International Journal of Population Data Science

Journal Website: www.ijpds.org

The impact of Mainstream versus Specialist secondary school placement on health and education outcomes for pupils with neurodisability in England: A target trial emulation study using the ECHILD database

Julia Shumway[1], Bianca De Stavola[1], Jill Ellis[2], Ruth Gilbert[1], Vincent Nguyen[1], Vaso Totsika[3], and Ania Zylbersztejn[1]

[1]Institute of Child Health University College London, London, United Kingdom

[2]East London NHS Foundation Trust, London, United Kingdom

[3]Division of Pyschiatry, London, United Kingdom; Tavistock & Portman NHS Foundation Trust, London, United Kingdom

Introduction

UK policymakers have proposed supporting more children with neurodisability in Mainstream rather than Specialist secondary schools, despite little evidence on which schools provide better support.

Methods

We aim to apply a target trial emulation (TTE) approach to linked health and education data from ECHILD to understand the causal impact of Mainstream versus Specialist secondary school (Year 7 [Y7], age 12) on health (hospitalisations) and education (absences) outcomes for pupils with neurodisability in England. We followed cohorts attending Mainstream Year 6 (baseline) between 2008 and 2017 with four categories of neurodisability: Down syndrome (DS), cerebral palsy (CP), autism, and learning disability (LD). We evaluated requisite assumptions for conducting causal analyses using a TTE approach by estimating propensity scores (PS) based on baseline health, education, and sociodemographic characteristics.

Results

Cohorts included 43,535 pupils (DS: n = 1,984; CP: n = 3,694; autism: n = 27,451; LD: n = 10,406). The proportions in Mainstream Y7 were respectively 43%, 80%, 74%, and 60%. For all cohorts, those in Specialist Y7 had higher levels of health complexity, absences, and deprivation. We found common support for each cohort, with highest support between pupils with DS in Mainstream (mean PS: 0.62, standard deviation [SD]: 0.14) and Specialist Y7 (mean PS: 0.52, SD: 0.15).

Conclusions

The estimated PS distributions suggest that causal inference will be a viable approach. We will apply PS-based methods to adjust for non-randomised school placement (inverse probability weighting [IPW], augmented IPW, and g-computation) and estimate the causal effect of Mainstream versus Specialist secondary school placement on outcomes for pupils with neurodisability.

https://doi.org/10.23889/ijpds.v11i5.3560