78% (n=7) of patients who had a GDP requested a specialist dental check-up at Alder Hey. Three patients already under the dental department, were no longer registered with a GDP. Only one patient (11%) who hadn't been seen in the dental department previously knew of its existence. 67% (n=2) of patients who had been seen within the dental department previously, requested a dental review. Dental review was arranged for all the patients who requested it.

Conclusions

- There was generalised high demand for specialist dental review and oral health information
- Most patients were post-transplant or CKD 4 & 5, who require specialist dental management
- Few patients had been seen within the department previously, and few were aware that there was a dental department at Alder Hey
- Data collection was disrupted due to the COVID-19 pandemic but highlighted the need for formal renal-dental pathways

Recommendations

- Specialist dental assessment for all haemodialysis patients
- Dental assessment of pre-transplant patients during work up
- Annual or semi-annual specialist dental review post-transplant

Development of an oral health leaflet for renal patients

British Association of Child and Adolescent Public Health

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PREDICTORS OF HEALTHCARE UTILISATION IN CHILDREN: A POPULATION SEGMENTATION APPROACH IN NORTH WEST LONDON

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Background There is a growing role for health services in managing population health. Segmentation approaches are widely used in the adult population to identify individuals with similar healthcare needs, based either on demographics and long-term conditions (LTCs), or on healthcare utilisation. Although the two approaches are closely linked in adults, the link between demographics and LTCs with healthcare utilisation in children at a population level is unclear.

Objectives To segment the child population of North West London based on healthcare utilisation, and to identify the predictors of utilisation based on age, sex, ethnicity, long-term conditions, and socio-economic deprivation.

Methods Data for this study used the Discover platform to access routinely collected primary and secondary healthcare data in North West (NW) London. A retrospective cohort was constructed of children aged 0–15 years currently registered to a general practice (GP) in NW London with one full year of follow-up up to the end of February 2020. For children who had died during this period, one year of follow-up was

included up until the date of death. A k-means clustering method was performed to segment the population based on seven healthcare utilisation variables (GP, A&E and outpatient attendances; elective and emergency admissions; elective and emergency total length of stay in days over the year). Adjusted multinomial logistic regression was used to identify the predictors of segment membership, including age, sex, ethnicity, deprivation (using quintiles of the Index of Multiple Deprivation score) and presence of one or more LTCs as covariates.

Results 378,309 currently registered children aged 0–15 years were included in the cohort, of whom 43 (0.01%) had died. Six segments were defined with differing healthcare utilisation patterns: three segments predominantly using primary care, one predominantly using emergency care services, one predominantly using elective care services, and another, representing 4.4% of the population with the highest activity across all service types. Younger children, males, those with one or more LTCs, and those living in areas with higher deprivation were more likely to be in higher utilisation segments. However, the pseudo-R² for the model was 0.052, suggesting significant unexplained variation in utilisation.

Conclusions Using a data-driven method, we segmented the child population of NW London into six distinct groups based on healthcare utilisation. Although demographics and co-morbidities were strong predictors of utilisation segment, a significant amount of variation remained unexplained, suggesting a less well-defined trajectory of utilisation in children than in adults. Further research is needed to understand whether additional factors available in electronic health records can explain variation in utilisation, and can enable early identification and intervention.

Association of Paediatric Emergency Medicine

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COMPARISON OF THREE PAEDIATRIC EARLY WARNING SCORES FOR CHILDREN REQUIRING UNPLANNED PICU ADMISSIONS RETROSPECTIVE OBSERVATIONAL STUDY

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Background Paediatric early warning system (PEWS) is a well-recognised multi-faceted structure used to detect and manage clinical deterioration in children. There are multiple systems used in various clinical settings with limited evidence despite its widespread implementation in healthcare. However, it has been identified that there is a need for standardisation to help improve patient safety. The three tertiary children's hospitals in the 'South Thames Paediatric Network' in London (Evelina children's hospital, Kings College Hospital and St Georges hospital) use three different types of PEWS.

Objectives The overall aim of this study was to compare the three different PEWS to identify clinical deterioration in children requiring unplanned PICU admissions. The primary hypothesis was that there were differences in the time for escalation based on the type of PEWS tools used for a sample of population requiring unplanned PICU admission.

Methods This was a single centred retrospective observational study of 35 patients with unplanned PICU admissions from