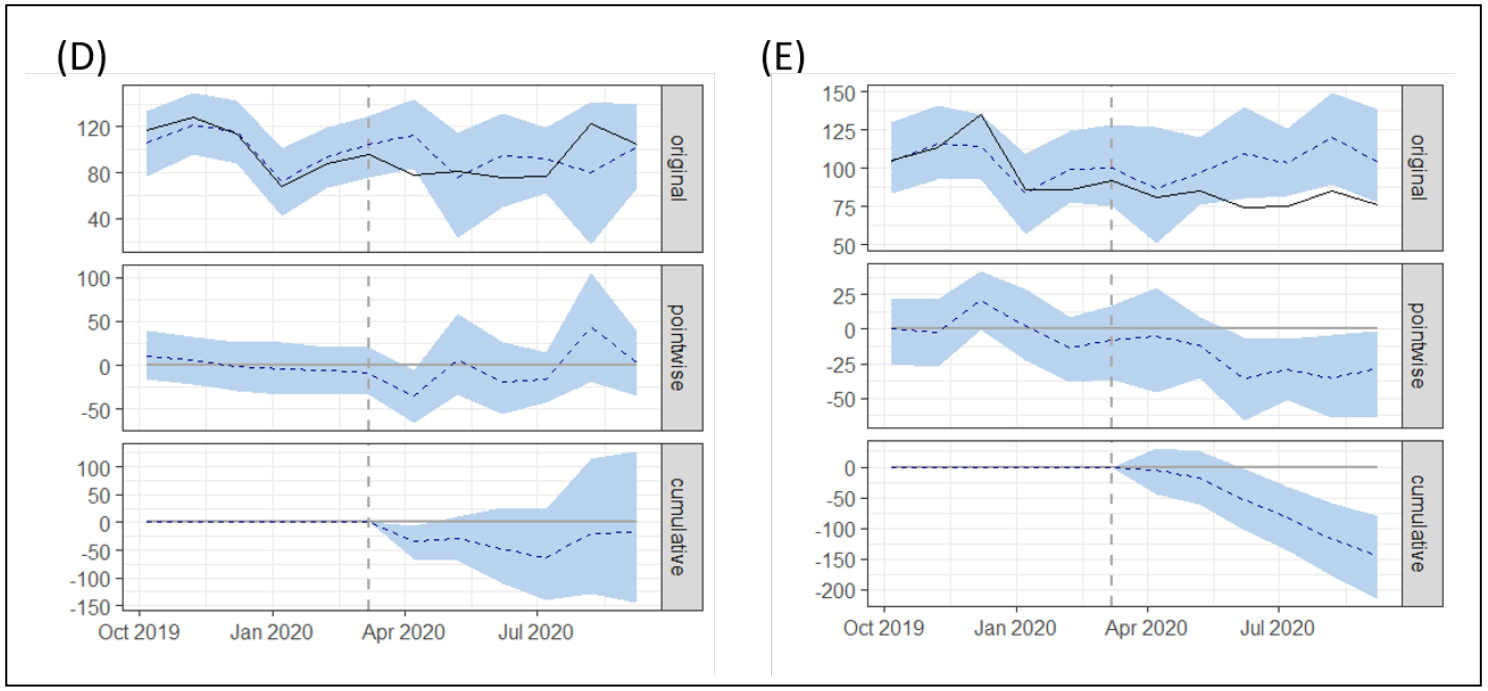

Figure 28 cont.: Monthly diagnoses in Western Australia of (A) Breast cancer, (B) Prostate cancer, (C) Melanoma, (D) Colorectal cancer, and (E) Lung cancer, without seasonal correction.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Deaths

Overall

Table 29: Changes in counts of all-cause deaths in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, without seasonal correction.

Posterior inference	Average number of deaths per month				Cumulative number of deaths over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Actual	1,297				7,781			
Prediction	1,312	37	1,249	1,399	7,873	223	7,492	8,396
Absolute effect	-15	37	-102	48	-92	223	-615	289
Relative effect (%)	-1%	3%	-7%	4%	-1%	3%	-7%	4%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

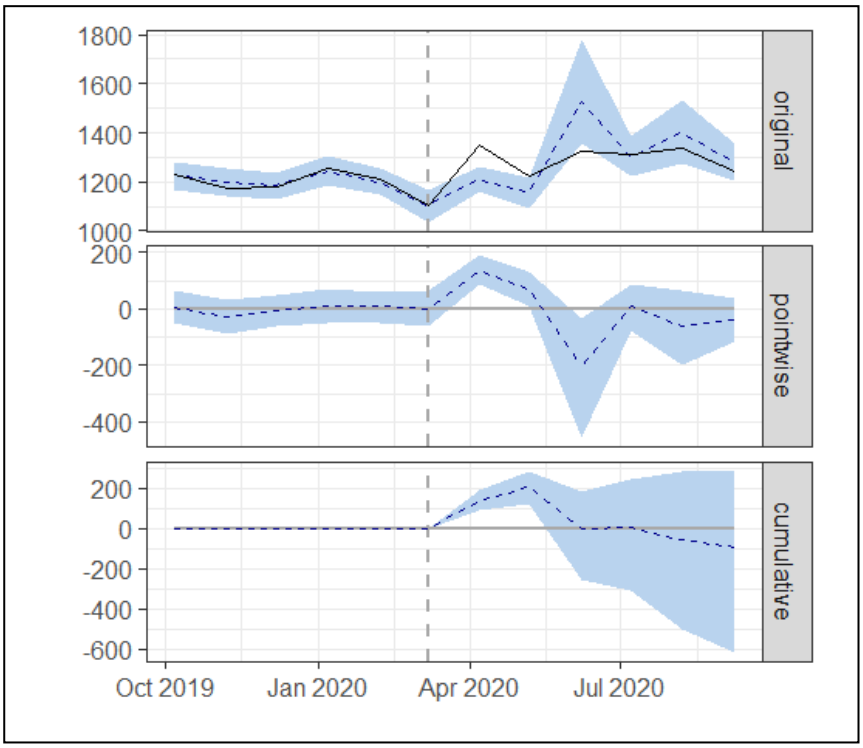

Figure 29: Monthly all-cause deaths in Western Australia following the introduction of COVID-19 control measures, without seasonal correction.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Sex

Table 30: Changes in counts of all-cause deaths in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, by sex, without seasonal correction.

Posterior inference	Average number of deaths per month				Cumulative number of deaths over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Females								
Actual	615				3,690			
Prediction	590	15	564	624	3,540	92	3,386	3,747
Absolute effect	25	15	-10	51	150	92	-57	304
Relative effect (%)	4%	3%	-1%	9%	4%	3%	-1%	9%
Males								
Actual	681				4,088			
Prediction	729	45	632	821	4,376	272	3,794	4,923
Absolute effect	-48	45	-139	49	-288	272	-835	294
Relative effect (%)	-6%	6%	-17%	8%	-6%	6%	-17%	8%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

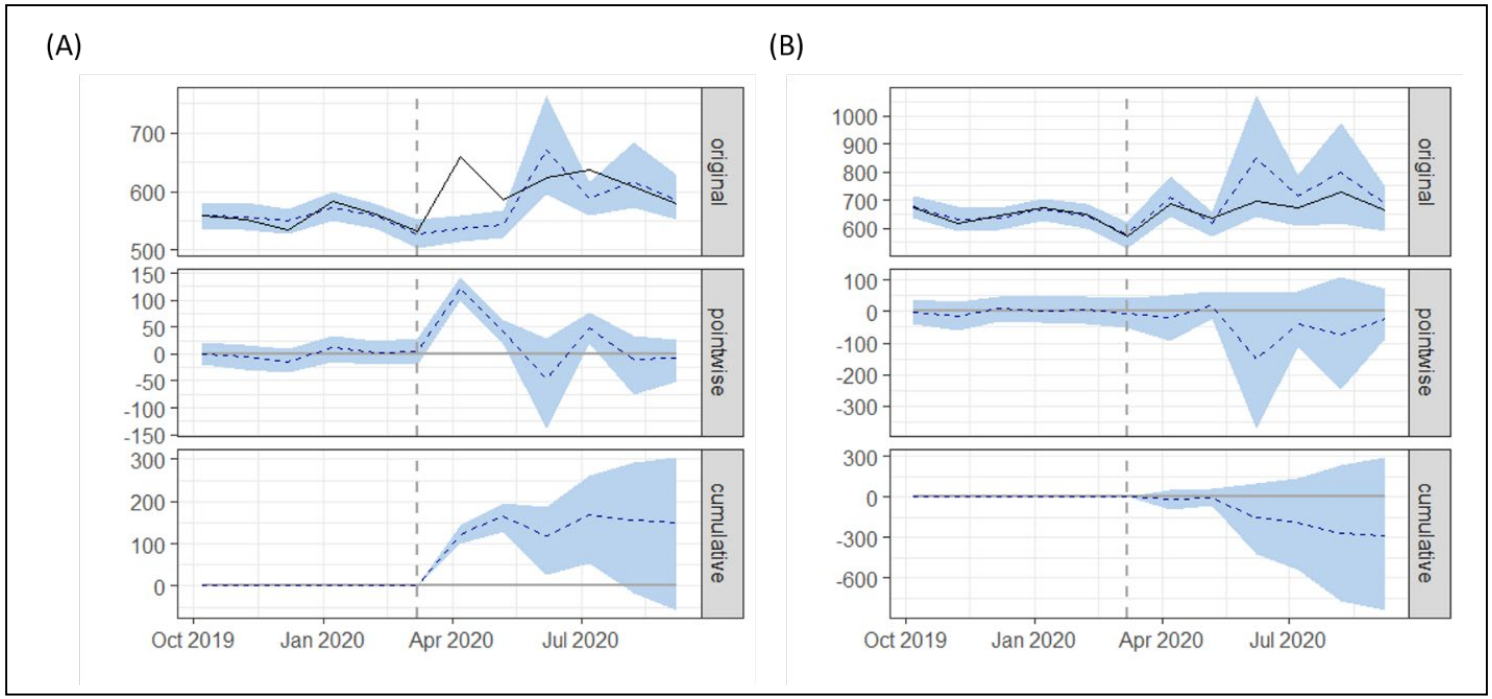

Figure 30: Monthly all-cause deaths in Western Australia following the introduction of COVID-19 public health measures, among (A) Females and (B) Males, without seasonal correction.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Age

Table 31: Changes in counts of all-cause deaths in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, by age, without seasonal correction.

Posterior inference	Average number of deaths per month				Cumulative number of deaths over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Ages 19-44								
Actual	64				382			
Prediction	62	2	58	65	370	11	348	389
Absolute effect	2	2	-1	6	12	11	-7	34
Relative effect (%)	3%	3%	-2%	10%	3%	3%	-2%	10%
Ages 45-64								
Actual	181				1,086			
Prediction	177	4	169	184	1,059	23	1,014	1,106
Absolute effect	5	4	-3	12	27	23	-20	72
Relative effect (%)	3%	2%	-2%	7%	3%	2%	-2%	7%
Ages 65 and above								
Actual	1,041				6,244			
Prediction	1,164	105	968	1,338	6,986	628	5,808	8,030
Absolute effect	-124	105	-298	73	-742	628	-1,786	436
Relative effect (%)	-10%	8%	-22%	8%	-10%	8%	-22%	8%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

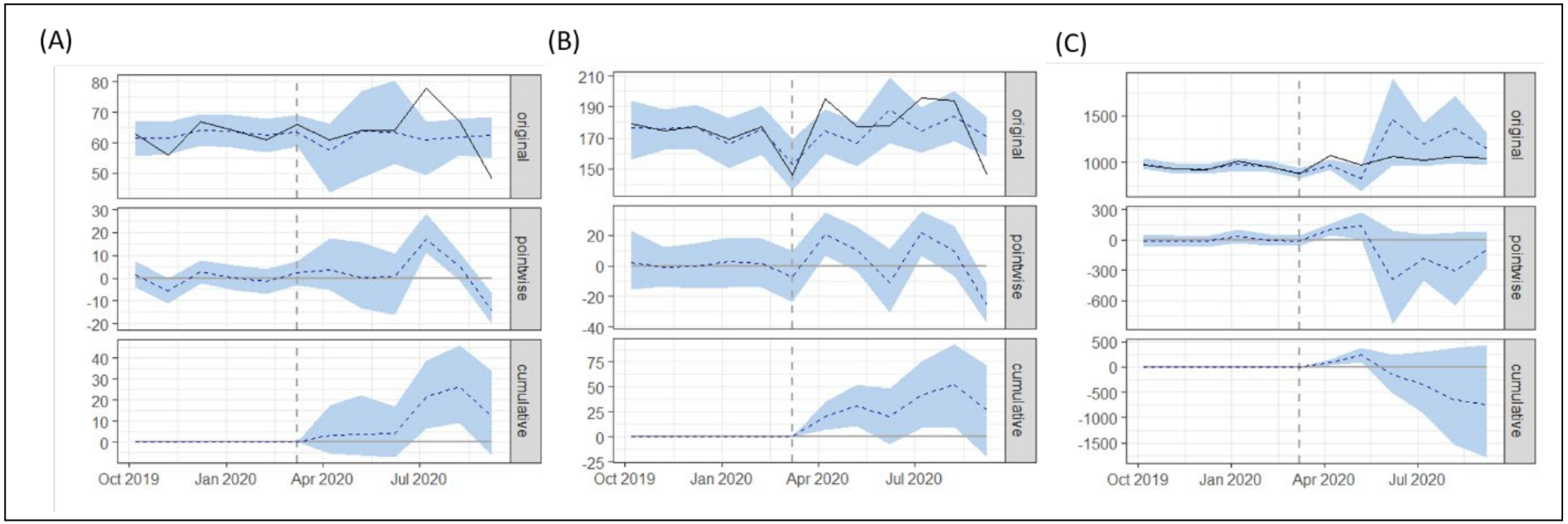

Figure 31: Monthly all-cause deaths in Western Australia following the introduction of COVID-19 public health measures amongst those aged (A) 19-44, (B) 45-64, and (C) 65+, without seasonal correction.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Socioeconomic status

Table 32: Changes in counts of all-cause deaths in Western Australia following the introduction of strict COVID-19 public health measures on 23rd March 2020, by socio-economic status of area of residence, without seasonal correction

Posterior inference	Average number of deaths per month				Cumulative number of deaths over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
High SES								
Actual	454				2,723			
Prediction	430	11	409	451	2,580	68	2,454	2,703
Absolute effect	24	11	3	45	143	68	20	269
Relative effect (%)	6%	3%	0.7%	11%	6%	3%	0.7%	11%
Med SES								
Actual	381				2,288			
Prediction	403	24	334	442	2,416	146	2,005	2,654
Absolute effect	-21	24	-61	47	-128	146	-366	283
Relative effect (%)	-5%	6%	-14%	14%	-5%	6%	-14%	14%
Low SES								
Actual	508				3,046			
Prediction	533	11	515	557	3,199	63	3,089	3,345
Absolute effect	-26	11	-50	-7	-153	63	-299	-43
Relative effect (%)	-5%	2%	-8.9%	-1%	-5%	2%	-8.9%	-1%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

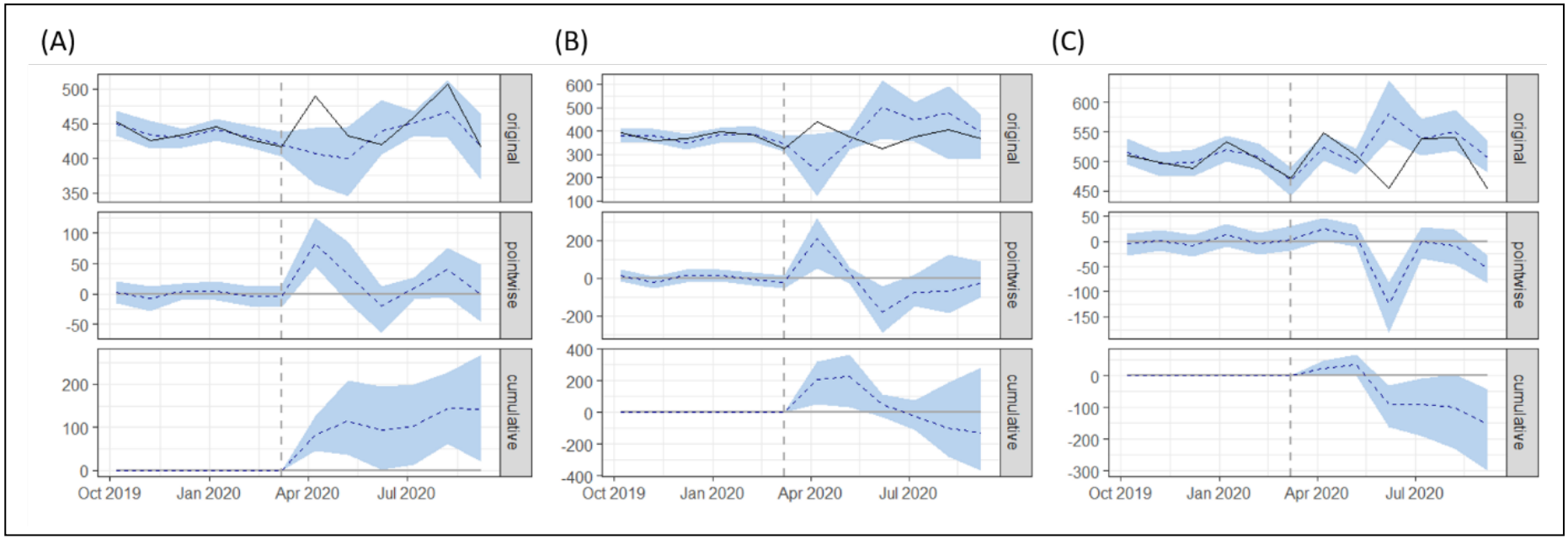

Figure 32: Monthly all-cause deaths in Western Australia following the introduction of COVID-19 public health measures, amongst those living in areas of (A) High, (B) Medium, and (C) Low socioeconomic status, without seasonal correction.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Remoteness

Table 33: Changes in counts of all-cause deaths in Western Australia following the introduction of strict COVID-19 public health measures on 23 March 2020, by remoteness of area of residence, without seasonal correction

Posterior inference	Average number of deaths per monthly				Cumulative number of deaths over follow up			
	Count	SD	95% CI		Count	SD	95%CI	
Metropolitan								
Actual	931				5,584			
Prediction	927	70	796	1,100	5,563	418	4,774	6,602
Absolute effect	4	70	-170	135	21	418	-1,018	810
Relative effect (%)	0.9%	7%	-15%	17%	0.9%	7%	-15%	17%
Non-metropolitan								
Actual	269				1,614			
Prediction	273	10	252	292	1,640	59	1,513	1,750
Absolute effect	-4	10	-23	17	-26	59	-136	101
Relative effect (%)	-1%	4%	-8%	7%	-1%	4%	-7.8%	7%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

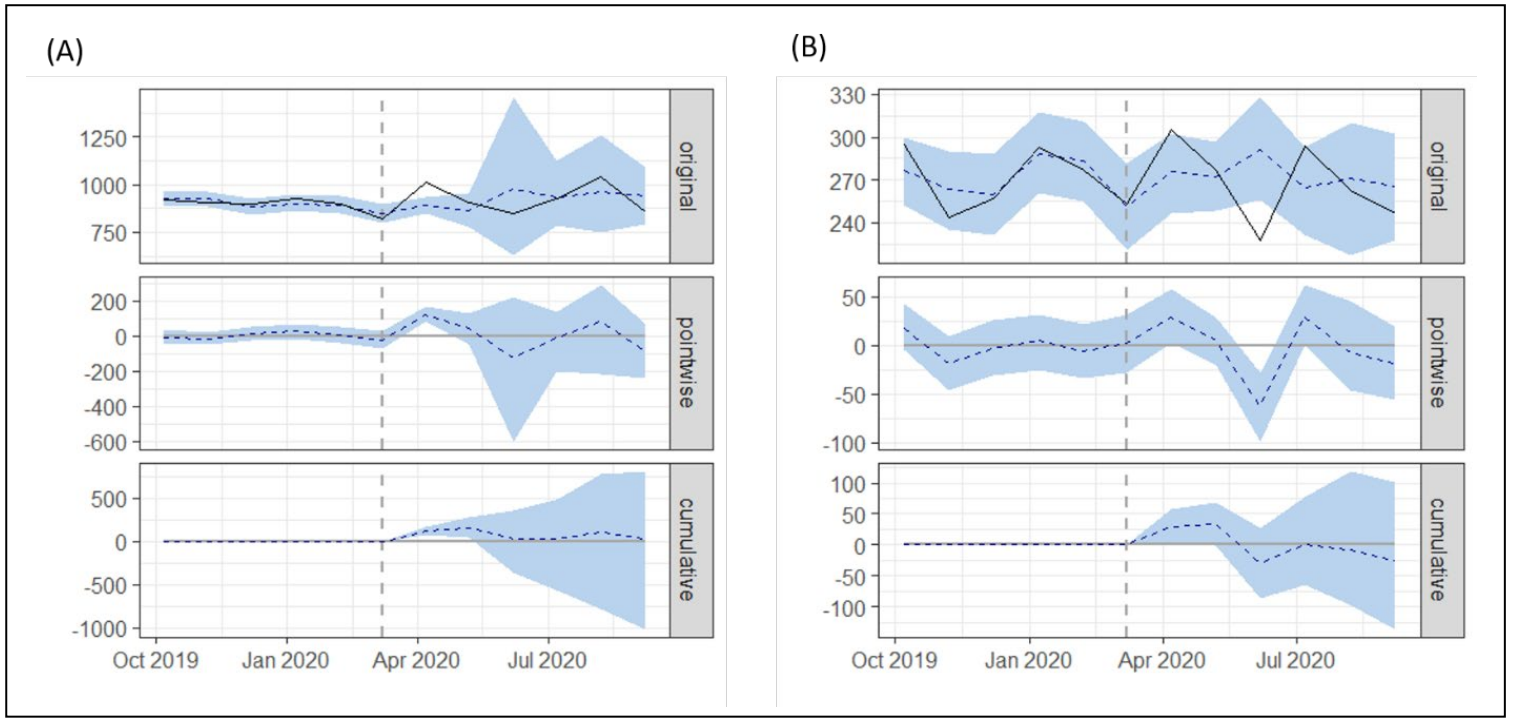

Figure 33: Monthly all-cause deaths in Western Australia following the introduction of COVID-19 public health measures, amongst those living in (A) Metropolitan and (B) Non-metropolitan areas.

Footnote: Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts, and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures on 23 March 2020.

Medicare-funded services

Medicare funded services, by state/territory

Table 34: Changes in counts of Medicare item claims in Australia following the introduction of strict COVID-19 public health measures in March 2020, by state/territory, short run analysis, without seasonal correction.

Posterior inference	Average number of services per month				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
ACT								
Actual	522,318				3,656,228			
Prediction	519,169	17,517	487,206	555,720	3,634,180	122,621	3,410,445	3,890,037
Absolute effect	3,150	17,517	-33,401	35,112	22,048	122,621	-233,809	245,783
Relative effect (%)	0.6%	3%	-6%	7%	0.6%	3%	-6%	7%
NSW								
Actual	12,000,000				87,000,000			
Prediction	12,000,000	393,961	12,000,000	13,000,000	87,000,000	2,757,725	83,000,000	91,000,000
Absolute effect	29,534	393,961	-553,304	648,162	206,741	2,757,725	-3,873,125	4,537,133
Relative effect (%)	0.2%	3%	-4%	5%	0.2%	3%	-4%	5%
NT								
Actual	240,429				1,683,001			
Prediction	249,817	10,716	233,479	269,993	1,748,719	75,010	1,634,353	1,889,951
Absolute effect	-9,388	10,716	-29,564	6,950	-65,718	75,010	-206,950	48,648
Relative effect (%)	-4%	4%	-12%	3%	-4%	4%	-12%	3%
QLD								
Actual	7,800,000				55,000,000			
Prediction	7,800,000	244,299	7,400,000	8,300,000	55,000,000	1,710,093	52,000,000	58,000,00
Absolute effect	-49,411	244,299	-453,391	396,519	-345,876	1,710,093	-3,173,739	2,775,633
Relative effect (%)	-0.6%	3%	-6%	5%	-0.6%	3%	-6%	5%

Posterior inference	Average number of services per month				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
SA								
Actual	2,700,000				19,000,000			
Prediction	2,700,000	89,150	2,500,000	2,900,000	19,000,000	624,047	18,000,000	20,000,000
Absolute effect	39,194	89,150	-159,798	195,923	274,359	624,047	-1,118,584	1,371,463
Relative effect (%)	2%	3%	-6%	7%	2%	3%	-6%	7%
TAS								
Actual	742,644				5,198,509			
Prediction	750,117	22,046	707,994	792,200	5,250,819	154,325	4,955,961	5,545,398
Absolute effect	-7,473	22,046	-49,556	34,650	-52,310	154,325	-346,889	242,548
Relative effect (%)	-1%	3%	-7%	5%	-1%	3%	-7%	5%
VIC								
Actual	9,300,000				65,000,000			
Prediction	9,700,000	274,610	9,100,000	10,000,000	68,000,000	1,922,270	64,000,000	71,000,000
Absolute effect	-415,559	274,610	-867,048	122,813	-2,908,913	1,922,270	-6,069,338	859,691
Relative effect (%)	-4%	3%	-9%	1%	-4%	3%	-9%	1%
WA								
Actual	3,500,000				24,000,000			
Prediction	3,500,000	84,151	3,400,000	3,700,000	24,000,000	589,054	24,000,000	26,000,000
Absolute effect	-87,930	84,151	-248,052	78,130	-615,512	589,054	-1,736,364	546,909
Relative effect (%)	-2%	2%	-7%	2%	-2%	2%	-7%	2%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval

Table 35: Changes in counts of Medicare item claims in Australia following the introduction of strict COVID-19 public health measures in March 2020, by state/territory, long run analysis, without seasonal correction.

Posterior inference	Average number of services per month				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
ACT								
Actual	580,000				18,000,000			
Prediction	520,000	8,826	510,000	54,000	16,000,000	264,785	15,000,000	16,000,000
Absolute effect	60,110	8,826	42,337	76,885	1,803,285	264,785	1,270,120	2,306,561
Relative effect (%)	11%	2%	8 %	15%	11%	2%	8%	15%
NSW								
Actual	14,000,000				410,000,000			
Prediction	13,000,000	207,408	12,000,000	13,000,000	380,000,000	6,222,237	370,000,000	390,000,000
Absolute effect	1,100,000	207,408	71,000	1,500,000	33,000,000	6,222,237	21,000,000	45,000,000
Relative effect (%)	9%	2%	6%	12%	9%	2%	6%	12%
NT								
Actual	236,805				7,104,136			
Prediction	259,843	4,734	250,691	268,937	7,795,298	142,016	7,520,715	8,068,124
Absolute effect	-23,039	4,734	-32,133	-13,886	-691,162	142,016	-963,988	-416,579
Relative effect (%)	-9%	2%	-12%	-5%	-9%	2%	-12%	-5%
QLD								
Actual	8,100,000				240,000,000			
Prediction	7,900,000	125,633	7,600,000	8,100,000	240,000,000	3,768,978	230,000,000	240,000,000
Absolute effect	195,477	125,633	-62,097	440,000	5,864,310	3,768,978	-1,862,899	13,000,000
Relative effect (%)	3%	2%	-08%	6%	3%	2%	-0.8%	6%
SA								
Actual	2,800,000				83,000,000			
Prediction	2,700,000	49,112	2,600,000	2,800,000	81,000,000	1,473,351	78,000,000	84,000,000
Absolute effect	58,595	49,112	-40,247	150,691	1,757,863	1,473,351	-1,207,422	4,520,741
Relative effect (%)	2%	2%	-1%	6%	2%	2%	-1%	6%

Posterior inference	Average number of services per month				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
TAS								
Actual	760,000				23,000,000			
Prediction	750,000	13,258	730,000	780,000	23,000,000	397,726	22,000,000	23,000,000
Absolute effect	8,364	13,258	-19,041	32,716	250,935	397,726	-571,224	981,465
Relative effect (%)	1%	2%	-2%	4%	1%	2%	-2%	4%
VIC								
Actual	10,000,000				310,000,000			
Prediction	9,700,000	167,615	9,400,000	10,000,000	290,000,000	5,028,464	280,000,000	300,000,000
Absolute effect	650,000	167,615	310,662	970,000	20,000,000	5,028,464	9,319,855	29,000,000
Relative effect (%)	7%	2%	3%	10%	7%	2%	3%	10%
WA								
Actual	3,600,000				110,000,000			
Prediction	3,600,000	70,864	3,500,000	3,800,000	110,000,000	2,125,930	110,000,000	110,000,000
Absolute effect	-48,354	70,864	-187,522	78,808	-1,450,624	2,125,930	-5,625,672	2,364,242
Relative effect (%)	-1%	2%	-5%	2%	-1%	2%	-5%	2%

Footnote: Follow-up period ends at the end of August 2022. SD: standard deviation; CI: confidence interval

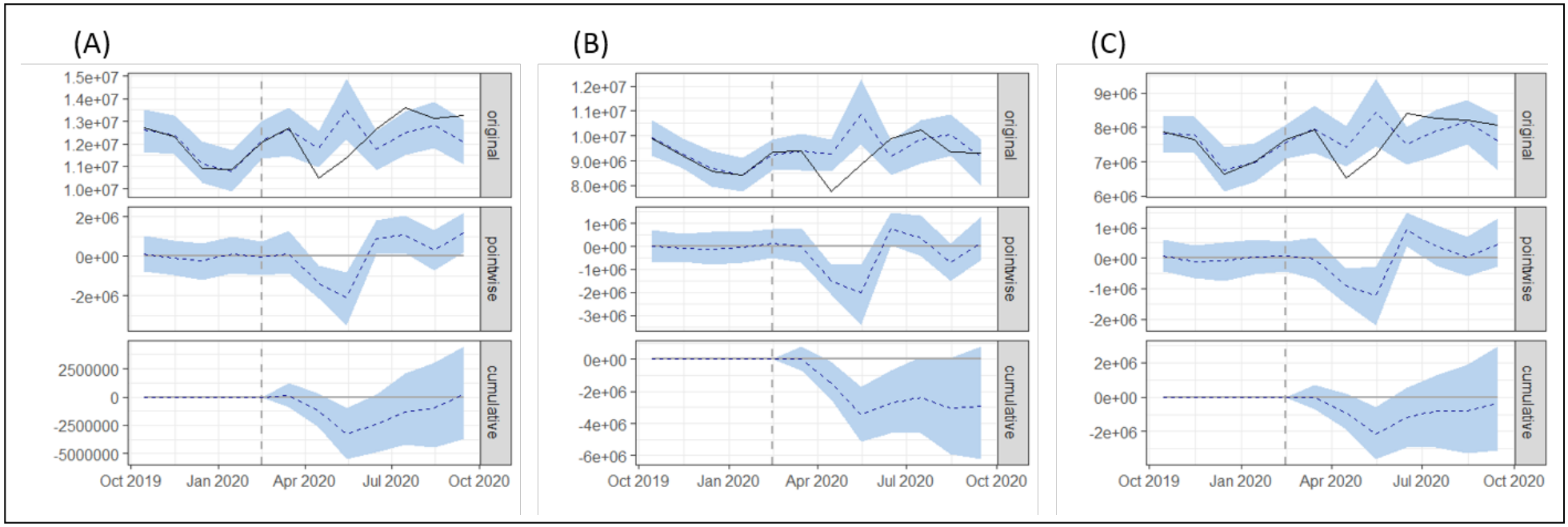

Figure 34: Use of Medicare-funded services following the introduction of COVID-19 public health measures, short-run analysis, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory and (H) Australian Capital Territory, without seasonal correction.

Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

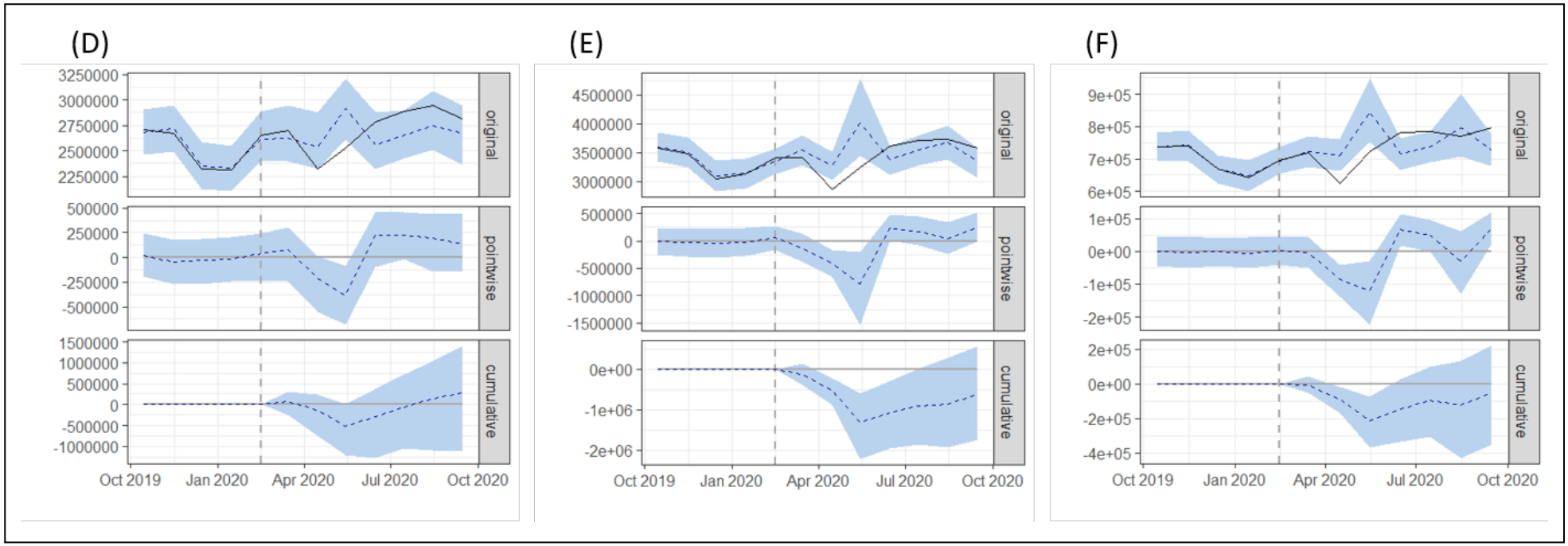

Figure 34 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, short-run analysis, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory and (H) Australian Capital Territory, without seasonal correction.

Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

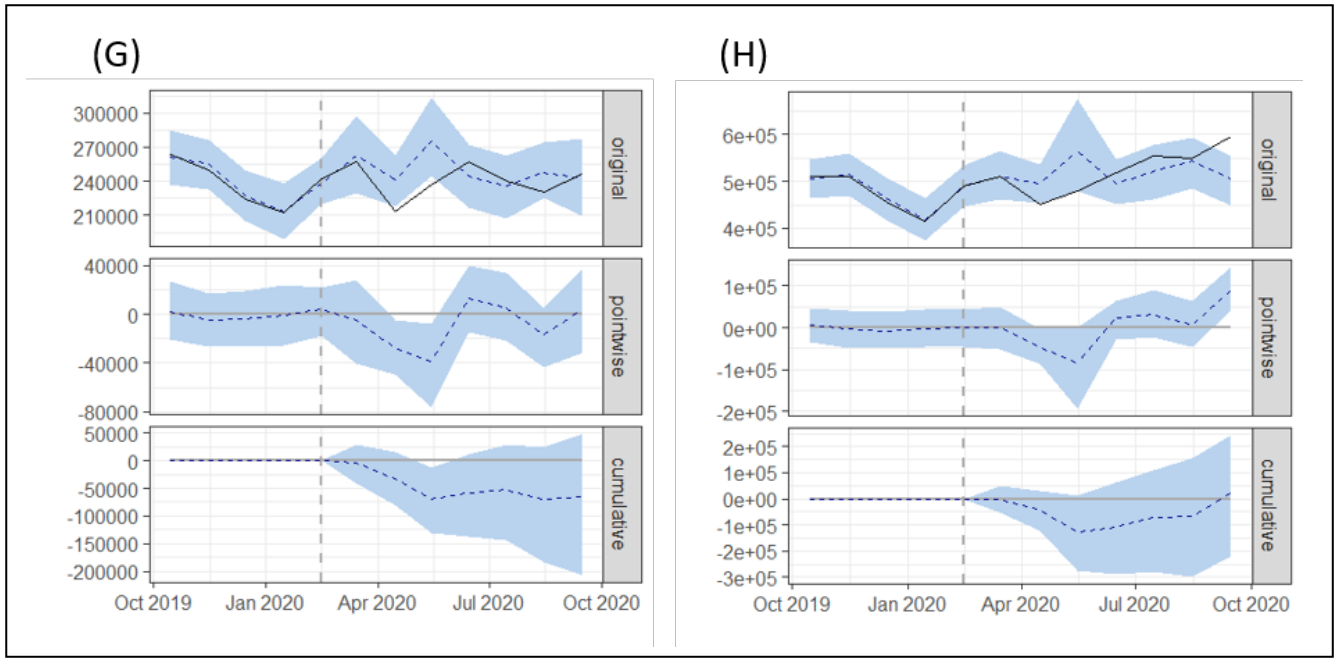

Figure 34 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, short-run analysis, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory and (H) Australian Capital Territory, without seasonal correction.

Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

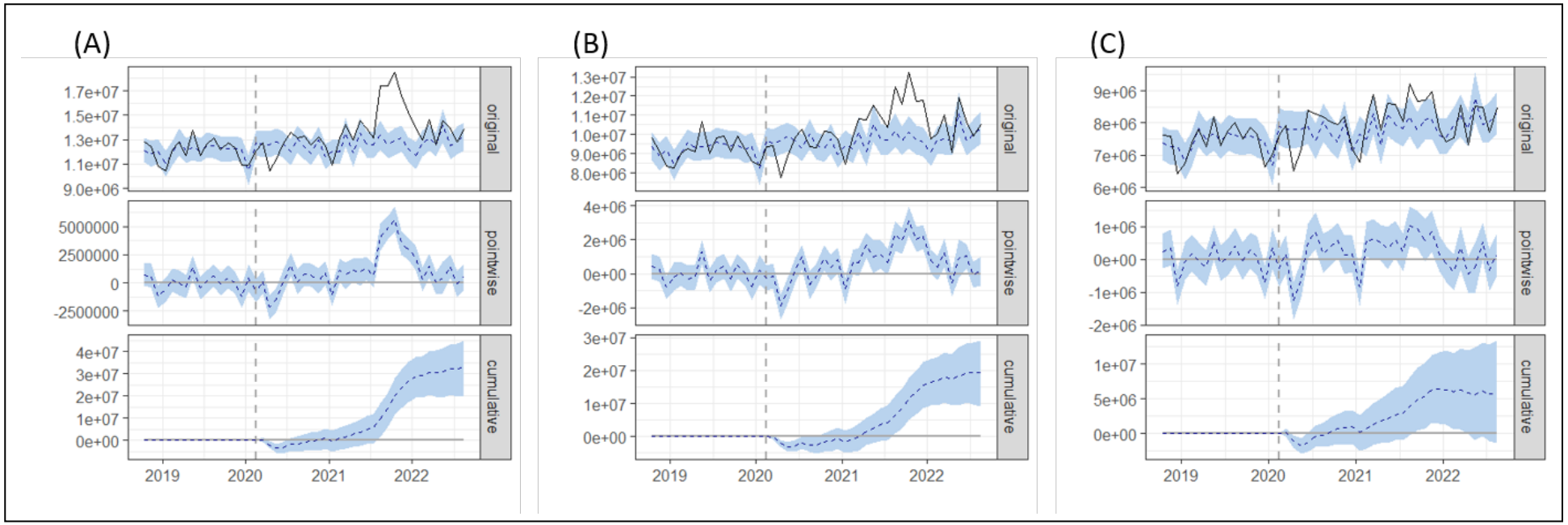

Figure 35: Use of Medicare-funded services following the introduction of COVID-19 public health measures, short-run analysis, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory and (H) Australian Capital Territory, without seasonal correction.

Top panel displays monthly counts observed from October 2014 to August 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

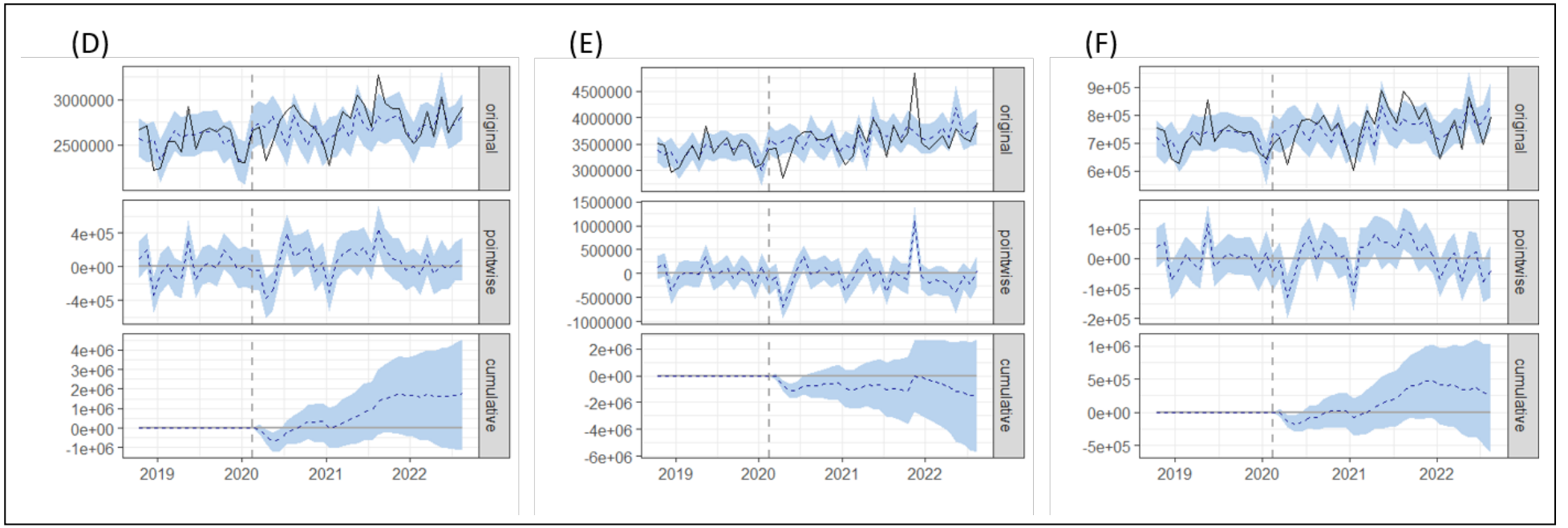

Figure 35 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, short-run analysis, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory and (H) Australian Capital Territory, without seasonal correction.

Top panel displays monthly counts observed from October 2014 to August 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

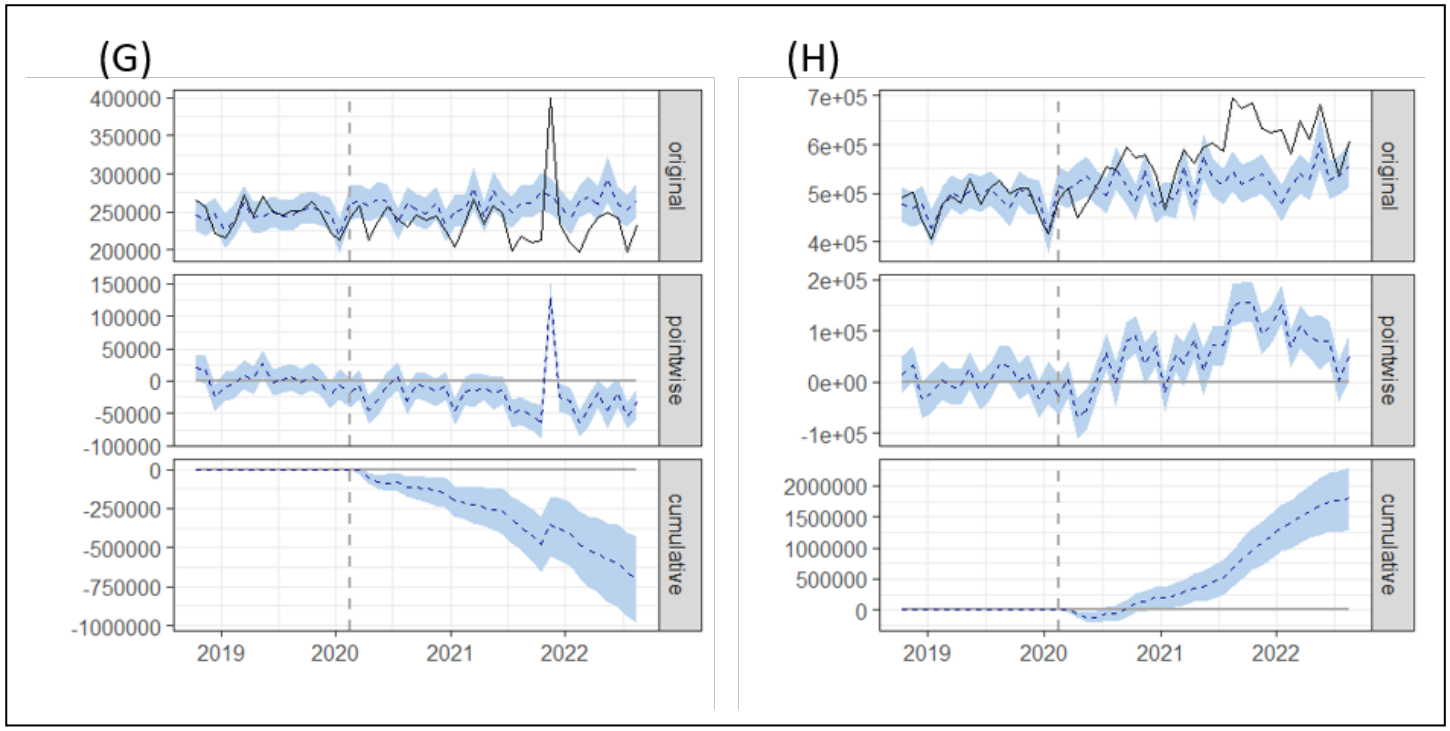

Figure 35 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, short-run analysis, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory and (H) Australian Capital Territory, without seasonal correction.

Top panel displays monthly counts observed from October 2014 to August 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

Table 36: Changes in counts of Medicare item claims in Australia following the introduction of strict COVID-19 public health measures in March 2020, by type of service, short run analysis, without seasonal correction

Posterior inference	Average number of services per month				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
Allied Health								
Actual	114,430				801,011			
Prediction	117,693	6,052	106,635	130,530	823,850	42,364	746,445	913,710
Absolute effect	-3,263	6,052	-16,000	7,795	-22,839	42,364	-112,699	54,566
Relative effect (%)	-3%	5%	-14%	7%	-3%	5%	-14%	7%
Dental								
Actual	21,086				147,599			
Prediction	27,326	1,632	23,928	30,435	191,279	11,421	167,497	213,048
Absolute effect	-6,240	1,632	-9,350	-2,843	-43,680	11,421	-65,449	-19,898
Relative effect (%)	-23%	6%	-34%	-10%	-23%	6%	-34%	-10%
Diagnostic imaging								
Actual	210,359				1,472,515			
Prediction	221,040	6,810	208,133	234,704	1,547,279	47,670	1,456,928	1,642,928
Absolute effect	-10,681	6,810	-24,345	2,227	-74,764	47,670	-170,413	15,587
Relative effect (%)	-5%	3%	-11%	1%	-5%	3%	-11%	1 %
Diagnostic procedures								
Actual	47,199				330,393			
Prediction	58,911	2,561	54,191	64,233	412,376	17,928	379,339	449,634
Absolute effect	-11,712	2,561	-17,034	-6,992	-81,983	17,928	-119,241	-48,946
Relative effect (%)	-20%	4%	-29%	-12%	-20%	4%	-29%	-12%

Posterior inference	Average number of services per month				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
Chronic Disease Management items								
Actual	117,119				819,836			
Prediction	120,453	5,668	110,204	132,514	843,173	39,673	771,429	927,598
Absolute effect	-3,334	5,668	-15,395	6,915	-23,337	39,673	-107,762	48,407
Relative effect (%)	-3%	5%	-13%	6%	-3%	5%	-13%	6%
GP attendances								
Actual	1,204,360				8,430,523			
Prediction	1,166,756	42,430	1,076,983	1,247,744	8,167,294	297,010	7,538,880	8,734,211
Absolute effect	37,604	42,430	-43,384	127,378	263,229	297,010	-303,688	891,643
Relative effect (%)	3%	4%	-4%	11%	3%	4%	-4%	11%
Obstetric items								
Actual	17,154				120,081			
Prediction	17,742	377	17,076	18,547	124,194	2,639	119,534	129,829
Absolute effect	-588	377	-1,393	78	-4,113	2,639	-9,748	547
Relative effect (%)	-3%	2%	-8%	0.4%	-3%	2%	-8%	0.4%
Oral and maxillofacial services								
Actual	507				3,549			
Prediction	628	56	539	746	4,399	391	3,772	5,222
Absolute effect	-121	56	-239	-32	-850	391	-1,673	-223
Relative effect (%)	-19%	9%	-38%	-5%	-19%	9%	-38%	-5%
Pathology items								
Actual	1,171,696				8,201,875			
Prediction	1,214,870	23,675	1,164,718	1,259,189	8,504,092	165,723	8,153,028	8,814,325
Absolute effect	-43,174	23,675	-87,493	6,978	-302,217	165,723	-612,450	48,847
Relative effect (%)	-4%	2%	-7%	0.6%	-4%	2%	-7%	0.6%

Posterior inference	Average number of services per month				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
Practice nurse items								
Actual	33,139				231,972			
Prediction	32,455	2,363	28,264	37,176	227,183	16,542	197,845	260,232
Absolute effect	684	2,363	-4,037	4,875	4,789	16,542	-28260	34,127
Relative effect (%)	2%	7%	-12%	15%	2%	7%	-12%	15%
Specialist attendances								
Actual	215,668				1,509,673			
Prediction	224,305	7,477	211,241	240,255	1,570,132	52,342	1,478,689	1,681,786
Absolute effect	-8,637	7,477	-24,588	4,426	-60,459	52,342	-172,113	30,984
Relative effect (%)	-4%	3%	-11%	2%	-4%	3%	-11%	2%
Therapeutic procedures								
Actual	215,856				1,510,993			
Prediction	229,204	5,670	218,380	240,525	1,604,431	39,690	1,528,660	1,683,675
Absolute effect	-13,348	5,670	-24,669	-2,524	-93,438	39,690	-172,682	-17,667
Relative effect (%)	-6%	3%	-11%	-1%	-6%	3%	-11%	-1%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval.

Table 37: Changes in counts of Medicare item claims in Australia following the introduction of strict COVID-19 public health measures in March 2020, by type of service, long run analysis, without seasonal correction

Posterior inference	Average number of services per month				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
Allied Health								
Actual	121,583				3,647,501			
Prediction	134,507	5,122	124,868	145,030	4,035,198	153,653	3,746,039	4,350,909
Absolute effect	-12,923	5,122	-23,447	-3,285	-387,697	153,653	-703,408	-98,538
Relative effect (%)	-9.60%	3.80%	-17.00%	-2.00%	-9.60%	3.80%	-17.00%	-2.00%
Dental								
Actual	23,931				717,929			
Prediction	26,815	1,023	24,752	28,914	804,444	30,686	742,574	867,420
Absolute effect	-2,884	1,023	-4,983	-821	-86,515	30,686	-149,491	-24,645
Relative effect (%)	-11.00%	3.80%	-19.00%	-3.00%	-11.00%	3.80%	-19.00%	-3.00%
Diagnostic imaging								
Actual	230,616				6,918,488			
Prediction	228,185	5,500	217,768	238,751	6,845,547	165,014	6,533,038	7,162,538
Absolute effect	2,431	5,500	-8,135	12,848	72,941	165,014	-244,050	385,450
Relative effect (%)	1.10%	2.40%	-3.60%	6.00%	1.10%	2.40%	-3.60%	6.00%
Diagnostic procedures								
Actual	48,762				1,462,861			
Prediction	63,956	1,770	60,741	67,642	1,918,692	53,109	1,822,216	2,029,268
Absolute effect	-15,194	1,770	-18,880	-11,978	-455,831	53,109	-566,407	-359,355
Relative effect (%)	-24.00%	2.80%	-30.00%	-19.00%	-24.00%	2.80%	-30.00%	-19.00%
Chronic Disease Management items								
Actual	117,355				3,520,651			
Prediction	137,674	5,243	127,436	148,112	4,130,225	157,291	3,823,076	4,443,351
Absolute effect	-20,319	5,243	-30,757	-10,000	-609,574	157,291	-922,700	-300,000
Relative effect (%)	-15.00%	3.80%	-22.00%	-7.00%	-15.00%	3.80%	-22.00%	-7.00%

Posterior inference	Average number of services per month				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
GP attendances								
Actual	1,300,000				38,000,000			
Prediction	1,300,000	33,473	1,200,000	1,300,000	38,000,000	1,004,188	36,000,000	40,000,000
Absolute effect	-2,362	33,473	-71840	60,620	-70,853	1,004,188	-2155200	1,818,608
Relative effect (%)	-0.19%	2.60%	-5.70%	5.00%	-0.19%	2.60%	-5.70%	5.00%
Obstetric items								
Actual	17,185				515,556			
Prediction	17,317	275	16,763	17,851	519,507	8,247	502,899	535,541
Absolute effect	-132	275	-666	422	-3,951	8,247	-19,985	12,657
Relative effect (%)	-0.76%	1.60%	-3.80%	2.00%	-0.76%	1.60%	-3.80%	2.00%
Oral and maxillofacial services								
Actual	567				17,011			
Prediction	601	22	558	645	18,030	658	16,742	19,364
Absolute effect	-34	22	-78	9	-1,019	658	-2,353	269
Relative effect (%)	-5.60%	3.70%	-13.00%	2.00%	-5.60%	3.70%	-13.00%	2.00%
Pathology items								
Actual	1,200,000				36,000,000			
Prediction	1,200,000	16,478	1,200,00	1,200,000	36,000,000	494,349	35,000,000	37,000,000
Absolute effect	-11,008	16,478	-44,852	22,889	-330,246	494,349	-1,345,556	686,666
Relative effect (%)	-0.91%	1.40%	-3.70%	2.00%	-0.91%	1.40%	-3.70%	2.00%
Practice nurse items								
Actual	30,412				912,374			
Prediction	40,078	3,146	33,882	46,461	1,202,341	94,381	1,016,462	1,393,820
Absolute effect	-9,666	3,146	-16,048	-3,470	-289,967	94,381	-481,446	-104,088
Relative effect (%)	-24.00%	7.80%	-40.00%	-9.00%	-24.00%	7.80%	-40.00%	-9.00%

Posterior inference	Average number of services per month				Cumulative number of services over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
Specialist attendances								
Actual	224,827				6,744,807			
Prediction	241,133	5,207	230,832	251,596	7,233,976	156,214	6,924,963	7,547,888
Absolute effect	-16,306	5,207	-26,769	-6,005	-489,169	156,214	-803,081	-180,156
Relative effect (%)	-6.80%	2.20%	-11.00%	-3.00%	-6.80%	2.20%	-11.00%	-3.00%
Therapeutic procedures								
Actual	225,253				6,757,594			
Prediction	237,009	4,063	229,166	245,342	7,110,264	121,884	6,874,969	7,360,254
Absolute effect	-11,756	4,063	-20,000	-3,913	-352,670	121,884	-600,000	-117,375
Relative effect (%)	-5.00%	1.70%	-8.50%	-2.00%	-5.00%	1.70%	-8.50%	-2.00%

Footnote: Follow-up period ends at the end of August 2022. SD: standard deviation; CI: confidence interval

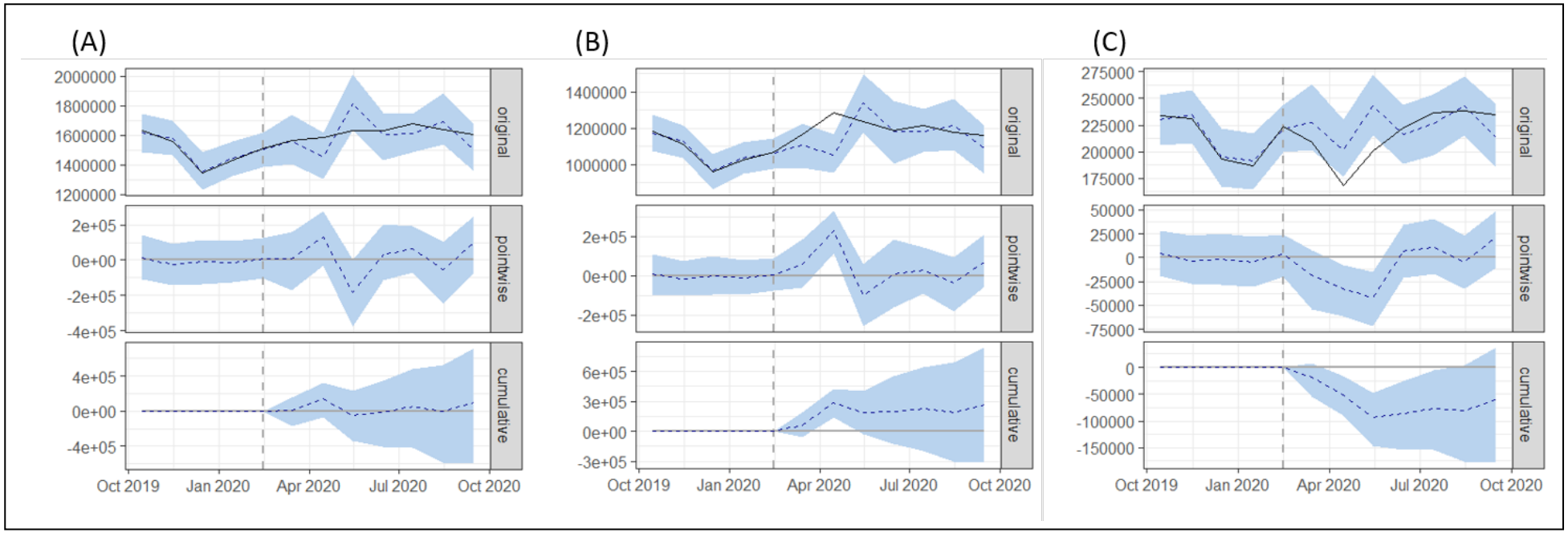

Figure 36: Use of Medicare-funded services following the introduction of COVID-19 public health measures, short-run analysis, for (A) All professional attendances, (B) GP attendances, (C) Specialist attendances, (D) Chronic Disease Management items, (E) Practice Nurse Items, (F) Allied Health items, (G) Diagnostic Imaging services, (H) Pathology services, (I) Dental Benefits Schedule items, (J) Diagnostic Procedures and Investigations, (K) Therapeutic Procedures, (L) Obstetric items, and (M) Oral and Maxillofacial services, without seasonal correction.

Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

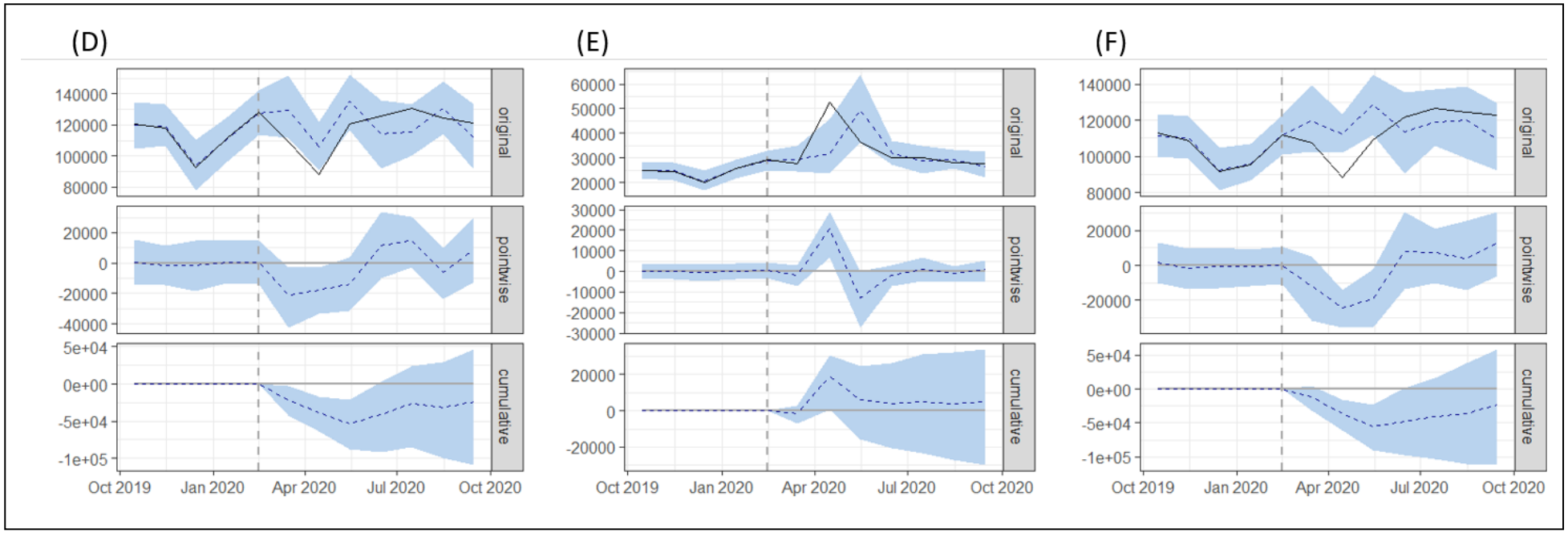

Figure 36 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, short-run analysis, for (A) All professional attendances, (B) GP attendances, (C) Specialist attendances, (D) Chronic Disease Management items, (E) Practice Nurse Items, (F) Allied Health items, (G) Diagnostic Imaging services, (H) Pathology services, (I) Dental Benefits Schedule items, (J) Diagnostic Procedures and Investigations, (K) Therapeutic Procedures, (L) Obstetric items, and (M) Oral and Maxillofacial services, without seasonal correction.

Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

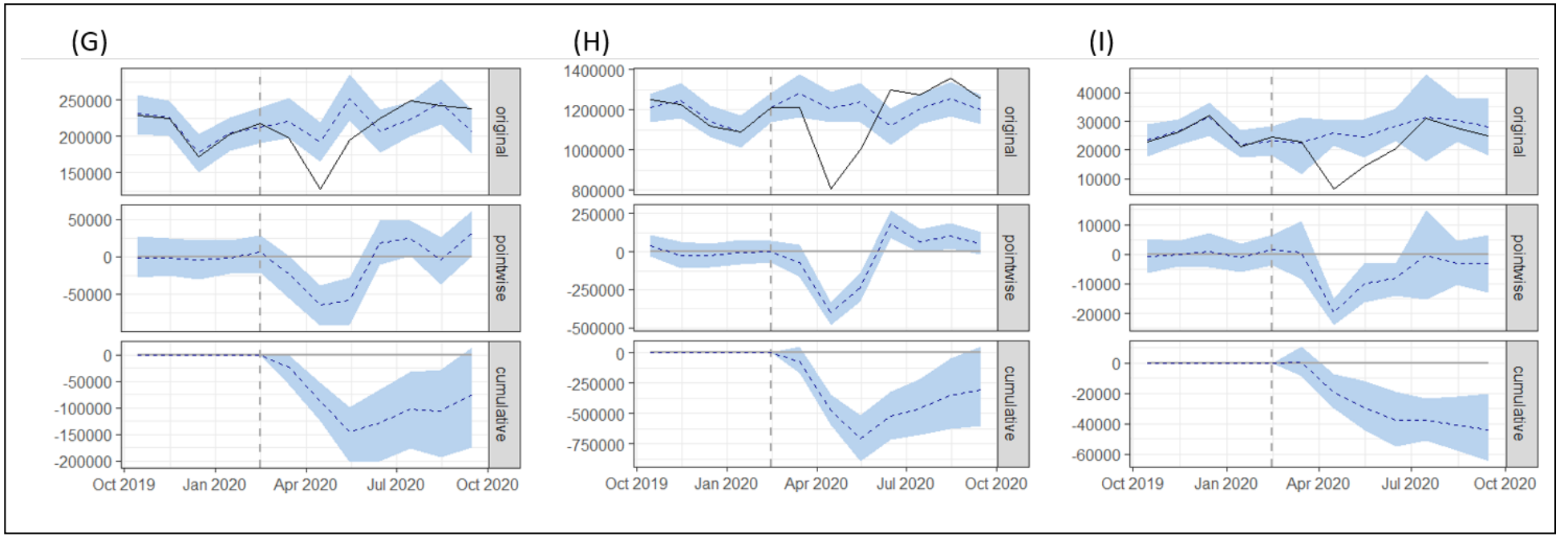

Figure 36 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, short-run analysis, for (A) All professional attendances, (B) GP attendances, (C) Specialist attendances, (D) Chronic Disease Management items, (E) Practice Nurse Items, (F) Allied Health items, (G) Diagnostic Imaging services, (H) Pathology services, (I) Dental Benefits Schedule items, (J) Diagnostic Procedures and Investigations, (K) Therapeutic Procedures, (L) Obstetric items, and (M) Oral and Maxillofacial services, without seasonal correction.

Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

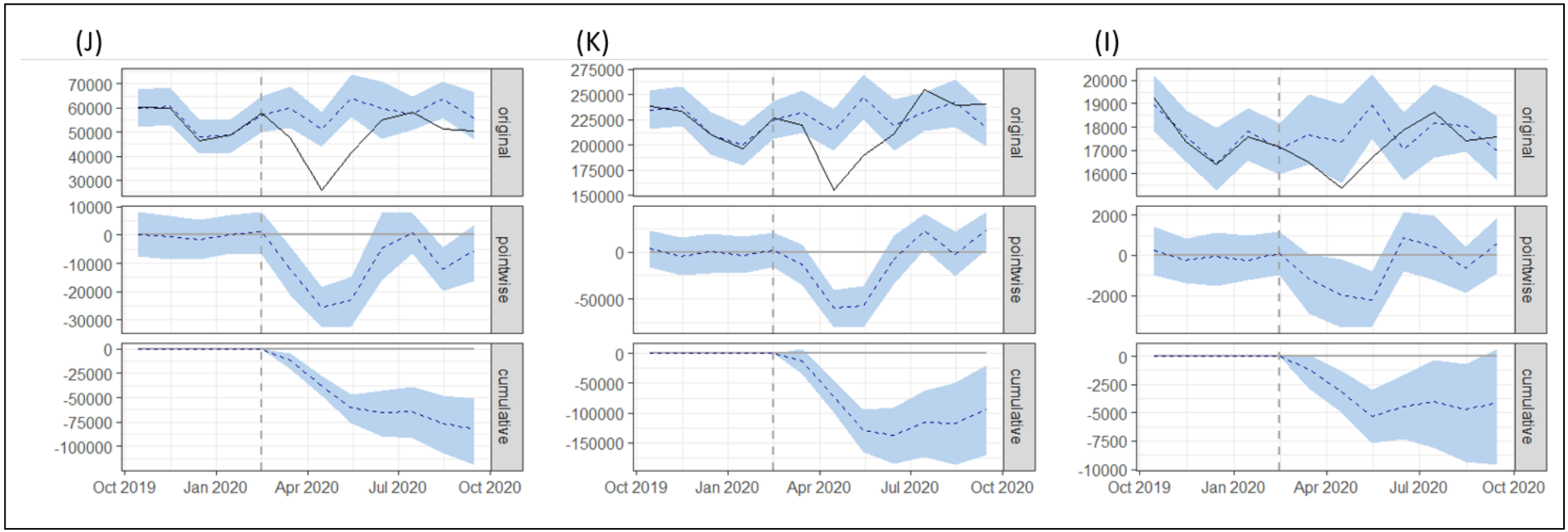

Figure 36 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, short-run analysis, for (A) All professional attendances, (B) GP attendances, (C) Specialist attendances, (D) Chronic Disease Management items, (E) Practice Nurse Items, (F) Allied Health items, (G) Diagnostic Imaging services, (H) Pathology services, (I) Dental Benefits Schedule items, (J) Diagnostic Procedures and Investigations, (K) Therapeutic Procedures, (L) Obstetric items, and (M) Oral and Maxillofacial services, without seasonal correction.

Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

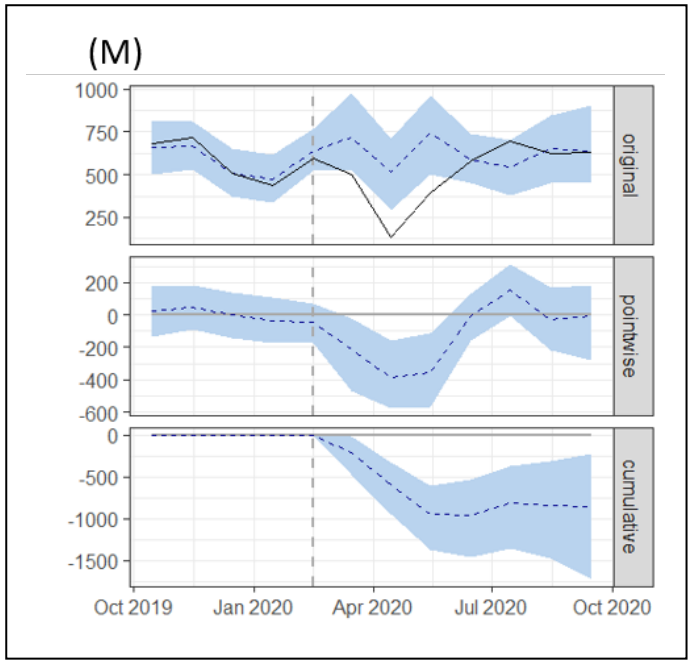

Figure 36 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, short-run analysis, for (A) All professional attendances, (B) GP attendances, (C) Specialist attendances, (D) Chronic Disease Management items, (E) Practice Nurse Items, (F) Allied Health items, (G) Diagnostic Imaging services, (H) Pathology services, (I) Dental Benefits Schedule items, (J) Diagnostic Procedures and Investigations, (K) Therapeutic Procedures, (L) Obstetric items, and (M) Oral and Maxillofacial services, without seasonal correction.

Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

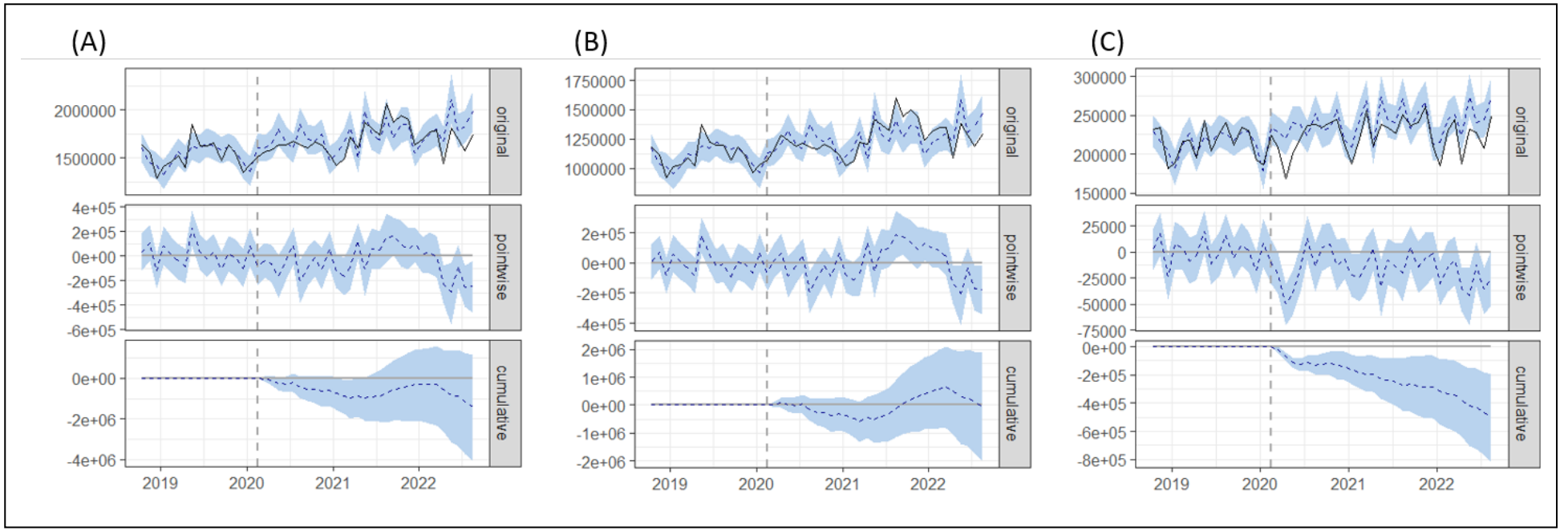

Figure 37: Use of Medicare-funded services following the introduction of COVID-19 public health measures, long-run analysis, for (A) All professional attendances, (B) GP attendances, (C) Specialist attendances, (D) Chronic Disease Management items, (E) Practice Nurse Items, (F) Allied Health items, (G) Diagnostic Imaging services, (H) Pathology services, (I) Dental Benefits Schedule items, (J) Diagnostic Procedures and Investigations, (K) Therapeutic Procedures, (L) Obstetric items, and (M) Oral and Maxillofacial services, without seasonal correction.

Top panel displays monthly counts observed from October 2014 to August 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

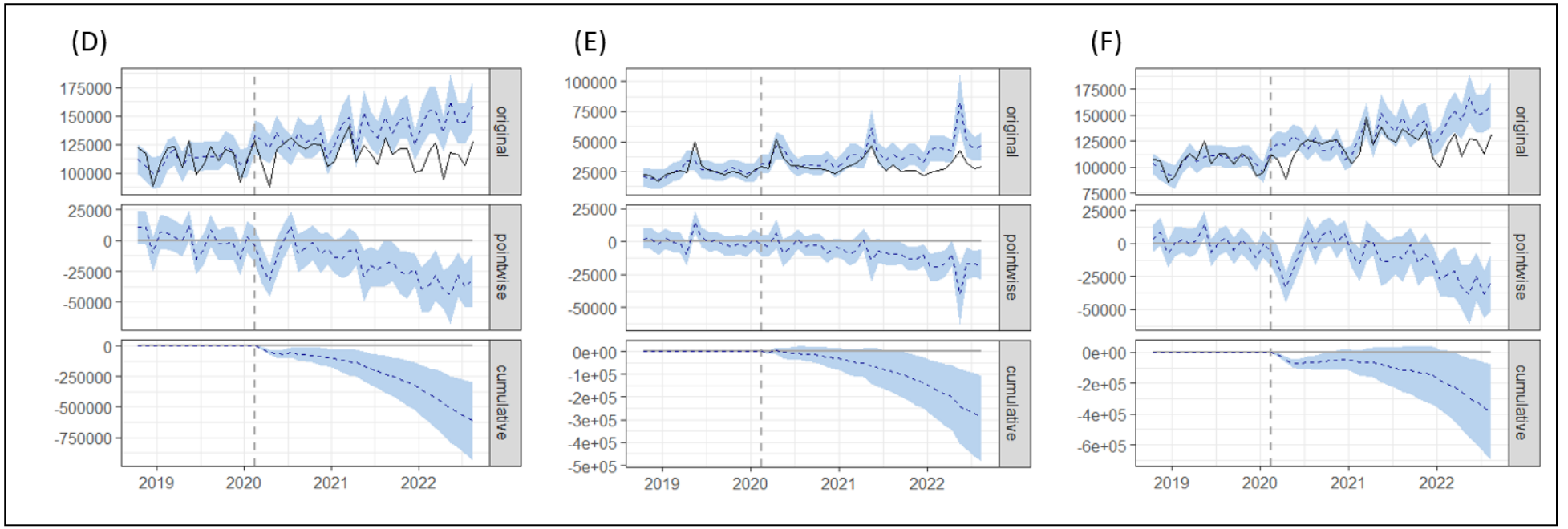

Figure 37 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, long-run analysis, for (A) All professional attendances, (B) GP attendances, (C) Specialist attendances, (D) Chronic Disease Management items, (E) Practice Nurse Items, (F) Allied Health items, (G) Diagnostic Imaging services, (H) Pathology services, (I) Dental Benefits Schedule items, (J) Diagnostic Procedures and Investigations, (K) Therapeutic Procedures, (L) Obstetric items, and (M) Oral and Maxillofacial services, without seasonal correction.

Top panel displays monthly counts observed from October 2014 to August 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

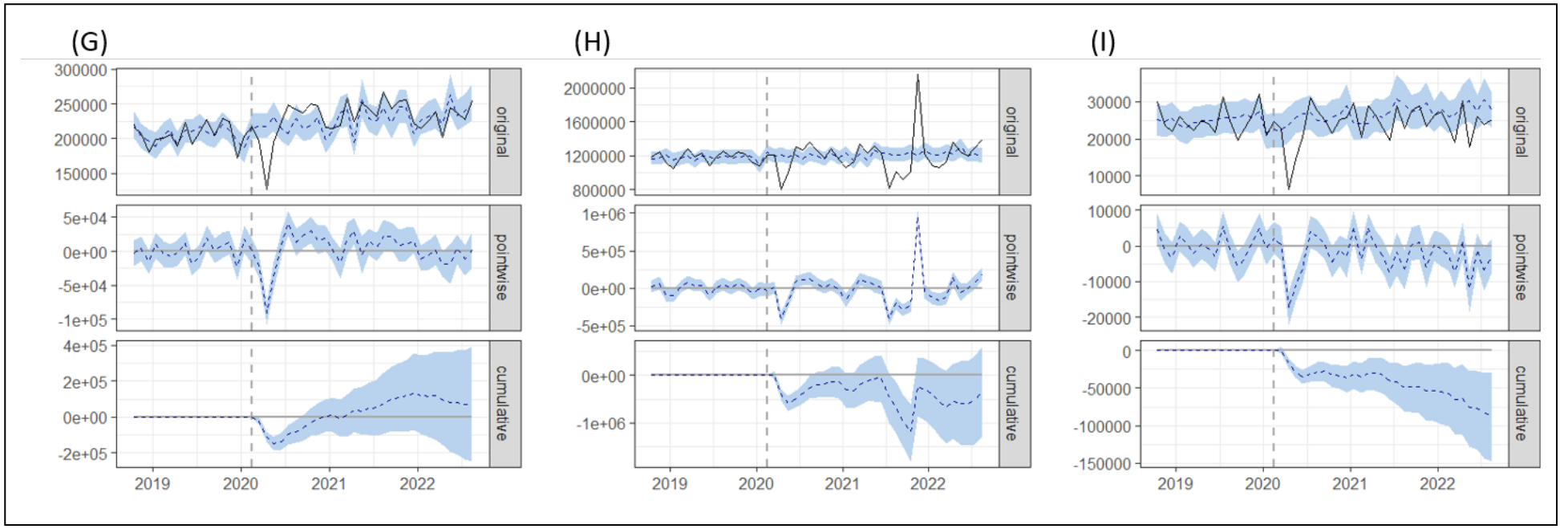

Figure 37 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, long-run analysis, for (A) All professional attendances, (B) GP attendances, (C) Specialist attendances, (D) Chronic Disease Management items, (E) Practice Nurse Items, (F) Allied Health items, (G) Diagnostic Imaging services, (H) Pathology services, (I) Dental Benefits Schedule items, (J) Diagnostic Procedures and Investigations, (K) Therapeutic Procedures, (L) Obstetric items, and (M) Oral and Maxillofacial services, without seasonal correction.

Top panel displays monthly counts observed from October 2014 to August 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

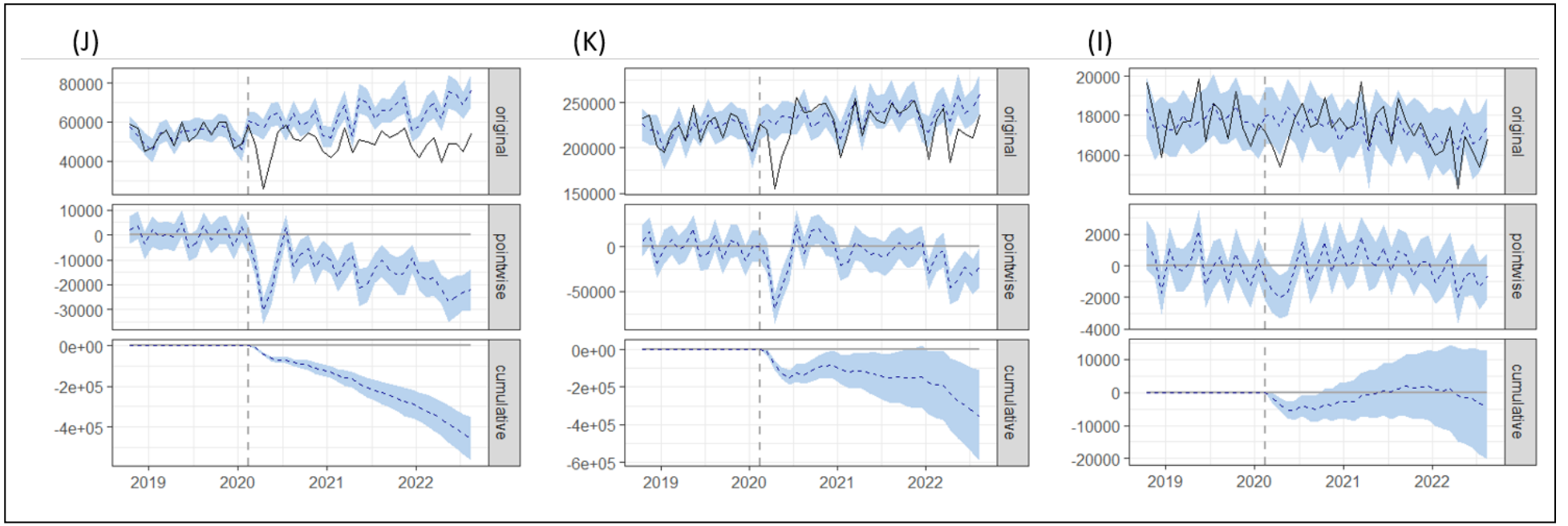

Figure 37 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, long-run analysis, for (A) All professional attendances, (B) GP attendances, (C) Specialist attendances, (D) Chronic Disease Management items, (E) Practice Nurse Items, (F) Allied Health items, (G) Diagnostic Imaging services, (H) Pathology services, (I) Dental Benefits Schedule items, (J) Diagnostic Procedures and Investigations, (K) Therapeutic Procedures, (L) Obstetric items, and (M) Oral and Maxillofacial services, without seasonal correction.

Top panel displays monthly counts observed from October 2014 to August 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

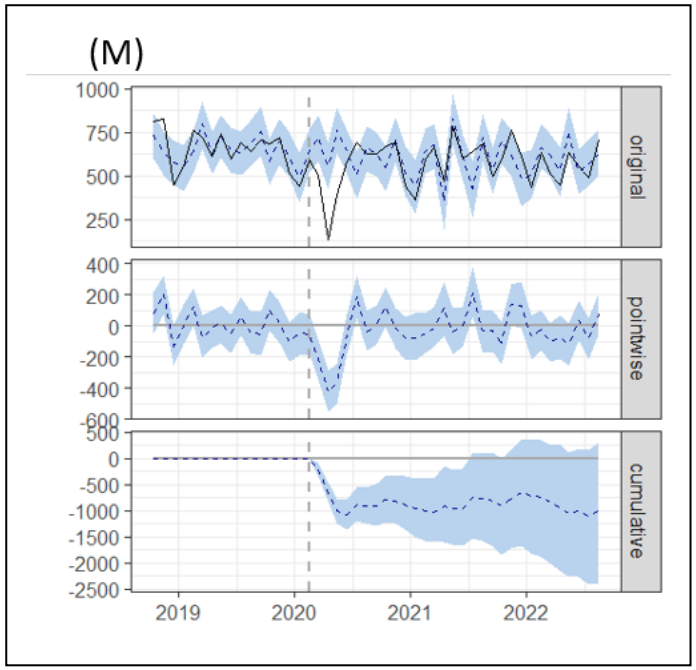

Figure 37 cont.: Use of Medicare-funded services following the introduction of COVID-19 public health measures, long-run analysis, for (A) All professional attendances, (B) GP attendances, (C) Specialist attendances, (D) Chronic Disease Management items, (E) Practice Nurse Items, (F) Allied Health items, (G) Diagnostic Imaging services, (H) Pathology services, (I) Dental Benefits Schedule items, (J) Diagnostic Procedures and Investigations, (K) Therapeutic Procedures, (L) Obstetric items, and (M) Oral and Maxillofacial services, without seasonal correction.

Top panel displays monthly counts observed from October 2014 to August 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

Medication dispensations

Dispensations funded via PBS & RPBS, by state / territory

Table 38: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, by state/territory, short run analysis, without seasonal correction.

Posterior inference	**Average number of dispensations per month**				**Cumulative number of dispensations over follow up**			
	Count	SD	95% CI		Count	SD	95% CI	
NSW								
Actual	5,800,000				41,000,000			
Prediction	6,500,000	603,037	5,600,000	8,100,000	46,000,000	4,221,260	39,000,000	56,000,000
Absolute effect	-713,305	603,037	-2,300,000	165,539	-4,993,132	4,221,260	-16,000,000	1,158,770
Relative effect (%)	-11%	9%	-35%	3%	-11%	9%	-35%	3%
VIC								
Actual	4,400,000				31,000,000			
Prediction	4,400,000	109,954	4,100,000	4,600,000	31,000,000	769,677	29,000,000	32,000,000
Absolute effect	45,684	109,954	-166,882	261,285	319,789	769,677	-1,168,173	1,828,997
Relative effect (%)	1%	3%	-4%	6%	1%	3%	-4%	6%
QLD								
Actual	3,700,000				26,000,000			
Prediction	3,700,000	163,174	3,400,000	4,000,000	26,000,000	1,142,216	24,000,000	28,000,000
Absolute effect	4,299	163,174	-301,107	321,714	30,094	1,142,216	-2,107,746	2,251,998
Relative effect (%)	0.1%	4%	-8%	9%	0.1%	4%	-8%	9%
SA								
Actual	1,500,000				10,000,000			
Prediction	1,400,000	106,534	1,217,253	1,600,000	10,000,000	745,740	8,520,769	11,000,000
Absolute effect	23,318	106,534	-160,201	238,526	163,228	745,740	-1,121,407	1,669,680
Relative effect (%)	2%	7%	-11%	17%	2%	7%	-11%	17%

WA								
Actual	1,600,000				11,000,000			
Prediction	1,600,000	62,799	1,500,000	1,700,000	11,000,000	439,593	10,000,000	12,000,000
Absolute effect	35,185	62,799	-84,209	147,327	246,297	439,593	-589,466	1,031,286
Relative effect (%)	2%	4%	-5%	9%	2%	4%	-5%	9%
TAS								
Actual	495,792				3,470,544			
Prediction	415,444	67,130	284,964	538,601	2,908,105	469,912	1,994,750	3,770,209
Absolute effect	80,348	67,130	-42,809	210,828	562,439	469,912	-299,665	1,475,794
Relative effect (%)	19%	16%	-10%	51%	19%	16%	-10%	51%
NT								
Actual	66,257				463,797			
Prediction	69,139	6,811	58,532	84,920	483,975	47,678	409,722	594,437
Absolute effect	-2,883	6,811	-18,663	7,725	-20,178	47,678	-130,640	54,075
Relative effect (%)	-4%	10%	-27%	11%	-4 %	10%	-27%	11%
ACT								
Actual	211,740				1,482,180			
Prediction	207,282	15,872	176,831	237,065	1,450,971	111,101	1,237,819	1,659,455
Absolute effect	4,458	15,872	-25,325	34,909	31,209	111,101	-177,275	244,361
Relative effect (%)	2%	8%	-12%	17%	2%	8%	-12%	17%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval

Table 39: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, by state/territory, long run analysis, without seasonal correction.

Posterior inference	Average number of dispensations per month				Cumulative number of dispensations over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
NSW								
Actual	5,800,000				160,000,000			
Prediction	5,900,000	129,206	5,600,000	6,200,000	170,000,000	3,617,773	160,000,000	170,000,000
Absolute effect	-121,168	129,206	-380,000	134,589	-3,392,703	3,617,773	-1,100,000	3,768,480
Relative effect (%)	-2%	2%	-6%	2%	-2%	2%	-6%	2%
VIC								
Actual	4,400,000				120,000,000			
Prediction	4,300,000	74,937	4,200,000	4,400,000	120,000,000	2,098,230	120,000,000	120,000,000
Absolute effect	119,958	74,937	-21,517	271,913	3,358,819	2,098,230	-602,469	7,613,575
Relative effect (%)	3%	2%	-0.5%	6%	3%	2%	-0.5%	6%
QLD								
Actual	3,800,000				110,000,000			
Prediction	3,600,000	63,215	3,500,000	3,800,000	100,000,000	1,770,029	98,000,000	110,000,000
Absolute effect	214,448	63,215	89,745	345,627	6,004,540	1,770,029	2,512,871	9,677,555
Relative effect (%)	6%	2%	3%	10%	6%	2%	3%	10%
SA								
Actual	1,500,000				41,000,000			
Prediction	1,500,000	33,462	1,400,000	1,500,000	41,000,000	936,925	40,000,000	43,000,000
Absolute effect	-86	33,462	-64,487	65,999	-2,414	936,925	-1,805,646	1,847,986
Relative effect (%)	0.0%	2%	-4%	5%	0.0%	2%	-4%	5%
WA								
Actual	1,700,000				47,000,000			
Prediction	1,600,000	40,535	1,500,000	1,600,000	43,000,000	1,134,990	41,000,000	46,000,000
Absolute effect	131,844	40,535	50,171	211,987	3,691,627	1,134,990	1,404,779	5,935,633
Relative effect (%)	9%	3%	3%	14%	9%	3%	3%	14%

Posterior inference	Average number of dispensations per month				Cumulative number of dispensations over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
TAS								
Actual	520,000				15,000,000			
Prediction	490,000	13,446	460,000	520,000	14,000,000	376,481	13,000,000	14,000,000
Absolute effect	31,358	13,446	3,926	57,167	878,033	376,481	109,934	1,600,685
Relative effect (%)	6%	3%	0.8%	12%	6%	3%	0.8%	12%
NT								
Actual	70,501				1,974,030			
Prediction	64,494	2,182	59,945	68,845	1,805,846	61,107	1,678,465	1,927,673
Absolute effect	6,007	2,182	1,656	10,556	168,184	61,107	46,357	295,565
Relative effect (%)	9%	3%	3%	16%	9%	3%	3%	16%
ACT								
Actual	222,511				6,230,297			
Prediction	210,829	4,853	201,080	220,095	5,903,205	135,872	5,630,239	6,162,674
Absolute effect	11,682	4,853	2,415	21,431	327,092	135,872	67,623	600,058
Relative effect (%)	6%	2%	1%	10%	6%	2%	1%	10%

Footnote: Follow-up period ends at the end of June 2022. SD: standard deviation; CI: confidence interval

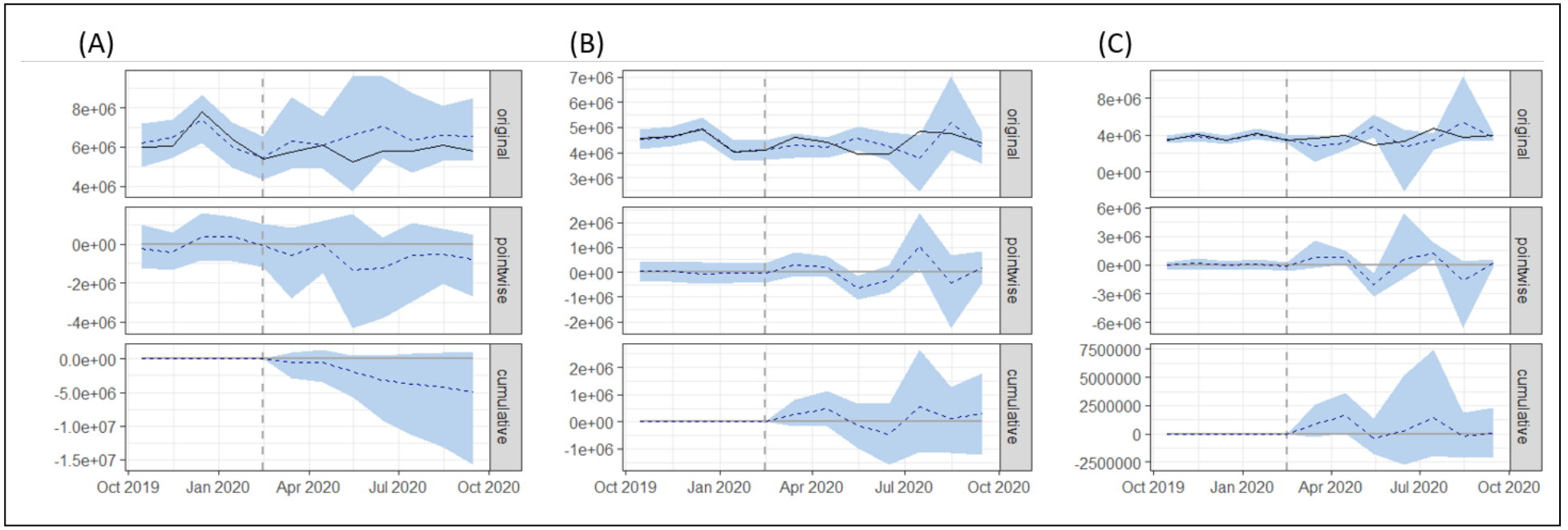

Figure 38: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory, (H) Australian Capital Territory, short run analysis without seasonal correction.

Top panel displays monthly counts observed from October 2014 to August 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

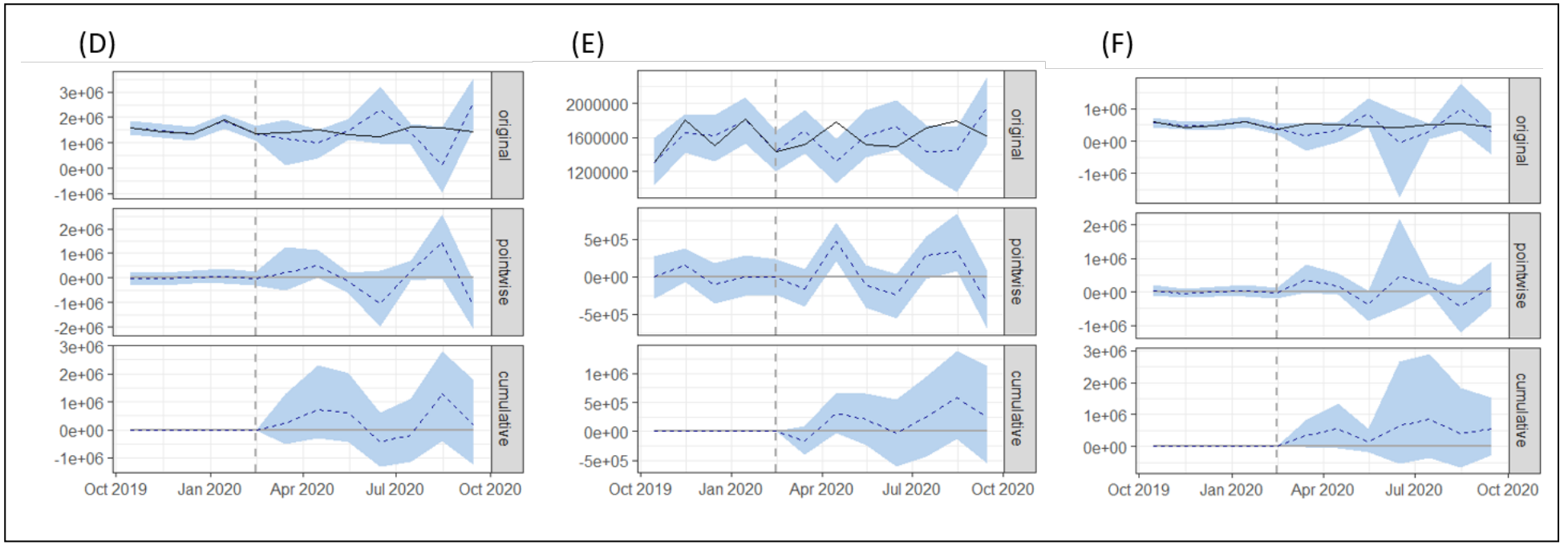

Figure 38 cont.: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory, (H) Australian Capital Territory, short run analysis without seasonal correction.

Top panel displays monthly counts observed from October 2014 to August 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

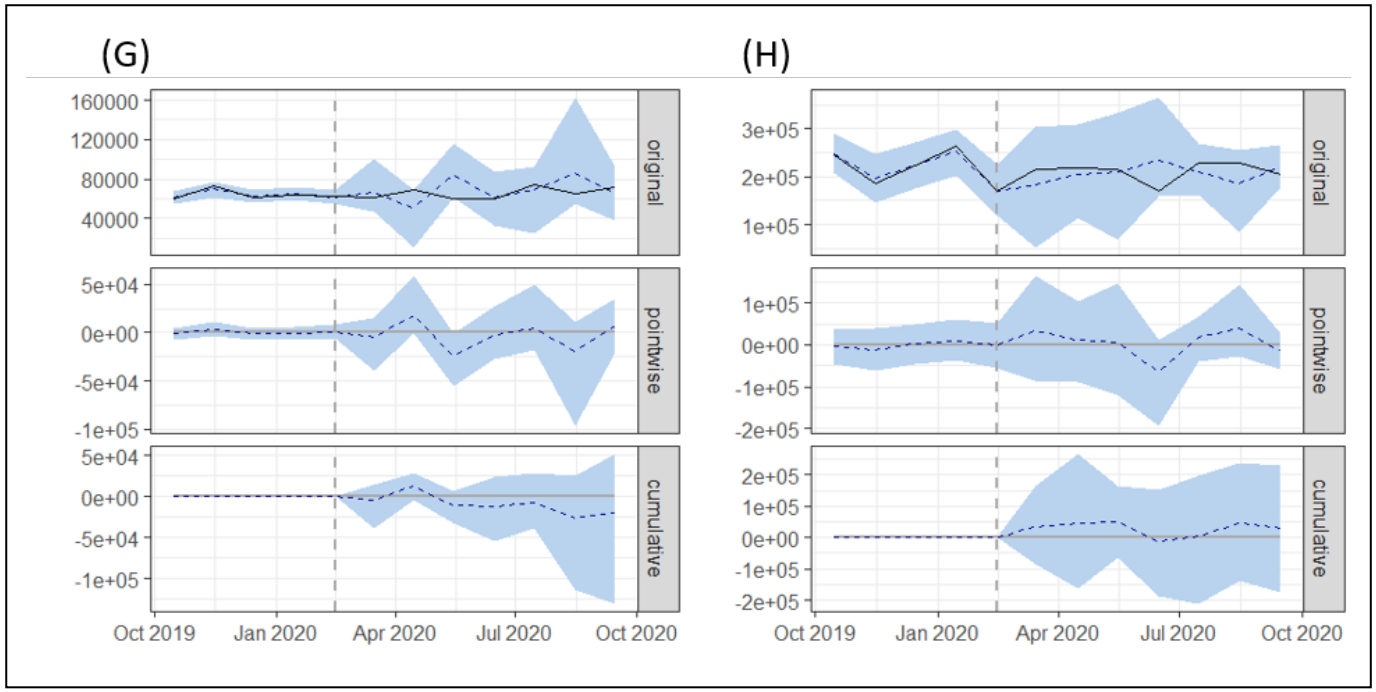

Figure 38 cont.: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory, (H) Australian Capital Territory, short run analysis without seasonal correction.

Top panel displays monthly counts observed from October 2014 to August 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

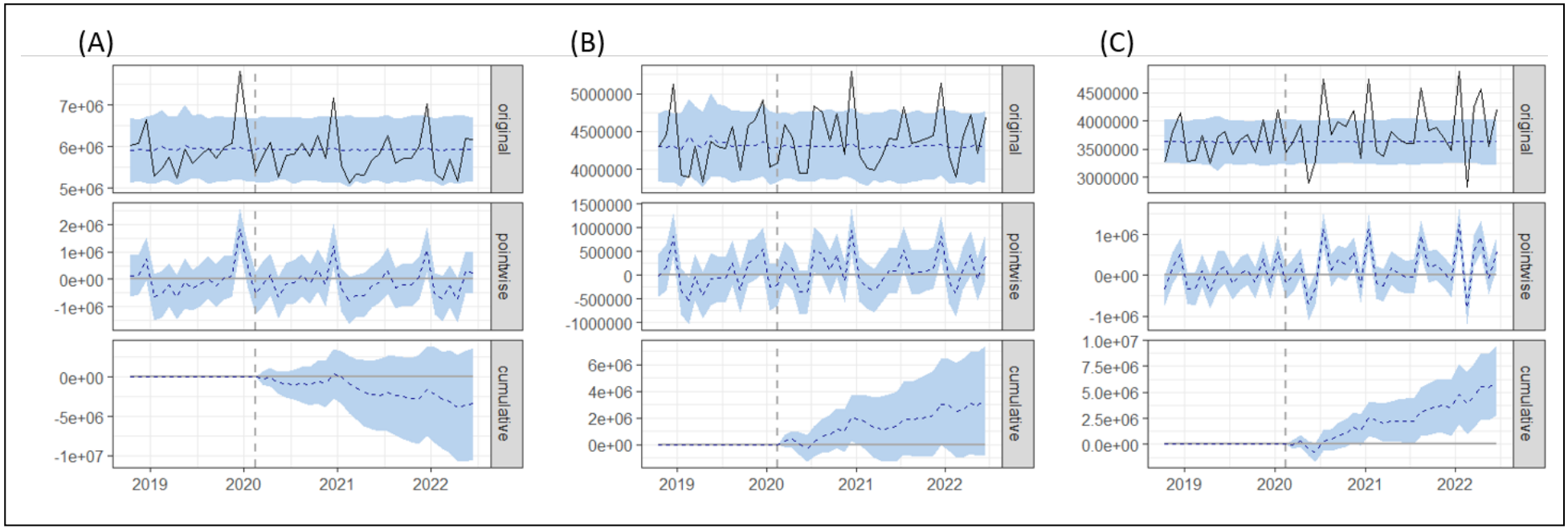

Figure 39: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory, (H) Australian Capital Territory, long run analysis without seasonal correction.

Top panel displays monthly counts observed from October 2014 to June 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

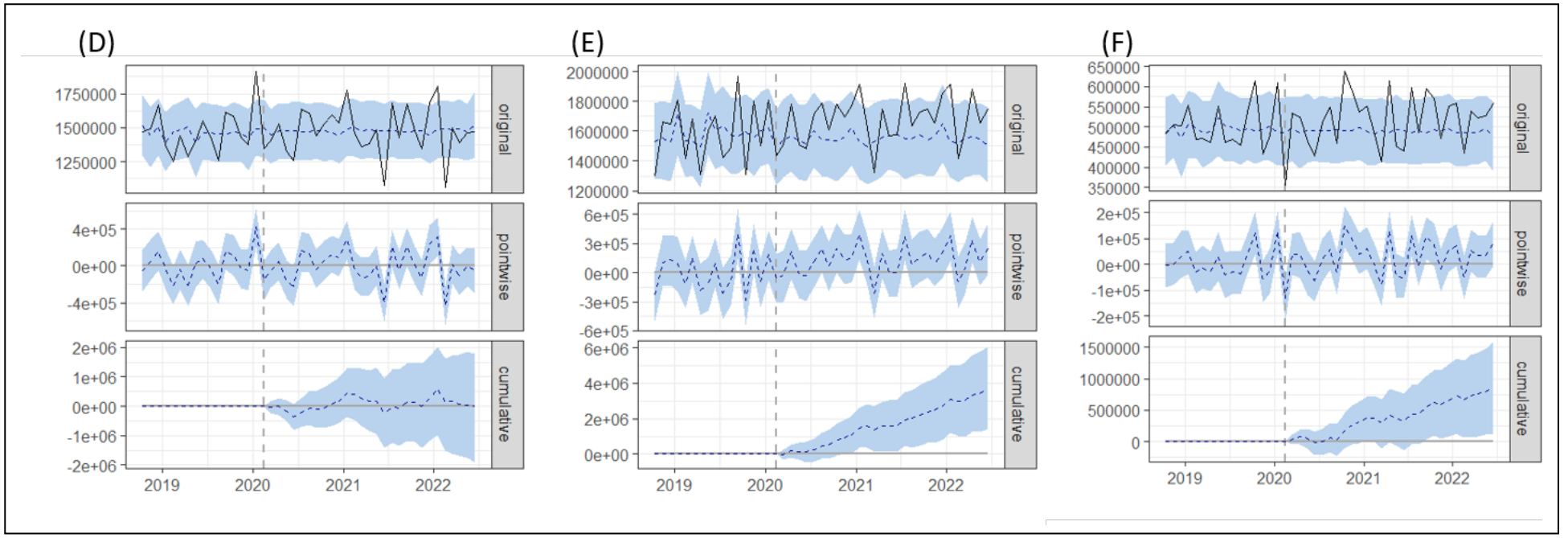

Figure 39 cont.: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory, (H) Australian Capital Territory, long run analysis without seasonal correction.

Top panel displays monthly counts observed from October 2014 to June 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

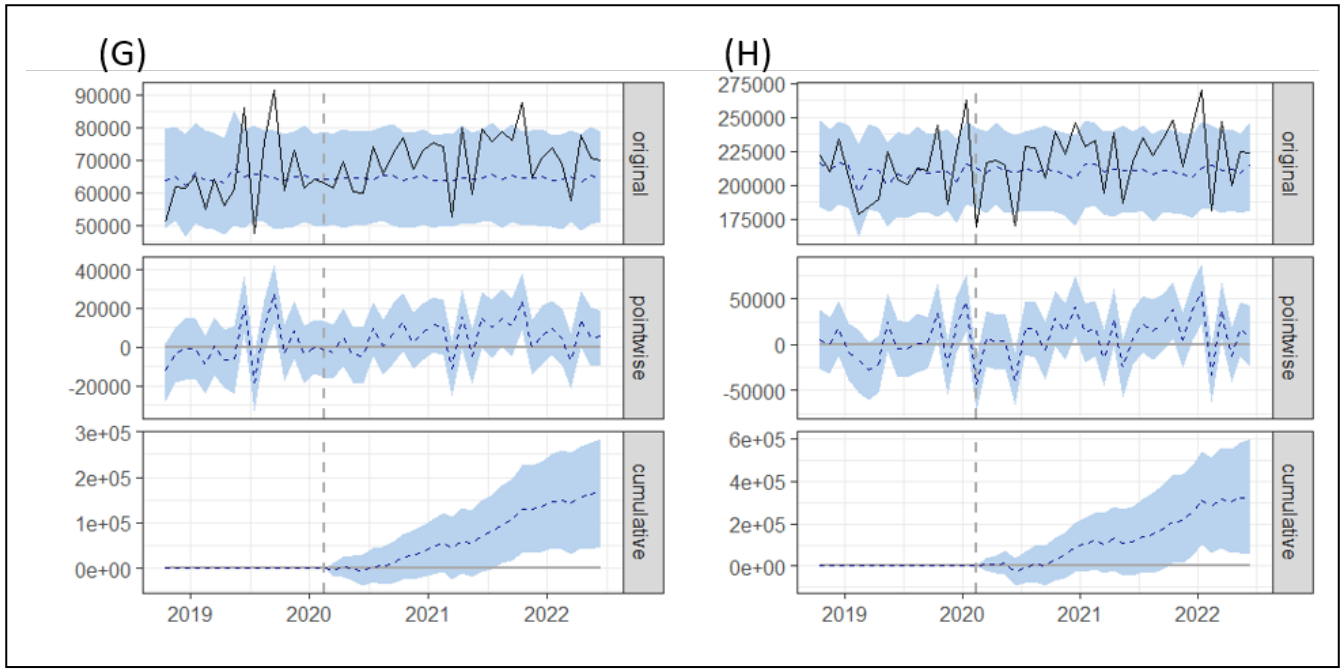

Figure 39 cont.: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, in (A) New South Wales, (B) Victoria, (C) Queensland, (D) South Australia, (E) Western Australia, (F) Tasmania, (G) Northern Territory, (H) Australian Capital Territory, long run analysis without seasonal correction.

Top panel displays monthly counts observed from October 2014 to June 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

Dispensations funded via PBS & RPBS, by type of medication

Table 40: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, by type of medication, short run analysis, without seasonal correction.

Posterior inference	Average number of dispensations per month				Cumulative number of dispensations over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
Cardiovascular								
Actual	493,319				3,453,230			
Prediction	483,208	19,424	444,313	521,501	3,382,455	135,971	3,110,188	3,650,505
Absolute effect	10,111	19,424	-28,182	49,006	70,775	135,971	-197,275	343,042
Relative effect (%)	2%	4%	-6%	10%	2%	4%	-6%	10%
Nervous system								
Actual	385,456				2,698,192			
Prediction	373,352	18,031	345,199	403,455	2,613,461	126,220	2,416,391	2,824,188
Absolute effect	12,104	18,031	-17,999	40,257	84,731	126,220	-125,996	281,801
Relative effect (%)	3%	5%	-5%	11%	3%	5%	-5%	11%
Alimentary tract and metabolism								
Actual	255,102				1,785,712			
Prediction	247,213	10,319	226,575	267,267	1,730,491	72,232	1,586,024	1,870,867
Absolute effect	7,889	10,319	-12,165	28,527	55,221	72,232	-85,155	199,688
Relative effect (%)	3%	4%	-5%	12%	3%	4%	-5%	12%
Anti-infectives for systemic use								
Actual	79,432				556,026			
Prediction	89,774	3,660	82,188	96,269	628,415	25,618	575,319	673,881
Absolute effect	-10,341	3,660	-16,836	-2,756	-72,389	25,618	-117,855	-19,293
Relative effect (%)	-12%	4%	-19%	-3%	-12%	4%	-19%	-3%
Respiratory system								
Actual	87,840				614,882			
Prediction	76,010	3,594	69,407	83,340	532,069	25,157	485,846	583,377
Absolute effect	11,830	3,594	4,501	18,434	82,813	25,157	31,505	129,036
Relative effect (%)	16%	5%	6%	24%	16%	5%	6%	24%

Footnote: Follow-up period ends at the end of September 2020. SD: standard deviation; CI: confidence interval

Table 41: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, by type of medication, long run analysis, without seasonal correction.

Posterior inference	Average number of dispensations per month				Cumulative number of dispensations over follow up			
	Count	SD	95% CI		Count	SD	95% CI	
Cardiovascular								
Actual	520,000				14,000,000			
Prediction	470,000	12,804	450,000	500,000	13,000,000	358,503	12,000,000	14,000,000
Absolute effect	45,085	12,804	18,072	69,525	1,262,376	358,503	506,021	1,946,687
Relative effect (%)	10%	3%	4%	15%	10%	3%	4%	15%
Nervous system								
Actual	390,000				11,000,000			
Prediction	360,000	9,860	344,823	3.80,000	10,000,000	276,071	9,655,031	11,000,000
Absolute effect	28,564	9,860	8,510	47,064	799,798	276,071	238,284	1,317,783
Relative effect (%)	8%	3%	2%	13%	8%	8%	2%	13%
Alimentary tract and metabolism								
Actual	270,090				7,562,519			
Prediction	240,324	6,403	227,696	252,410	6,729,079	179,287	6,375,490	7,067,492
Absolute effect	29,766	6,403	17,680	42,394	833,440	179,287	495,027	1,187,029
Relative effect (%)	12%	3%	7%	18%	12%	3%	7%	18%
Anti-infectives for systemic use								
Actual	79,017				2,212,477			
Prediction	88,909	2,285	84,733	93,596	2,489,465	63,993	2,372,517	2620683
Absolute effect	-9,892	2,285	-14,579	-5,716	-276,988	63,993	-408,206	-160,040
Relative effect (%)	-11%	3%	-16%	-6%	-11%	3%	-16%	-6%
Respiratory system								
Actual	83,340				2,333,526			
Prediction	76,129	2,111	71901	80465	2,131,619	59,116	2,013,216	2,253,023
Absolute effect	7,211	2,111	2875	11,440	201,907	59,116	80,503	320,310
Relative effect (%)	10%	3%	4%	15%	10%	3%	4%	15%

Footnote: Follow-up period ends at the end of June 2022. SD: standard deviation; CI: confidence interval

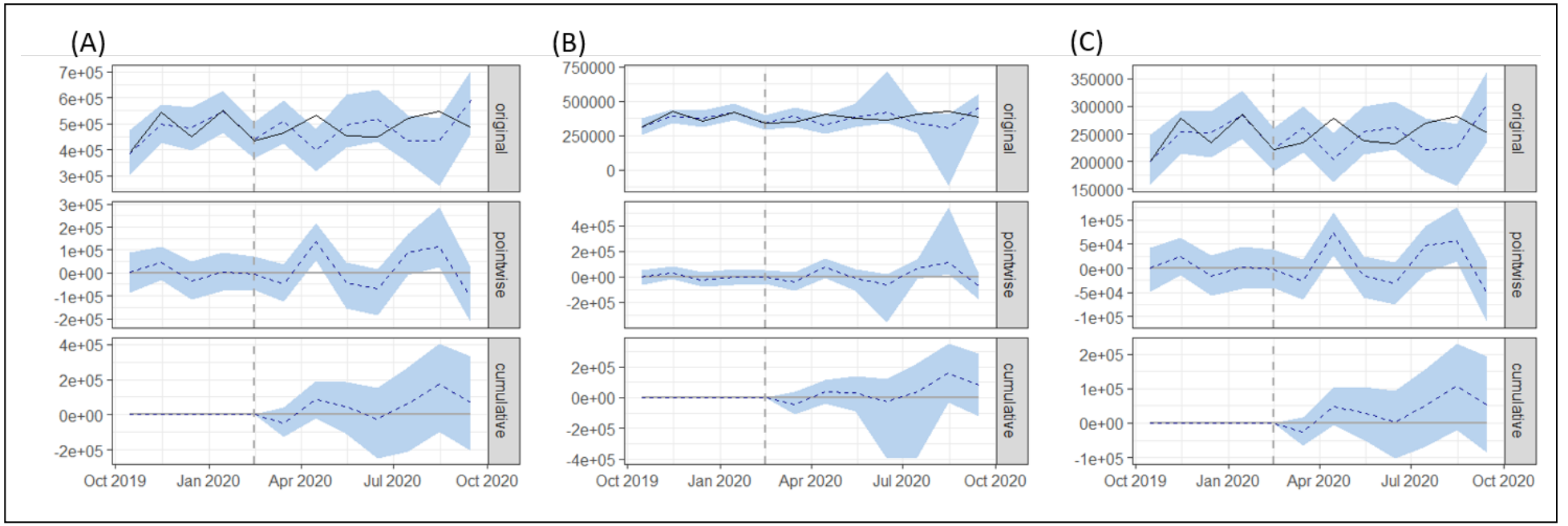

Figure 40: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, medications for (A) Cardiovascular system, (B) Nervous system, (C) alimentary tract and metabolism, (D) Anti-infectives for systematic use, (E) Respiratory system, short run analysis without seasonal correction.

Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

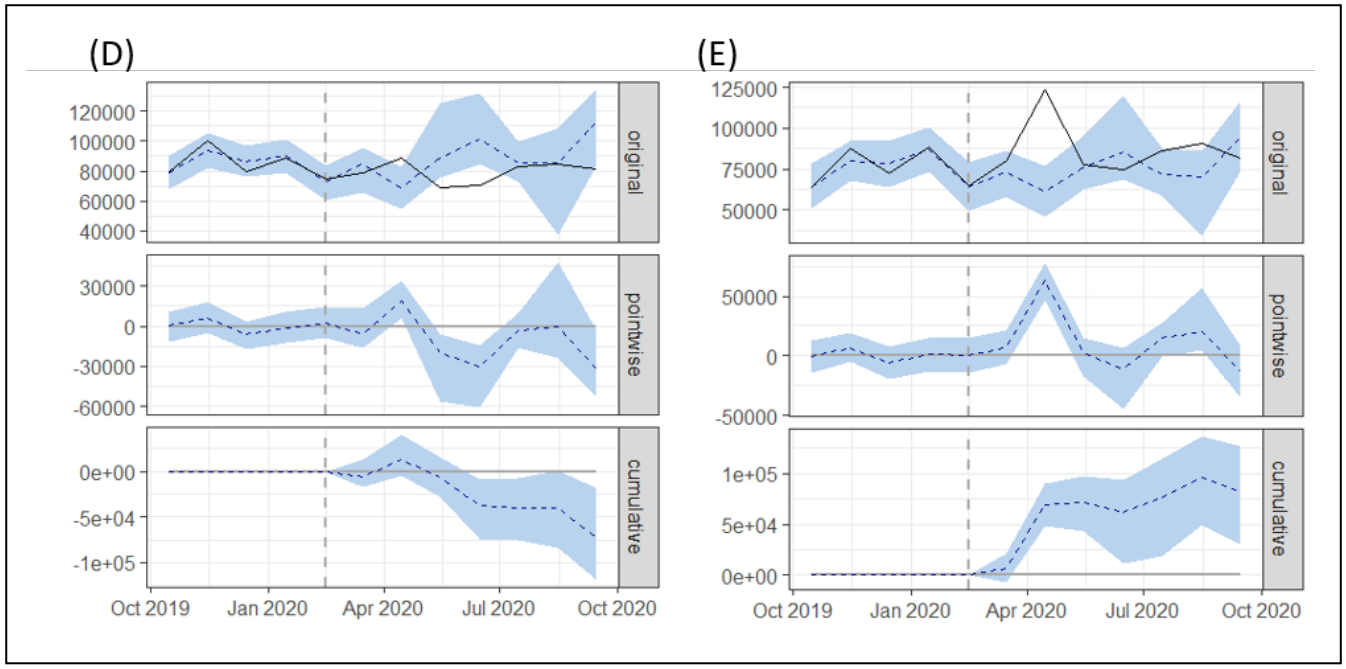

Figure 40 cont.: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, medications for (A) Cardiovascular system, (B) Nervous system, (C) alimentary tract and metabolism, (D) Anti-infectives for systematic use, (E) Respiratory system, short run analysis without seasonal correction.

Top panel displays monthly counts observed from October 2019 to end September 2020 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

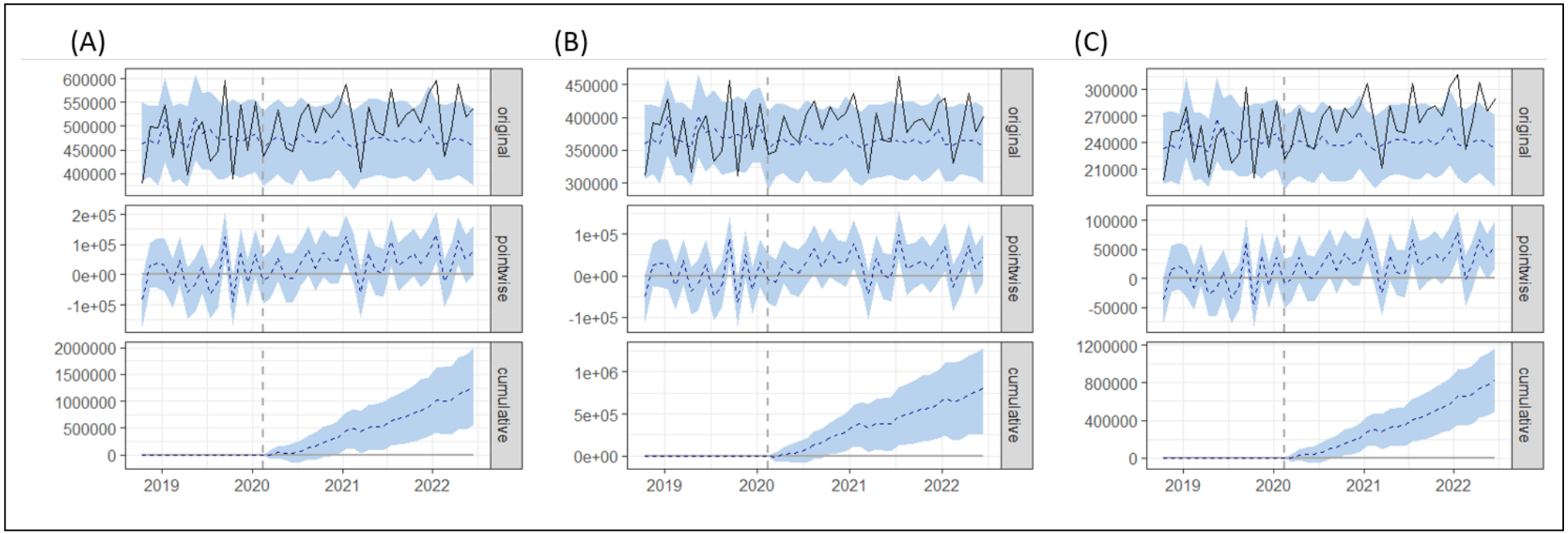

Figure 41: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, medications for (A) Cardiovascular system, (B) Nervous system, (C) alimentary tract and metabolism, (D) Anti-infectives for systematic use, (E) Respiratory system, long run analysis, without seasonal correction.

Top panel displays monthly counts observed from October 2014 to June 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.

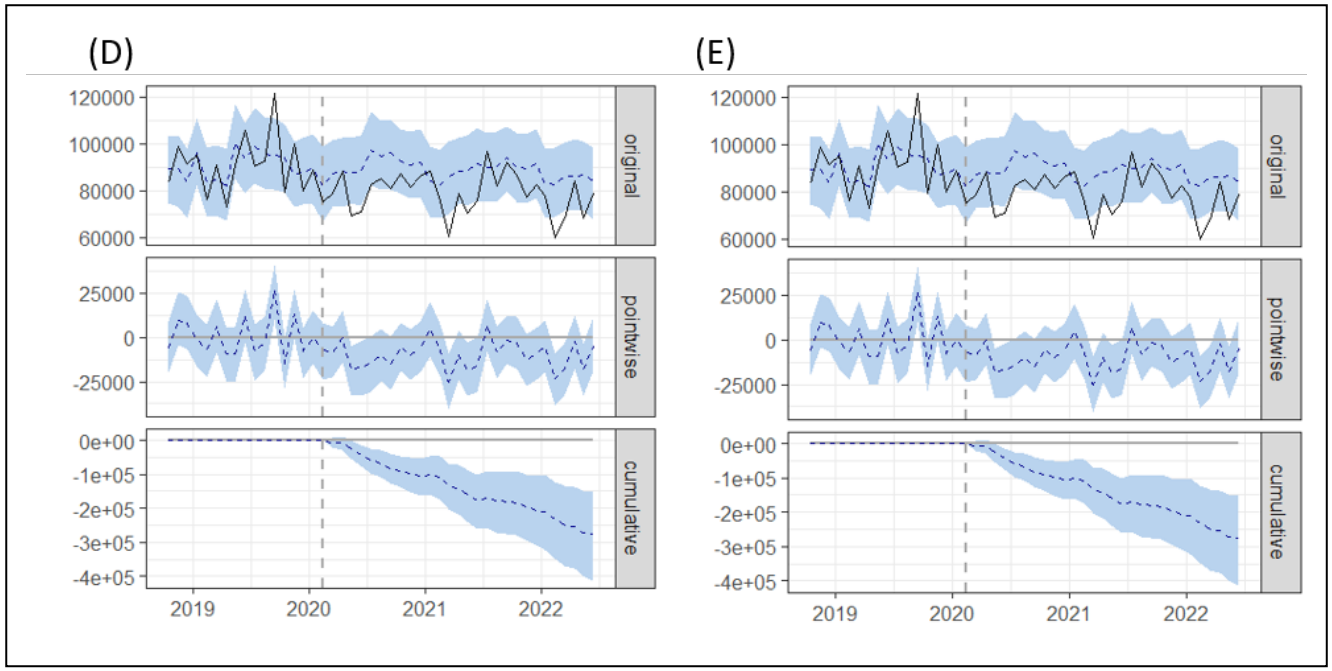

Figure 41 cont.: Changes in counts of medicines dispensed under the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme following the introduction of strict COVID-19 public health measures in March 2020, medications for (A) Cardiovascular system, (B) Nervous system, (C) alimentary tract and metabolism, (D) Anti-infectives for systematic use, (E) Respiratory system, long run analysis, without seasonal correction.

Top panel displays monthly counts observed from October 2014 to June 2022 (solid line) and the expected counts based on the prior 5 years' data (dashed line). Shaded areas represent 95% confidence intervals. Middle panel displays the monthly difference between observed and expected counts and bottom panel displays the cumulative difference between observed and expected counts over time. Dashed vertical line represents the introduction of the strictest COVID-19 public health measures in March 2020.