

JSNA Health and Wellbeing Profile 2023/24

Chronic Childhood Illnesses

Summary points

- There were 85 emergency admissions for asthma in under 19 year-olds in 2021/22 in Bristol. That is the rate of 87.6 per 100,000 population – lower than England rate of 131.5 per 100,000.
- There were 40 emergency admissions for epilepsy in under 19 year-olds in 2021/22 in Bristol. That is the rate of 41.2 per 100,000 population – lower than England rate of 73.6 per 100,000.
- There were 50 emergency admissions for diabetes in under 19 year-olds in 2021/22 in Bristol. That is the rate of 51.5 per 100,000 population – similar to England rate of 58.0 per 100,000.

Asthma

Asthma is the most common chronic disease of childhood. The strongest risk factors for developing asthma¹ are a combination of genetics with exposure to inhaled particles that may provoke allergic reactions or irritate the airways, such as: indoor allergens, outdoor allergens (e.g. pollens and moulds), tobacco smoke and air pollution.

In 2021/22, there were 85 child (aged 0-18 years) emergency admissions to hospital due to asthma², a rate of 87.6 per 100,000 children. Bristol rate is significantly lower than England's rate of 131.5 per 100,000.

Within Bristol the highest crude rate of emergency admissions due to asthma among children has been observed in the Inner City locality (119.2 per 100,000) and the lowest in the North & West (inner) locality at 23.8 per 100,000 in 2021/22 (fig 2).

¹ World Health Organisation, Fact sheet on Asthma (No.307), Nov 2013: <https://www.who.int/news-room/fact-sheets/detail/asthma>

² Admissions directly due to asthma, 0-18 yrs. Source: OHID Child and Maternal Health Profiles, August 2023

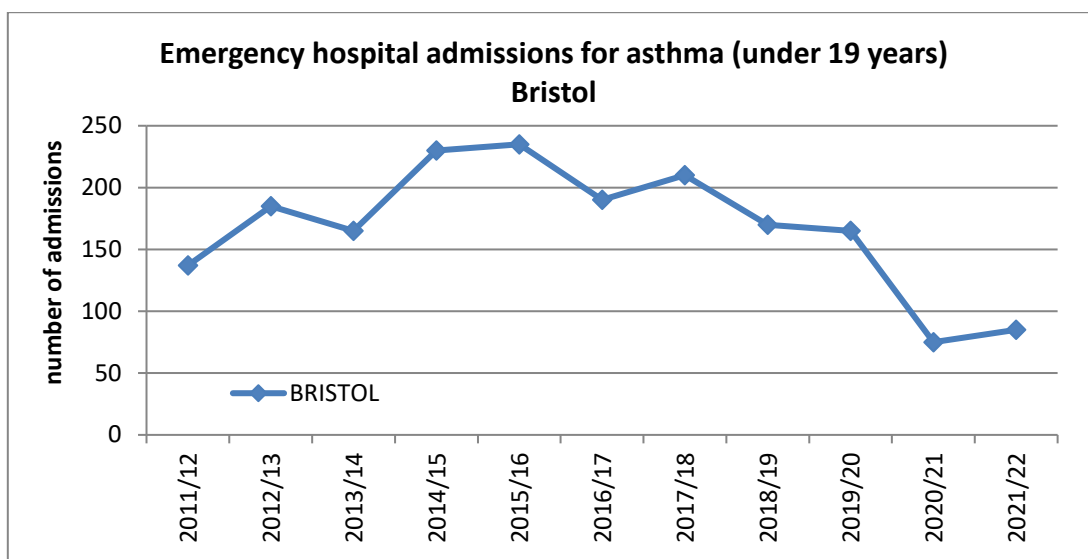


Fig 1: Child emergency hospital admissions for asthma. Source: OHID Child and Maternal Health Profiles, August 2023

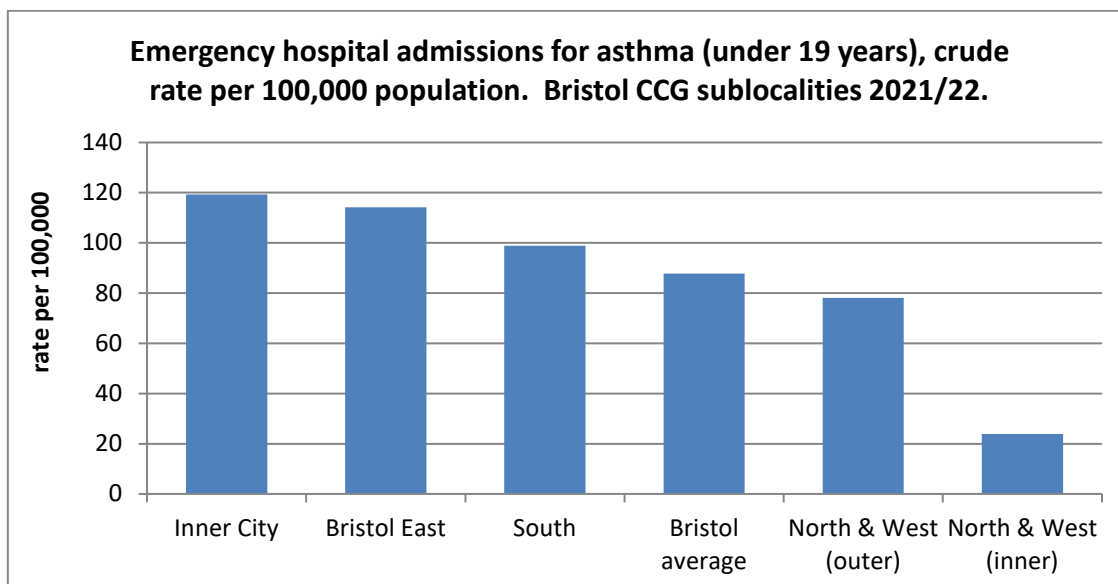


Fig 2: Child emergency hospital admissions for asthma, crude rates per 100,000 by CCG sub-locality; Source: Hospital Episodes Statistics via NHS Digital, ONS population estimates, August 2023

By ward, 3 year (2019/20 to 2021/22) average rates for hospital admissions³ were highest in Lawrence Hill (209.3 per 100,000), Henbury and Brentry (193.4 per 100,000) and Knowle (175.6 per 100,000 population) wards. the Lawrence Hill’s rate was statistically significantly higher than Bristol average for the same period: 110.0 per 100,000. The lowest rate was in Stockwood (26.5 per 100,000) while Clifton Down had no emergency asthma admissions among children in 2019/20 – 2021/22 period.

³ Local ward data is a pooled rate for the 3 years 2019/20 – 2021/22. Bristol average is 110.0 per 100,000 for this time period.

Asthma and second-hand smoke

Asthma attacks can be triggered by second hand smoke, and the main source of exposure for children is inside the home⁴. The Bristol Quality of Life survey 2022/23⁵ notes 3.6% of people live in houses where someone smokes regularly inside the home - highest in Hartcliffe and Withywood (11.6%) and Lawrence Hill (11.3%).

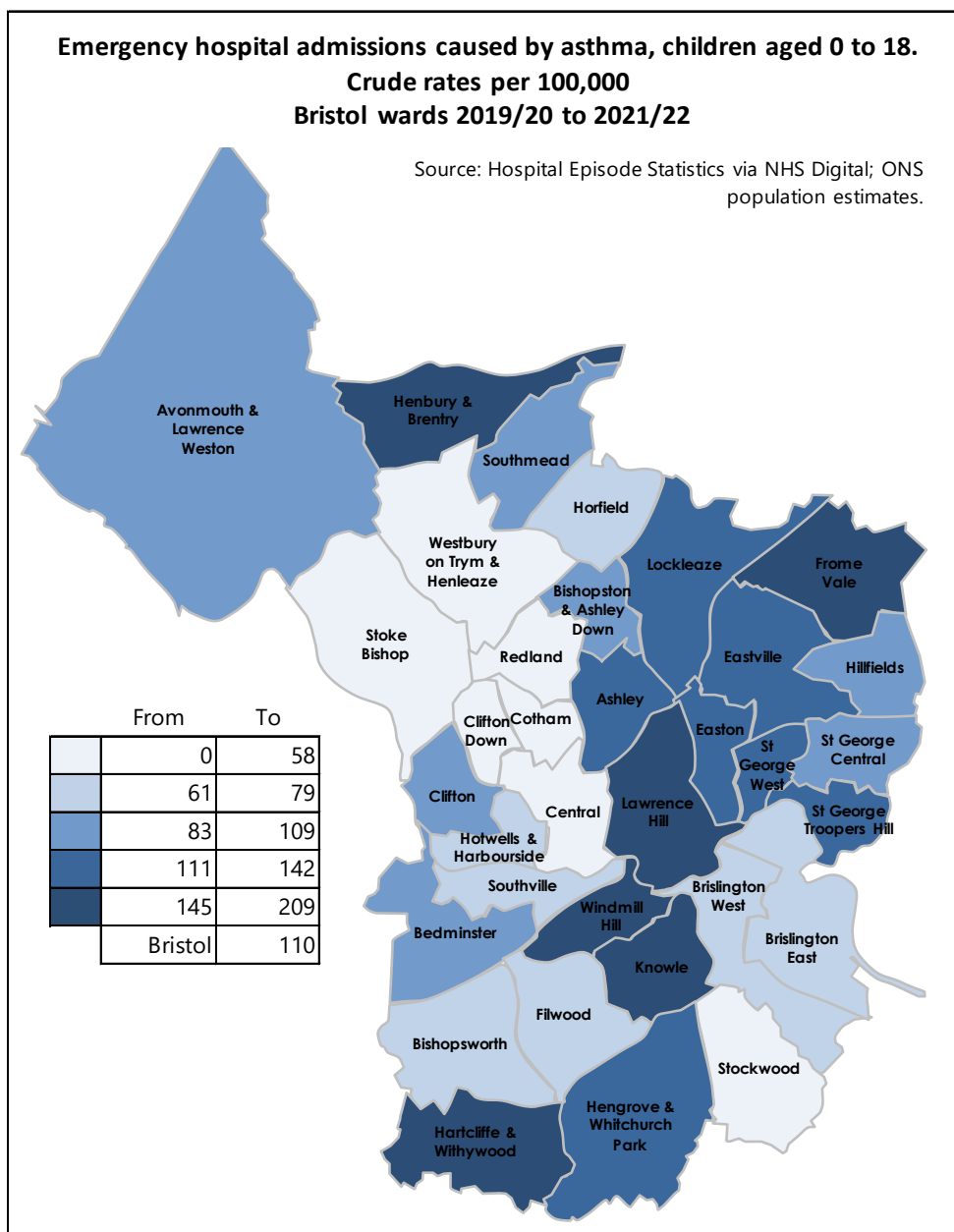


Fig 3: Child emergency hospital admissions for asthma, 3-year pooled crude rate per 100,000 by ward.
Source: Hospital Episodes Statistics via NHS Digital, August 2023

⁴ Action on Smoking and Health (ASH), Research report - Asthma & Smoking, 2015

⁵ Bristol Quality Of Life Survey 2022/23, [Dashboards — Open Data Bristol](#)

Equalities

Of the 327 childhood asthma admissions in 3 years period between 2019/20 to 2021/22, 190 were boys (58.1%) and 137 girls (41.9%). Male admission rate at 124.5 per 100,000 was statistically significantly higher than female rate of 94.6 per 100,000 population.

The highest number of childhood admissions for asthma in the 3 year period came from the most deprived parts of Bristol. The rate of admissions in the most deprived quintile was over 2 times higher than in the least deprived quintile (fig. 4). A nation-wide cohort study provides evidence that inequalities in persistent asthma are associated with socio-economic disadvantage early in life⁶.

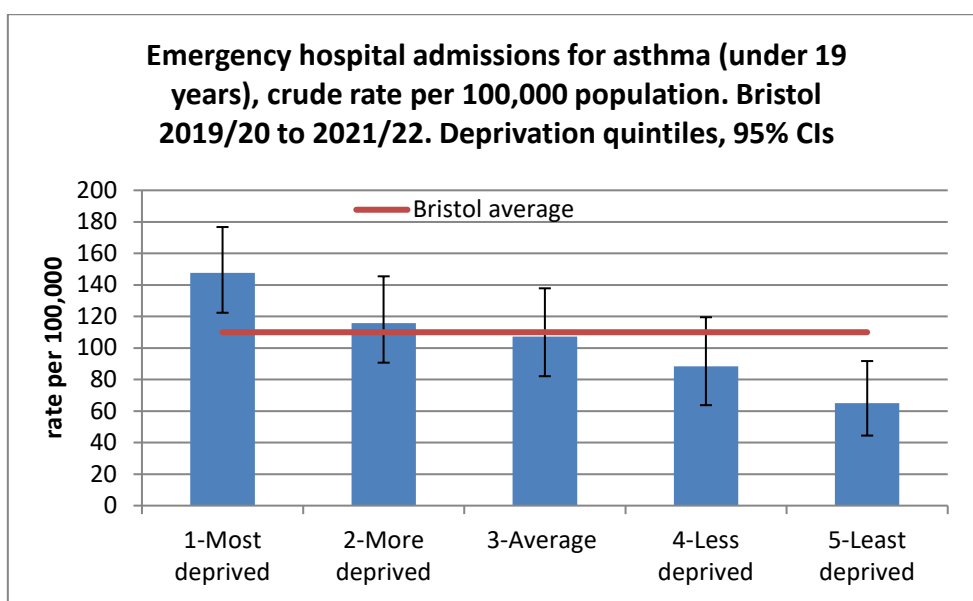


Fig 4: Child emergency hospital admissions for asthma, 3-year pooled crude rate per 100,000 by deprivation quintile. Source: *Hospital Episodes Statistics via NHS Digital, August 2023*

Epilepsy

Epilepsy is the most common neurological disorder in children affecting around 1 in 220 children nationally⁷. It is characterised by a tendency to have seizures. Diagnosis is challenging and misdiagnosis rates are high.

Epilepsy can occur in isolation or be associated with other conditions, such as learning difficulties or cerebral palsy. The commonest cause of epilepsy has no identifiable cause (idiopathic epilepsy), but approximately a third are considered symptomatic (secondary epilepsy) which may be associated with a brain injury, congenital abnormalities or genetic conditions.

Epilepsy is associated with the risk of premature death (as seizures can be potentially life threatening), poor educational and social outcomes and mental health issues. Seizure

⁶ Creese H, Lai E, Mason K, et al Disadvantage in early-life and persistent asthma in adolescents: a UK cohort study. *Thorax* 2022;77:854-864

⁷ Epilepsy incidence and prevalence from Joint Epilepsy Council, 2011; via the Childhood Epilepsy JSNA Chapter 2017: [Childhood Epilepsy in Bristol, North Somerset and South Gloucestershire \(2017\)](#)

management is important as a significant number of people could become seizure free and good control reduces the risk of these adverse consequences.

Based on national estimates and local GP data, there are around 500 children with a diagnosis of epilepsy in the Bristol and around 40 new cases per year⁸.

In 2021/22, 40 Bristol children under 19 were admitted as an emergency to hospital. Bristol’s admission rate of 41.2 per 100,000 is lower than the national average of 73.6 per 100,000.

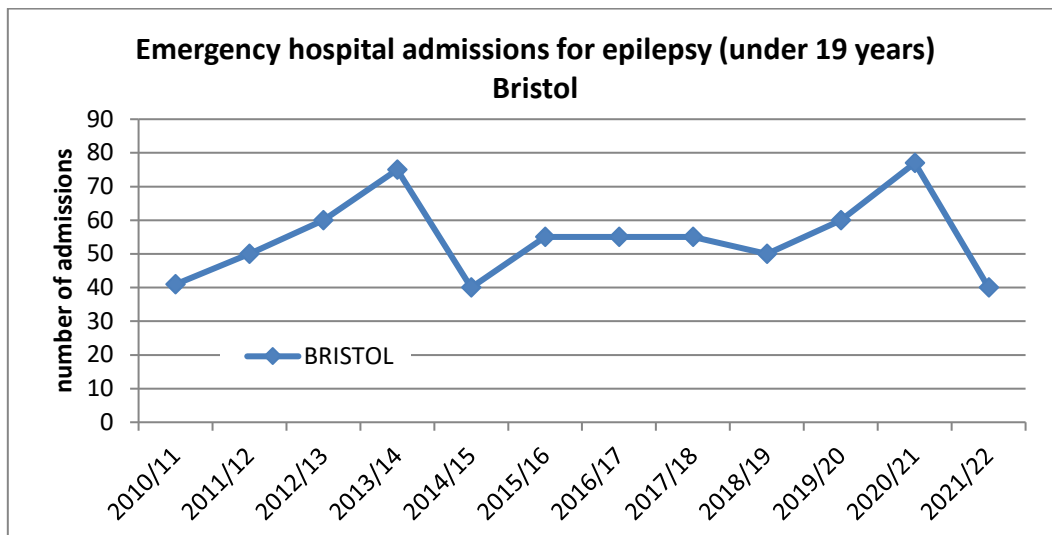


Fig 5: Child emergency hospital admissions for epilepsy. Source: Public Health England Child and Maternal Health Profiles, August 2023

Equalities

Of the 177 childhood epilepsy admissions in 3 years period between 2019/20 to 2021/22, 56.5% were boys and 43.5% were girls.

Figure 6 shows the breakdown of childhood admissions for epilepsy by deprivation quintile of residence, and shows that the quintiles are statistically similar

⁸ Childhood Epilepsy JSNA Chapter 2017: [Childhood Epilepsy in Bristol, North Somerset and South Gloucestershire \(2017\)](#)

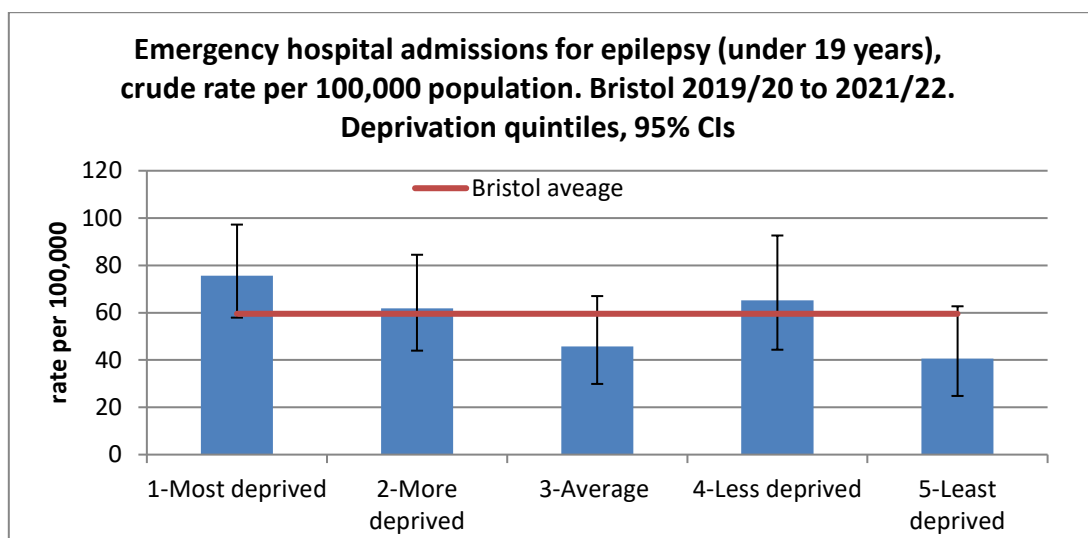


Fig 6: Child emergency hospital admissions for epilepsy, 3-year pooled crude rate per 100,000 by deprivation quintile. Source: Hospital Episodes Statistics via NHS Digital, August 2023

Diabetes

The vast majority of children and young people living with Diabetes have Type 1⁹ as opposed to Type 2.

Type 2 Diabetes

The National Paediatric Diabetes Audit Report 2021/22 by the Royal College of Paediatrics and Child Health¹⁰ states that there were 54 children and young people under the age of 20 with Type 2 diabetes in the South West region were receiving care from a PDU (Paediatric Diabetes Units) in 2021/22. In England and Wales the numbers of children and young people with Type 2 diabetes being managed within a PDU increased from 973 in 2020/21 to 1,144 in 2021/22, with the numbers diagnosed within the audit year having increased from 230 in 2020/21 to 281 in 2021/22. There were proportionally more girls, those of non-White ethnicity, and those living in the most deprived areas amongst the cohort with Type 2 diabetes. In Bristol Royal Hospital for Children PDU, 2.1% of treated children and young people under 25 had the Type 2 diabetes in 2021/22, which gives the number of about 11.

Type 1 Diabetes

National Paediatric Diabetes Audit Report 2020/21 by the Royal College of Paediatrics and Child Health¹⁰ states that the prevalence of type 1 diabetes in children and young people aged 0 to 15 years old in England and Wales was 204.5 per 100,000 of the general population. Applying that figure to Bristol population of 0 to 15 year-olds gives an estimated number of 160 children with a diagnosis of type 1 diabetes.

There were 50 child (0-18) emergency admissions due to diabetes in 2021/22 in Bristol (the rate of 51.5 per 100,000 population - similar to the national average 58.0 per 100,000) – fig 7.

⁹ For a definition of type 1 and type 2 see: <https://www.diabetes.org.uk/diabetes-the-basics/types-of-diabetes/diabetes-mellitus>

¹⁰ [National Paediatric Diabetes Audit \(NPDA\) annual reports | RCPCH](#)

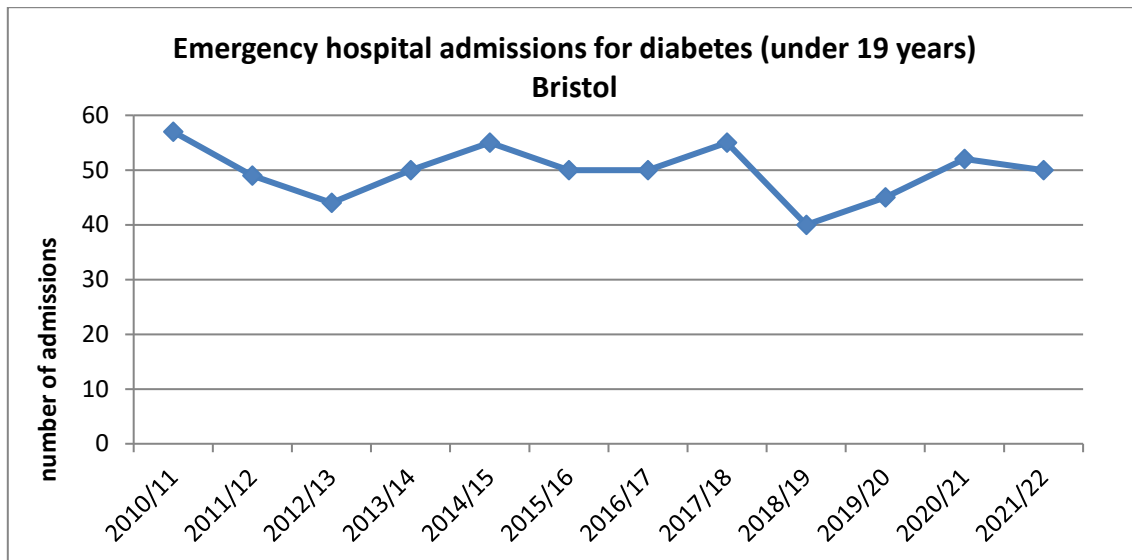


Fig 7: Child emergency hospital admissions for diabetes. Public Health England Child and Maternal Health Profiles, August 2023.

Equalities

Of the 145 childhood admissions for diabetes in 3 years period between 2019/20 to 2021/22, 42% were boys and 58% were girls.

Figure 8 shows the breakdown of childhood admissions for diabetes by deprivation quintile of residence. This indicates that the proportion of admissions from the most deprived quintile may be higher than Bristol average, although due to small numbers this is a not statistically significant difference.

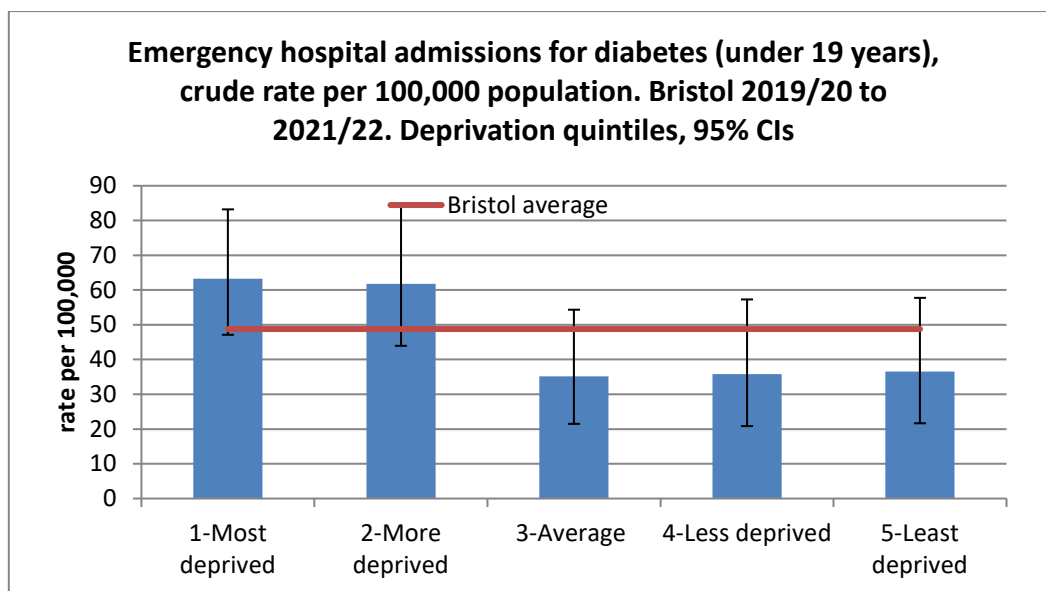


Fig 8: Child emergency hospital admissions for diabetes, 3-year pooled crude rate per 100,000 by deprivation quintile. Source: Hospital Episodes Statistics via NHS Digital, August 2023

Further data / links:

- Public Health England Child and Maternal Health Profiles: <https://fingertips.phe.org.uk/profile/child-health-profiles/>
- ASH Research Report: Asthma and smoking. <https://ash.org.uk/resources/view/ash-research-report-asthma-and-smoking>
- Epilepsy Action: <https://www.epilepsy.org.uk/>
- National Paediatric Diabetes Audit: <https://www.rcpch.ac.uk/work-we-do/clinical-audits/npda>

Date updated: August 2023**Date of next update:** July 2024