White (6.3%) and unknown (5.7%) ethnicity. The proportion of Asian patients (3.8%) who received attendance from the ambulance service was higher than other ethnic minority backgrounds. After adjusting for age, gender, ethnicity, NEWS2 score, socio-economic deprivation, and urban or rural place of residence, Asian patients (Odds Ratio [OR] 0.81, 95% Confidence Interval [CI] 0.80, 0.82, p<0.001), Black patients (OR 0.90, 95% CI 0.88, 0.93, p<0.001), and mixed ethnicity patients (OR 0.92, 95% CI 0.89, 0.95, p<0.001) were significantly less likely than white patients to be conveyed to the hospital by ambulance.

Conclusions There were significant differences in prehospital conveyance for ethnic minority patients compared with white-British patients. These differences could be related to language and cultural barriers, and a limited understanding of the health system. More action is needed to tackle ethnic inequalities, reduce inequalities, and remove barriers to equal conveyance.

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Research most likely to affect practice (Sponsor – College of Paramedics)

Laura Goodwin. *University of the West of England, Bristol, UK*

03 **PREHOSPITAL BIRTH: INEQUALITIES AND NEONATAL HYPOTHERMIA IN THE SOUTH WEST OF ENGLAND**

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Background Neonatal hypothermia (<36.5°C) is an important risk factor for babies born before arrival at hospital (BBA). In the prehospital setting babies can become hypothermic within minutes. Paramedic temperature measurement of BBA babies is inconsistent in the UK, with temperatures recorded in only 3-10% of cases. We aimed to examine which groups of women are most likely to experience BBA and what proportion of BBA babies are hypothermic on arrival at hospital in the South West of England.

Methods Anonymised extracts from routinely collected data (hospital neonatal records) were provided by six South West NHS Hospital Trusts from a three-year period (January 2018-January 2021). Records were included if they related to a live birth (≥24 weeks) attended by paramedics. Demographic characteristics of the mothers (e.g. age, ethnicity, safeguarding status) and characteristics of the birth (e.g. gestation, temperature on admission, treatment) were analysed and presented using descriptive statistics.

Results 216 babies were conveyed to hospital by the ambulance service during the above time period. There were 32 records (15%) with no admission temperature documented. Of those with a recorded admission temperature, 35% (64/184) were hypothermic on arrival at hospital. Neonatal hypothermia on arrival at hospital was associated with the need for advanced hospital care and extended length of stay. Characteristics associated with BBA included safeguarding concerns and late booking. Mothers of hypothermic babies were less likely to have had a previous birth, and more likely to have reported a disability at their booking appointment.

Conclusions More should be done to support prehospital temperature management of BBA babies, to prevent neonatal hypothermia. Although these findings may help hospital Trusts to identify those who may be at increased chance of BBA in the South West, the study is limited by the small sample size. Further work would be needed to confirm these associations.

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Most innovative use of routine data (Sponsor – Population Data Science, Swansea University)

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04 **'BEYOND THE EMERGENCY': NOVEL USES OF AMBULANCE DATA TO IDENTIFY VULNERABLE COMMUNITIES AND IMPROVE PRE-HOSPITAL CARE**

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Background Ambulance data is often used to elucidate presentation characteristics, including patient demographics and medical conditions. There is a lack of research utilising geographical methods to understand the drivers of medical emergencies. During the COVID-19 pandemic, our team has produced an evolving research portfolio demonstrating novel uses of ambulance data, including geographical data linkage to explore the impact of built environments and socio-economic conditions on the geospatial heterogeneity of acute conditions.

Methods The research utilises 999 call data collated by the East Midlands Ambulance NHS Service including dispatch records, the impressions of paramedics attending emergencies, and paramedic decisions about patient care pathways. The region is a socio-economic, demographic, and geographic