

**To:** Transport & Health Policy Makers, & Practitioners

**From:** Professor Adrian Davis

**Date:** 16th May 2022

**Subject:** Essential Evidence 4 Scotland No.53 Lower the baseline of avoidable injuries in increasing NHS capacity

**Top Line:** The NHS Lower the Baseline campaign promotes interventions to lower the rates of hospital admission from avoidable trauma – which includes traffic crashes.

In the early stages of the pandemic a major focus was on both “flattening the epidemic curve” and scaling up NHS intensive care capacity. However, doctors noted that there is a third major approach with potential benefits: “reducing the baseline” demand for NHS acute services through the rapid introduction of public health policies. The Lower the Baseline campaign seeks to create a space that explores ambitious public health interventions to lower the rates of admission to intensive care units and other over-stretched departments in the healthcare system. Every day, communities across the UK access the NHS for illnesses and conditions that are unfair and avoidable – including road traffic injuries. By addressing major drivers of acute healthcare demand, including trauma, long term pressure on the NHS can be reduced.<sup>1</sup>

The authors suggested an immediate reduction in motor vehicle speed limits. In England alone there are around [35 000 non-fatal admissions to hospital](#) every year related to road traffic crashes; more than one in 10 of these are serious and likely to require intensive support, including anaesthesia and surgery. Evidence from around the world shows that lowering speed limits can lead to major reductions in injuries including that every 1 mph reduction in speed reduces PMVC frequency by 5%. The authors cite Toronto, Canada, as an example, where lowering the speed limit from 40km/h (25mph) to 30km/h (19mph) was associated with significant declines in serious and fatal injuries. Streets that remained at a 40 km/h speed limit throughout the study period were selected as comparators. This protective effect was significant among adults 16 to 59 years of age and at intersections on speed limit reduced streets.

Speed limit reduction also had a strong impact on pedestrian-motor vehicle collisions (PMVC) injury severity: the percentage of major and fatal PMVC injuries decreased significantly by 67% in the post-intervention period.<sup>2</sup> The intervention to reduce posted speed limits to 30 km/h in the City of Toronto was implemented on all 40 km/h local roads in the Toronto and East York Districts, and was not based on historical PMVC frequency. Therefore, “regression-to-the-mean” is an unlikely explanation for the effect noted. Moreover, a major strength of this study was a controlled pre-post design, which compared PMVC rates on the same streets where speed limits were decreased from 40 km/h to 30 km/h to the PMVC rates on comparator streets. The effectiveness of posted speed limit reductions on PMVC risk and injury severity found in Toronto is similar to that reported in studies of 20mph speed limits elsewhere. UK studies evaluating the impacts on speed driven include Portsmouth, Bristol, Edinburgh and the Scottish Borders, with the first three measuring changes in casualties and each reporting significant casualty reductions.

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1 Bhopal, S, et al, 2020 Can we improve the NHS’s ability to tackle covid-19 through emergency public health interventions? British Medical Journal, 24th March.

2 Fridman, L. et al, 2020 Effect of reducing the posted speed limit to 30km per hour on pedestrian motor vehicle collisions in Toronto, Canada – a quasi experimental, pre-post study, BMC Public Health, doi.org/10.1186/s12889-019-8139-5