

International Journal of Population Data Science

Journal Website: www.ijpds.org



Distance children live from attended and nearest age-appropriate school in Wales: potential to inform active and sustainable transport policy and planning

Samantha Turner¹, Theodora Pouliou¹, Rebecca Pedrick-Case¹, Rowena Bailey¹, Rhodri Johnson¹, Jane Lyons¹, Ronan Lyons¹, and Richard Fry¹

¹Swansea University, Swansea, United Kingdom

Objectives

The distance children live from school is a key factor influencing travel mode choice. Further, some children attend schools that are not their nearest. Comprehensive data on distance to school is limited in Wales, yet vital to inform policy and practice aimed at increasing active and sustainable travel.

Methods

Using geospatial techniques, network distances were calculated from all residences to all schools within 50kms, in Wales, 2020. Distances for each residence were de-identified and imported into the Secure Anonymised Information Linkage (SAIL) data-bank using SAIL's split file approach. Within SAIL, distances were linked to anonymised individuals in the Welsh Demographic Service Dataset (WDSD) and linked to their encrypted school within the Education Wales (EDUW) dataset, to establish a cohort of all children aged 4-16 years attending a state school in Wales. Travel distance to both attended and nearest-appropriate school were subsequently filtered for each child within our cohort.

Results

A cohort of 367,221 children were assigned a network distance to their attended and nearest age-appropriate school. ANOVA and multivariate negative binomial (NB) regression models will explore how distance to attended school is associated with factors such as: rural/urban residence, deprivation, school language, school type, school religion and ethnicity. Factors associated with children who did not attend their nearest school will be further investigated using logistic and NB regression. All analyses will be stratified by primary and secondary-aged children, due to differences in school proximity and travel independence. Analyses will be further stratified by urban/rural residence to explore potential differences by location. To increase research impact, aggregated results will be produced at the school-level as a stakeholder output, to inform practice, while maintaining confidentiality.

Conclusion

Baseline data on distance children live from attended and nearest age-appropriate school, and how this differs by socio-demographics and school type, is urgently required to inform active and sustainable travel policy and planning in Wales.

