Aims:
The aim of this study was to describe the epidemiology of closed isolated fractures of the femoral shaft in children, and to compare the treatment and length of stay (LOS) between major trauma centres (MTCs) and trauma units (TUs) in England.

Patients and Methods:
National data were obtained from the Trauma and Audit Research Network for all isolated, closed fractures of the femoral shaft in children from birth to 15 years of age, between 2012 and 2015. Age, gender, the season in which the fracture occurred, non-accidental injury, the mechanism of injury, hospital trauma status, LOS and type of treatment were recorded.

Results:
A total of 1852 fractures were identified. The mean annual incidence was 5.82 per 100 000 children (95% confidence interval (CI) 5.20 to 6.44). The age of peak incidence was two years for boys and girls; this decreased with increasing age. Children aged four to six years treated in MTCs were more likely to be managed with open reduction and internal fixation compared with those treated in TUs (odds ratio 3.20; 95% CI 1.12 to 9.14; \(p = 0.03\)) [Fisher exact test].

Conclusion:
This study highlights the current national trends in the management of closed isolated fractures of the femoral shaft in children following activation of major trauma networks in 2012. Future studies focusing on the reasons for the differences which have been identified may help to achieve more consistency in the management of these injuries across the trauma networks.