Does mean ambulance handover time at Emergency Departments correlate with number of handovers per month?

Timothy Driscoll[1], Barbara Gomes[1],Steve Bell[2], Martina Brown[3], Deborah Fitzsimmons[1], Jenna Jones[1], Mari Jones[1], Natalie Joseph-Williams[4], Ashra Khanom[1], Mark Kingston[1], Adam Lloyd[5], Joy McFadzean[4], Hilary Pillin[6], Helen Pocock[7], Delyth Price, [4] Andy Rosser[8], Lynne Wright[9], Alan Watkins[1], Andrew Carson-Stevens[4], Helen Snooks[1],

[1]Swansea University, UK; [2]North West Ambulance Service NHS Trust, UK; [3]South Central Ambulance Service NHS Foundation Trust, UK; [4]Cardiff University, UK; [5]Scottish Ambulance Service, UK; [6]Association of Ambulance Chief Executives, UK; [7]South Central Ambulance Service NHS Foundation Trust, UK; [8]West Midlands Ambulance Service University NHS Foundation Trust, UK [9]Patient and Public Contributor, UK

Background: Busy periods, such as "winter pressures" months, can create challenges for Emergency Departments (EDs) managing patient flow. This may increase risks throughout the healthcare system. ED patients may receive suboptimal care, some patients may remain in ambulances, sometimes for hours, whilst queued ambulances cannot attend other patients.

In some EDs, ambulance queueing is relatively rare; in others, it is more common. As part of the STALLED study, we investigated any association between mean ambulance handover time and the number of monthly handovers.

Methods: We analysed publicly available ambulance collection data for English NHS Trusts between October 2023 and March 2024 from NHS England. We included all Type 1 Acute Trusts, excluding children's hospitals, those with fewer than 100 handovers per month, and clear outliers.

Results: 105 Trusts were included (10 to 18 per English region). The number of handovers recorded per month varied between 716 and 8,404 with a mean of 3,090. Monthly mean handover time varied between 8 minutes, 45 seconds and 129 minutes, 6 seconds. Figure 1 shows a weak relation between mean handover time and mean monthly handovers.

Conclusion: Mean ambulance handover time is not obviously correlated with mean monthly number of handovers. Therefore, we propose the existence of deeper-rooted obstacles/challenges which warrant further exploration. It also remains to assess temporal patterns in more detail.

While queueing is a problem everywhere to some extent, there is variation in how EDs manage it. Understanding these variations may lead to improvements in patient safety, health outcomes, experience, and costs.

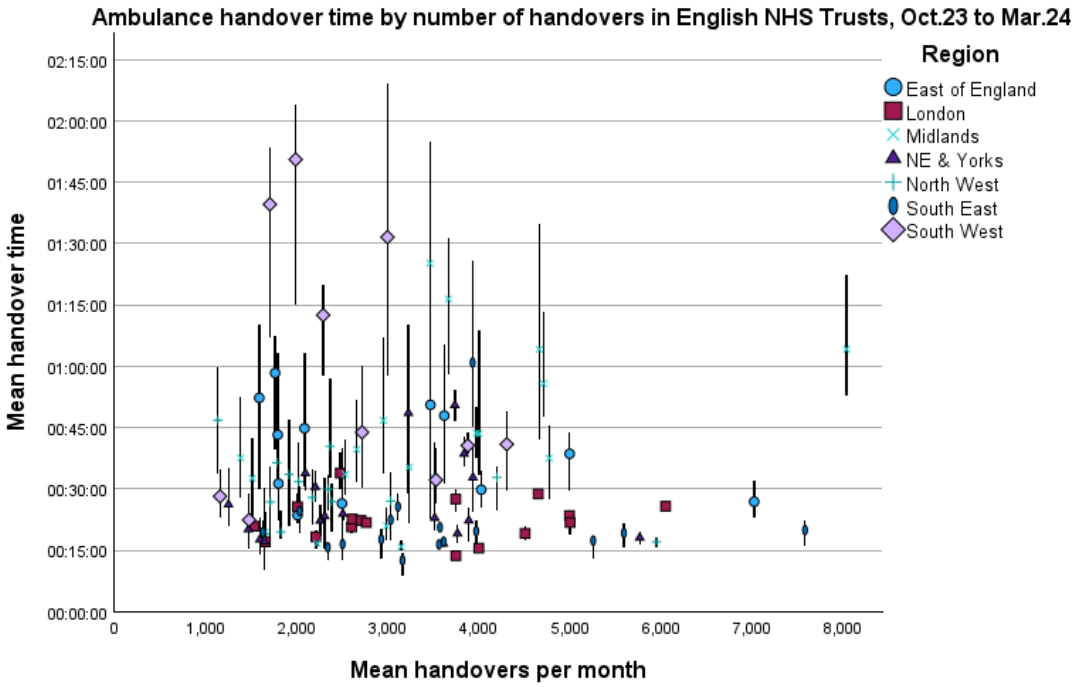

Figure 1: Ambulance handover time y number of handovers in English NHS Trusts, October 2023 to March 2024