

**Change in admissions from stroke and heart attack during COVID-19**

**Date of analysis: July 2020**

In the first few weeks after lockdown in the UK (23/03/2020), there were many reports of a fall in hospital admission for heart attacks and strokes by UK newspapers and the British Heart Foundation. However, a recent examination of admissions to a large UK hospital found no evidence of a reduction in admissions of patients with cardiovascular conditions<sup>1</sup>.

A similar analysis to the above study was performed to examine patients admitted to Bradford Royal Infirmary (BRI) with myocardial infarction (MI, ICD-10 codes I21.0 to I21.9) and stroke (ICD-10 codes I61.0 to I61.9, I63.0 to I63.9, and I64.0 to I64.9) between 1<sup>st</sup> January 2016 and 16<sup>th</sup> June 2020, and comparing the same period in 2020 before and after lockdown. Our end points were total admissions and admissions from A&E. Figure 1 shows the 4-week moving average for number of weekly admissions and percentage change over time for all admissions; figure 2 shows the same restricted to admissions from A&E. The graphs show that over the period of a year, there are large fluctuations in the number of admissions for both diseases, though a reduction in numbers in 2020 was observed in the weeks leading up to and immediately after lockdown. The average weekly number of admissions in the three months after lockdown in 2020 were calculated (month 1: week 13-week 16; month 2: week 17-20; month 3: week 21-24) and compared to the same periods in 2016-2019. MI and stroke admissions were lower in the first 8 weeks after lockdown compared to previous years (table 1). However, a return to the expected numbers of admissions were observed in the third month after lockdown.

Table 1: Average weekly admissions in the three months after lockdown 2020 compared to the same period in 2016-2019. Figures are change in the number admissions with 95% CI.

	All admissions		Admissions from A&E	
	MI	Stroke	MI	Stroke
Month 1*	-4.8 (-8.0, -1.6)	-4.4 (-9.2, 0.5)	-4.6 (-7.4, -1.7)	-3.9 (-8.7, 0.9)
Month 2*	-3.9 (-7.3, -0.4)	-4.7 (-10.0, 0.7)	-2.6 (-5.9, 0.8)	-4.1 (-9.1, 1.0)
Month 3*	-2.8 (-6.9, 1.3)	-2.7 (-7.3, 2.0)	-1.9 (-5.3, 2.5)	-2.3 (-6.8, 2.3)

Month after lockdown: month 1=weeks 13-16; month 2=weeks 17-20; month 3=weeks 21-24.

Figure 1: 4-week moving average of weekly admissions for heart attack and stroke, with percentage change from 2016-2019 average number of admissions to 2020. Lockdown in the UK occurred on 23/03/2020.

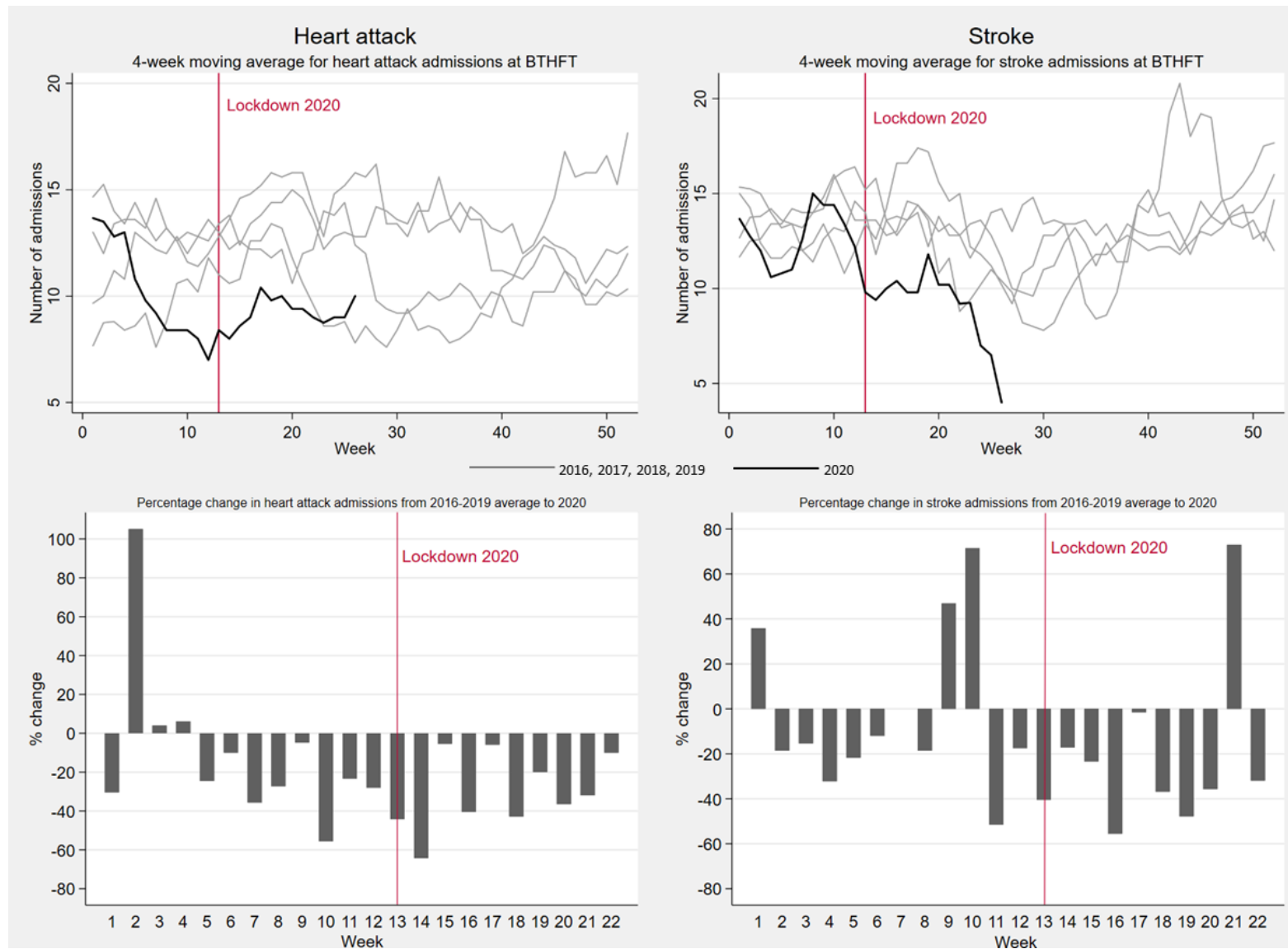
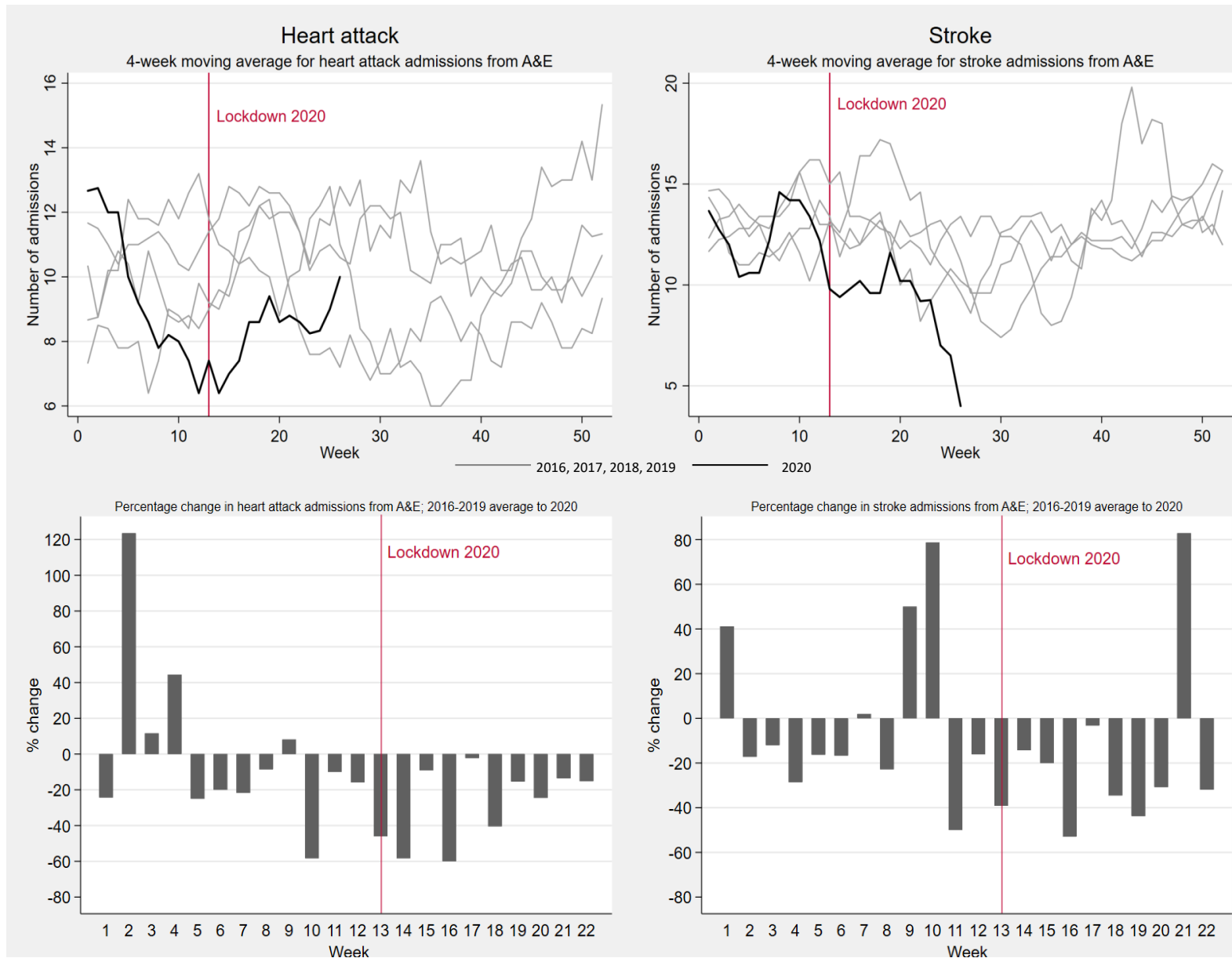


Figure 2: 4-week moving average of weekly admissions for heart attack and stroke from A&E, with percentage change from 2016-2019 average number of admissions to 2020. Lockdown in the UK occurred on 23/03/2020.



## References

1 Reeves, K et al. No evidence for reduced hospital admissions or increased deaths from stroke or heart attack during COVID-19. medRxiv June 2020.  
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