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Foot and ankle problems in children and young people attending primary care in England

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Rationale for undertaking the work

•Population level data about foot and ankle problems in children and young people is sparse

•Our PPI work has identified inconsistencies with service access and service delivery, often due to the lack of appropriate services for onward referral.

•Timely access to foot care services for children are key to the early detection and management of foot problems and the reduction in adverse outcomes[1].

•With the growing pressure on primary care services, there is greater recognition of the role of allied health professionals in responding to the increasing demand for care[2].

Epidemiology of paediatric presentations with musculoskeletal problems in primary care

Albert Tan[1], Victoria Y. Strauss[2], Joanne Protheroe[1*] and Kate M. Dunn[1]

Table 1 Standardised annual consultation prevalence per 10,000 registered persons (aged 3 to 17 years) for the 12 most common regional problems

Body region	Rate per 10,000 persons (95% CI) [a]		Male: female prevalence ratio (95% CI) [a]	
Foot	109	(93 to 124)	0.97	(0.72 to 1.29)
Knee	104	(89 to 119)	1.42	(1.05 to 1.91)
Back (any [b])	101	(86 to 115)	1.00	(0.75 to 1.35)
Chest	81	(67 to 94)	1.38	(0.98 to 1.93)
Head	72	(59 to 85)	1.32	(0.92 to 1.90)
Hand	49	(38 to 62)	1.37	(0.88 to 2.11)
Neck	45	(35 to 56)	0.97	(0.63 to 1.52)
Ankle	37	(28 to 46)	1.07	(0.66 to 1.76)
Pelvis	36	(27 to 45)	0.89	(0.54 to 1.46)
Hip	26	(18 to 33)	0.74	(0.41 to 1.34)
Wrist	19	(13 to 26)	0.77	(0.39 to 1.52)
Shoulder	13	(7 to 18)	0.46	(0.19 to 1.12)

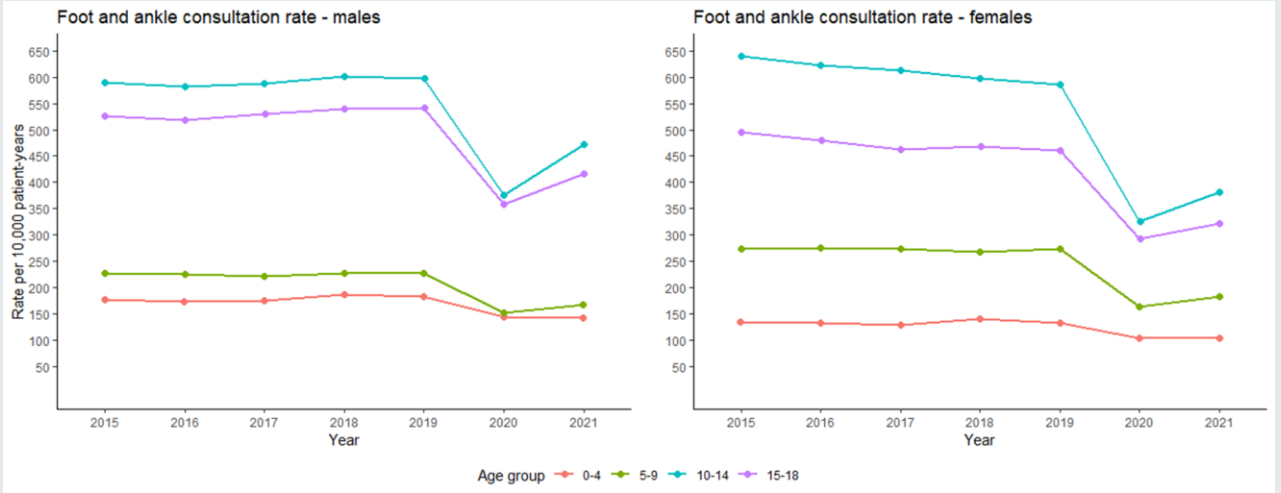
[a] males and females; age sex-standardised based on population figures for England and Wales in 2006 [15]
[b] includes consultations coded as upper back, lower back or back

Methods

- **Aim:** to describe the epidemiology, presentation and healthcare use for foot and ankle problems in children and young people across England.
- **Design:** population-based cohort study
- **Methods:** analysis of GP encounters for foot and ankle problems in children across England.
  - Protocol approved prior to conducting the work.
  - PPI undertaken throughout the project.
- **Data source:** Clinical Practice Research Datalink (CRPD)
- **Sample:** all children and young people aged 0–18 years presenting to their General Practitioner between January 2015 and December 2021 with a foot or ankle problem.
- **Data linkage:** HES Outpatient data.
- **Analytical approach:** age- and sex-specific rates of foot and ankle consultations per 10,000 patient–years; Adjusted and unadjusted hierarchical Poisson regression models; Hierarchical multivariable logistic regression analysis

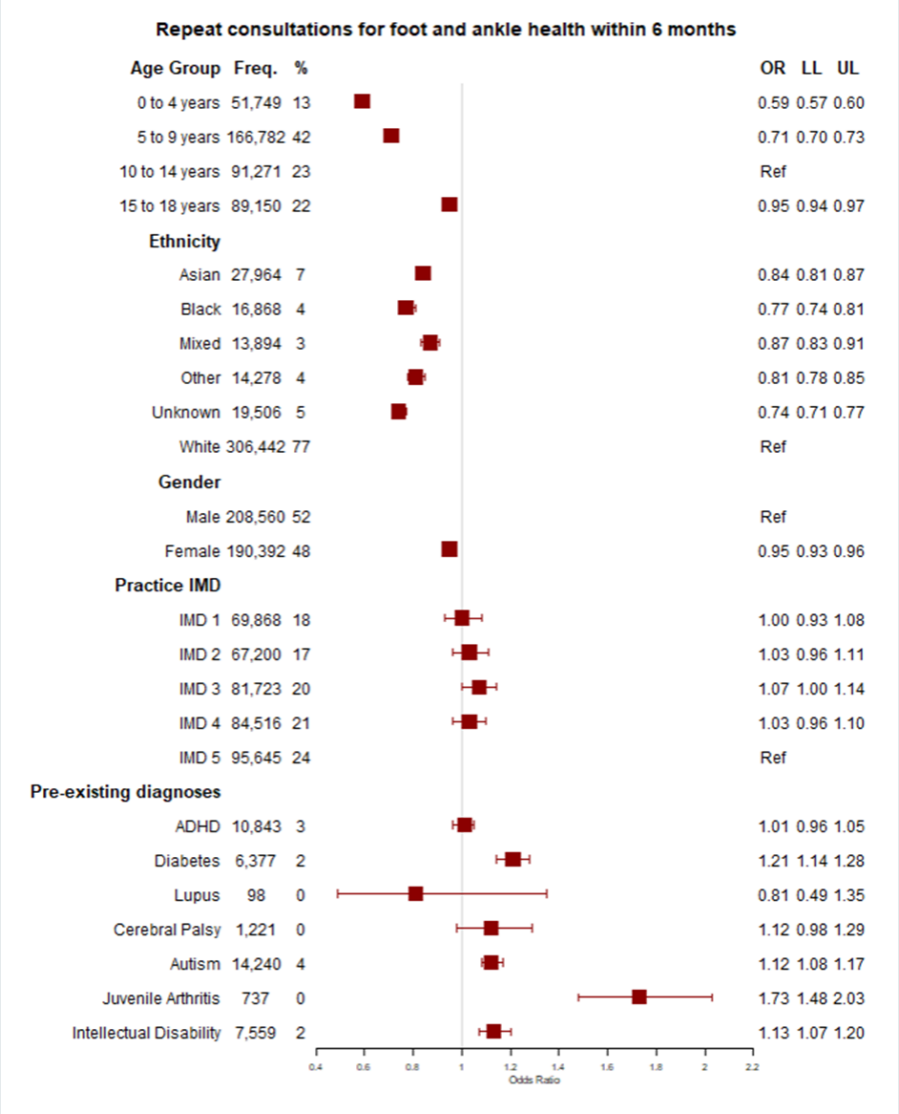
Results (1)

- 416,137 children with 687,753 encounters for foot and ankle problems
  - 219,158 (52%) boys and 198,948 (48%) girls.
  - 77% White British, 7% Asian, 5% were unknown, 4% Black
- The age category with the highest frequency of first (42%) and total (44%) events were 10 to 14 years.
- The most observed encounters were “ingrowing toenail” (16%) and “foot pain” (10%).
- The highest frequency code categories for encounters were “musculoskeletal” (34%), and “unspecified pain” (21%).



Results (2)

- Being female was associated with lower consultation rates for foot and ankle problem than being male (adjusted rate ratio [ARR] 0.96; 95% CI 0.95 to 0.96).
- There were 83,197 (21%) out of 398,952 with repeat consultations for foot and ankle problem within six months.
- Those in black, Asian and other ethnic groups had lower odds of repeat consultations compared to those in the white group, as did females compared to males (odds ratio 0.95, 95% confidence interval 0.93 to 0.96)
- Odds for repeat visits were higher among those with diabetes (OR:1.17, 95%CI:1.11-1.24), and juvenile arthritis (OR 1.72, 95%CI:1.47–2.00).



Conclusion

- There is a high prevalence of foot and ankle problems in children and young people.
  - Musculoskeletal diagnoses were the most common in our cohort.
  - Further analysis ongoing.

- Higher rates of consultations among those aged 10 to 14 years and the increased likelihood of repeat consultations among those with existing diagnoses have implications for service provision.

- The findings suggest there's inequality with access to services and further research is required to understand the reasons for ethnic, regional and sociodemographic variation.

- With the growing burden on primary care services, our data can underpin the development of allied health professionals within primary care services to support accurate diagnosis and treatment, and to reduce the burden on general practitioners.
  - More research to inform policy-making and service provision is needed.

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