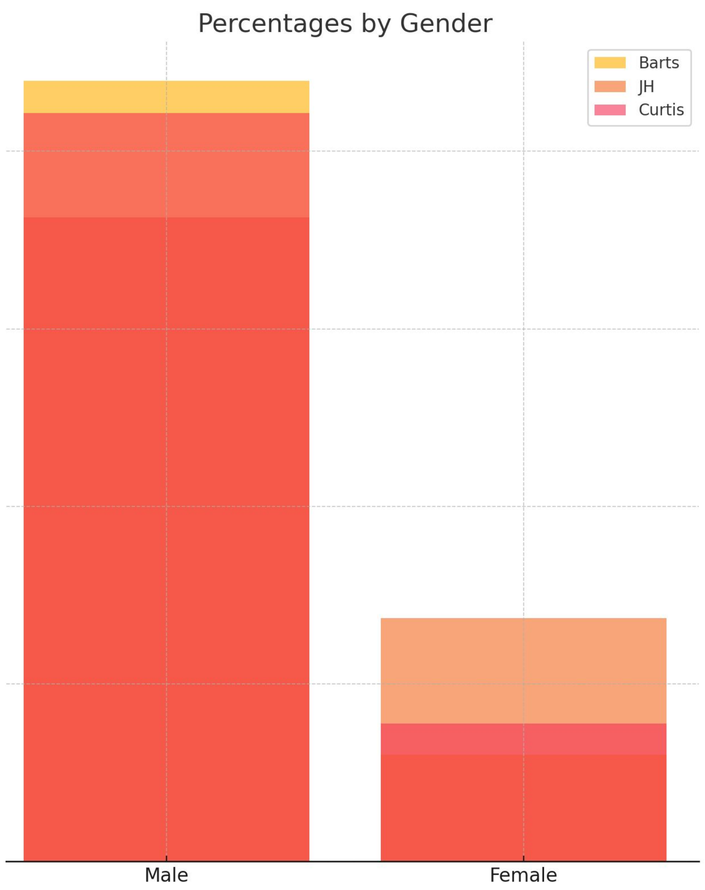
Those from minority ethnic backgrounds and those with male gender may be more likely to suffer a scaphoid fracture non-union and subsequent operative fixation.

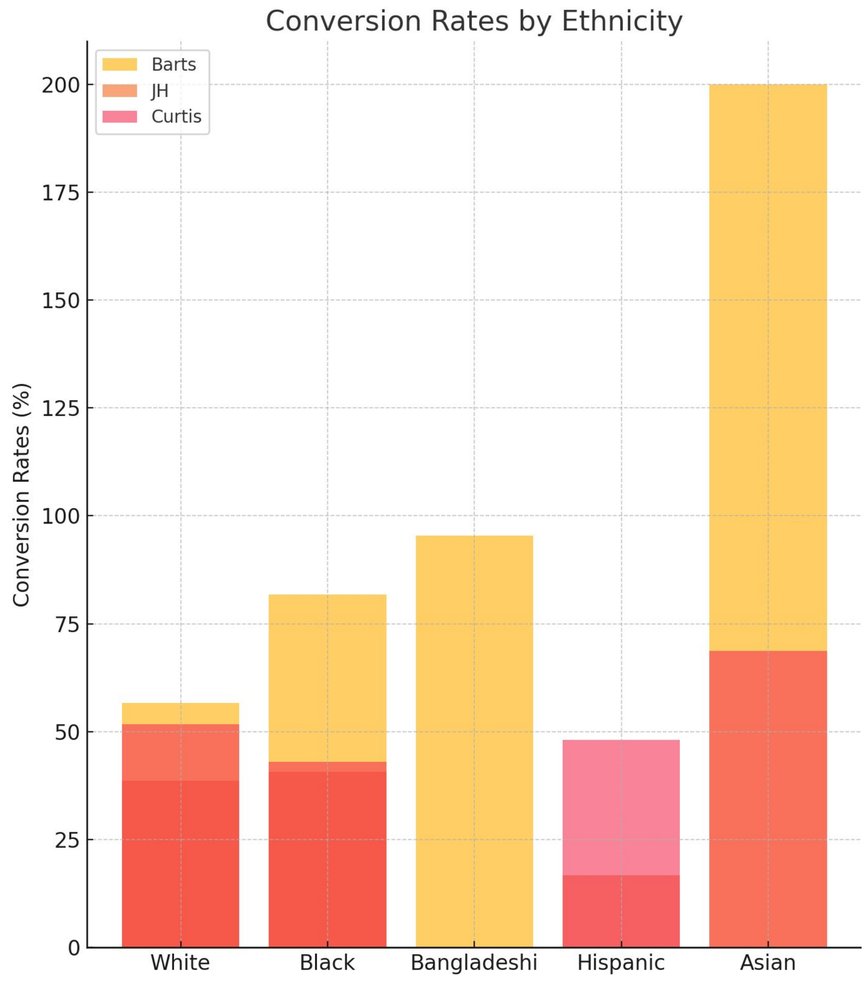
Title**: An **international** multi-centre **federated-network** data analysis using **routine health data (EHR)** investigating **disparities in care for patients with scaphoid fractures.

Background: *Scaphoid fractures of the hand represent an injury that can be associated with significant morbidity if diagnosis or treatment is delayed. Patients may then present with a non-union of a fracture leading to disability and increased healthcare costs associated with treatment. Scaphoid fracture diagnosis and treatment are highly variable with age, gender, and ethnicity leading to disparities in care. We aimed to use routine health data (EHR) to investigate these disparities.*

Scaphoid Fracture Non-Union by Gender



Scaphoid Fracture Non-Union Operative Fixation



Methods

1. Routine health data was extracted and converted to OMOP
2. Snomed CT and CPT-4 codes were used to create four cohorts:
   - scaphoid fracture
   - scaphoid fracture – primary operative intervention
   - scaphoid fracture non-union
   - scaphoid fracture non-union surgery
3. Federated analysis was undertaken across three international sites (secondary care) using the same OMOP code:
   - Barts NHS – UK
   - Johns Hopkins – USA
   - Curtis National Hand Centre – USA
4. Results were analysed descriptively and incidence rates were calculated based on the individual populations.

Limitation:

- Variable coding between centres can limit the yield of information when conducting federated analyses
- Ethnicity coding varies between sites
- Scaphoid fractures may not be completely captured due to unmapped and unstructured data from outpatient departments

U Rahman 1,2, G Zhang 3, B Martin 4, P Nagy 4, A Giladi 3, D Laporte 4, D.S Edwards 1,2, X.L Griffin 1,2, J.C.E Lane 1,2

1 – Barts NHS Trust, London, United Kingdom
2 – Barts Bone and Joint Health, Queen Mary University London, London, United Kingdom
3 – Curtis National Hand Centre, MedStar Health, Baltimore, USA
4 – Johns Hopkins Hospital, Baltimore, USA