

International Journal of Population Data Science

Journal Website: www.ijpds.org



Beyond Randomised Trials: Harnessing CARELINK Wales for Synthetic Control Evaluation in Child Healthcare

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Synthetic control methods have emerged as a powerful tool for evaluating interventions in healthcare by constructing counterfactual scenarios that closely approximate outcomes in the absence of treatment. In the context of children in care, the application of synthetic controls offers a novel and robust approach to assessing the impact of policies and programs designed to improve the well-being of this vulnerable population. Given the complex and heterogeneous nature of child welfare systems, randomised controlled trials are often challenging or ethically unfeasible. Synthetic control methods allow for the construction of weighted combinations of control units that best replicate the pre-intervention characteristics of the treatment group, thereby providing a more accurate comparison for outcomes such as health, educational attainment, and overall life satisfaction. This approach is particularly valuable for

assessing outcomes across diverse care environments while accounting for confounding factors such as socio-economic background, prior health conditions, and regional differences. In addition, synthetic control methods enable the integration of data from multiple sources, helping to bridge gaps in evidence where traditional evaluation methods may fall short. By providing a rigorous and transparent means of estimating causal effects, these methods can help inform policy decisions aimed at improving the long-term prospects of children in care and guide the design of more effective and equitable child welfare interventions. Applying this approach to population-level data from Wales, synthetic controls indicate that placing at-risk children into care by age five is associated with a reduction in emergency department visits by age seven.

