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Built environmental profiles and children's body mass index: A national data linkage study in Wales

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Objectives

Prior research suggests better academic outcomes among children with Down syndrome (DS) enrolled in mainstream compared to special schools. During public engagement, parents reported feeling pressure from schools to transfer their child from mainstream to special school. We investigated characteristics associated with school transfer, with specific attention to resource deprivation.

Method

We followed a cohort of children with DS from birth through year 6, derived from the Education and Child Health Insights from Linked Data database, which links data from NHS-funded hospitals and state-funded schools in England. We used logistic regression to estimate children's odds of enrolling in mainstream vs. special school in year 1. For children in mainstream school in year 1, we calculated cox proportional hazard ratios for time-to-school-transfer by three deprivation measures—Income of Deprivation Affecting Children Index (IDACI), free school meal eligibility, and maternal age at birth—controlling for sex, multimorbidity, and academic assessments.

Results

We identified 3,025 children with DS born in English hospitals from 1 September 2003 through 31 August 2008. In year 1, 68% of children enrolled in mainstream school, with 15% more children from the least deprived quintile of IDACIs enrolled in mainstream school compared to the most deprived quintile. By year 6, only 50% of children remained in mainstream school, and the risk of transfer from mainstream to special school was higher among children with higher deprivation, by all measures. Multimorbidity, poorer academic assessment scores, and male sex were also associated with a higher risk of transfer to special school. Boys were 20% more likely to enrol in special school in year 1 and were 40% more likely than girls to transfer to special school.

Conclusion

Children with DS experiencing higher deprivation were less likely to sustain enrolment in mainstream school than their less-deprived peers. This trend may reflect local schools' access to specialist support and parents' access to resources and ability to self-advocate. Further evidence on the educational needs of children with DS is needed.

