

## Effects of the COVID-19 Pandemic on Prehospital Emergency Care for Adults With Stroke and Transient Ischaemic Attack: A Systematic Review and Meta-analysis

Edel Burton<sup>1</sup>, Johnny Aladkhen<sup>1</sup>, Cathal O'Donnell<sup>2</sup>, Siobhán Masterson<sup>2,3</sup>, Aine Merwick<sup>4</sup>, Vera McCarthy<sup>5</sup>, Patricia Kearney<sup>1</sup>, Claire Buckley<sup>1</sup>

1. School of Public Health, University College Cork, Ireland
2. National Ambulance Service, Health Service Executive, Ireland
3. Department of General Practice, University of Galway, Ireland
4. Department of Neurology, Cork University Hospital, Ireland
5. School of Nursing and Midwifery, University College Cork, Ireland

**Introduction:** The COVID-19 pandemic impacted on health service provision worldwide, including care for acute time sensitive conditions, like stroke and transient ischaemic attack (TIA). Thus, the aim of this study was to conduct a systematic review and meta-analysis to investigate the impact of the COVID-19 pandemic on prehospital emergency care for stroke/TIA.

**Method:** Following a published study protocol, a systematic search of databases was conducted up to May 31, 2022. Peer-reviewed quantitative studies comparing prehospital emergency care for adults with stroke/TIA before and during the COVID-19 pandemic were considered for inclusion. The methodological quality of the included studies was assessed using the appropriate Joanna Briggs Institute tool. Overall pooled estimates of ambulance times (activation, response, patient care time) were calculated. Subgroup and sensitivity analyses included location and stroke/TIA diagnosis. Stroke/TIA emergency call volume was reported using a narrative synthesis. Clinical stakeholders and Patient and Public Involvement Contributors were involved from research question development to dissemination of results.

**Results:** Of 4083 studies identified, 56 unique articles met the inclusion criteria. Early data from 8/12 studies reporting ambulance times, suggests that patient care time increased. Furthermore, emergency call volume for stroke/TIA decreased during the COVID-19 pandemic, according to 43/56 studies that reported this outcome. Terminology for ambulance time intervals differed between studies. The majority of studies reported time from call to hospital arrival, whereas the minority of studies reported activation time.

**Conclusion:** Preliminary results from our systematic review and meta-analysis show that conflicting evidence exists on the impact of the COVID-19 pandemic on ambulance times and emergency call volume for stroke/TIA. Thus, this review synthesized available evidence on the varied effects across different countries, healthcare systems and ambulance time terminology. Review findings may inform our understanding of healthcare system resilience in response to crises on a broader level.

*Prehosp. Disaster Med.* 2023;38(Suppl. S1):s44  
doi:10.1017/S1049023X23001516

## Framework and Thematic Analysis of Historical After Action Review Reports from the Australian Capital Territory Emergency Services Agency

David Heslop FAFOEM, FRACGP, AFRACMA, MBBS, PhD, MPH, BSc(Adv) Hons 1, Toni Bushby<sup>2</sup>, Charles New FRACS, FA, Orth A, AFRACMA, A/FACAsM, MBBS, GradDipHlthSci (AMEDD)<sup>3</sup>, Georgeina Whelan<sup>4</sup>

1. UNSW, Sydney, Australia
2. Australian Army, Canberra, Australia
3. University of Sydney, Sydney, Australia
4. ACT Emergency Services Agency, Canberra, Australia

**Introduction:** Emergency services organizations routinely undertake internal quality improvement activities following training and operational activities. One form of a quality improvement activity is the After Action Review (AAR). An AAR is a facilitator-led post-event review where data is collected from individuals and groups of individuals using either surveys, focus group-like meetings, or individual interviews. Data is collected using a semi-structured data collection tool which is usually customized to the specific tasks being reviewed and the priorities and goals of the organization. The quality of AARs has been noted to vary significantly across organizations with reporting biases and differences between exercise or real event AARs and biases introduced by utilization of internal rather than external evaluators, and limited justification for data selection and collection rationales. The Australian Capital Territory Emergency Services Agency (ACT ESA) has identified that interoperability and integration between internal ACT ESA sub-agencies and externally with other agencies is a key problem. The aim of this study was to identify specific areas of consistent interoperability concern through the examination of historical AARs.

**Method:** In this qualitative study a Framework Analysis of historical AAR text documents was conducted, following the standard five step process. This was followed by detailed thematic analysis in aggregate and examined longitudinally, with emergent themes undergoing further analysis.

**Results:** AARs relating to major emergency response and training activities 2016–2022 were examined. There was a substantial variation in quality, level of detail, completeness and structure across the different AAR documents. Consistent themes emerging from the data highlighted concerns regarding inter-agency culture, uncertainty when conducting joint activities and its impact on decision making, logistics concerns, resourcing and breakdown of shared understanding and communication between teams.

**Conclusion:** Despite a centralized command structure, historical AAR analysis shows ACT ESA has had persistent operationally impacting interoperability and integration problems within the organization and with external agencies.

*Prehosp. Disaster Med.* 2023;38(Suppl. S1):s44  
doi:10.1017/S1049023X23001528