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Educational outcomes of children with major congenital anomalies in England: a population-based cohort study using linked hospital and education data from the ECHILD database

Joachim Tan^{1,2}, Ayana Cant¹, Kate Lewis¹, Vincent Nguyen¹, Laura Gimeno^{1,3}, Ania Zylbersztejn^{1,2}, Pia Hardelid^{1,2}, Katie Harron¹, and Ruth Gilbert¹

¹UCL Great Ormond Street Institute of Child Health, London, United Kingdom

²NIHR Great Ormond Street Hospital Biomedical Research Centre, London, United Kingdom

³UCL Social Research Institute, London, United Kingdom

⁴University of Leeds, Leeds, United Kingdom

Objectives

Children with major congenital anomalies (CA) face greater risks of lower educational attainment than their peers due to ill-health, disability and lack of support. We aimed to evaluate attainment gaps by comparing educational outcomes of children with CA (cases) and without CA (controls) throughout primary school in England.

Methods

Using linked administrative data from the ECHILD database, we followed singleton children born in NHS-funded hospitals from 01/09/2003 to 31/08/2008 that were linked to the National Pupil Database up to age 10/11 (end of primary school). CA subgroups were indicated by hospital diagnosis and procedure codes, and/or causes of death. We compared the proportions of children enrolled, assessed, and who reached National Curriculum expected levels of attainment, by CA subgroup, key stage (Reception, KS1, KS2) and subject (Good Level of Development (GLD), English and Maths). We estimated relative risks of attainment comparing cases and controls, adjusting for sociodemographic factors.

Results

Of 2,351,589 children enrolled in Reception (age 4/5), 82,112 (3.5%) were cases. By end of KS2 (age 10/11), enrolment rates were similar for cases and controls (96%), but 11% of enrolled cases were not assessed, versus 3% of controls. At Reception, 46% of cases achieved GLD compared with 57% for controls. Attainment rates for cases peaked at KS2 (65%) for English and remained 67% throughout for Maths, but were consistently 11% lower than for controls. Females performed considerably better in English than males, although cases exhibited smaller sex-differences. Adjusting for sex, cases were about 15% and 6% less likely to achieve expected levels at

Reception/KS1 and KS2 respectively versus controls, partly attributable to a subset of generally better performing children progressing to KS2 assessments.

Conclusion

Many children with CA performed relatively well throughout, with two-thirds reaching expected attainment at KS2. One in nine, however, fall behind significantly and were no longer assessed beyond KS1. Better monitoring and support for these children, ideally from Reception, are needed to support their learning and fulfil their potential.



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