

International Journal of Population Data Science

Journal Website: www.ijpds.org



Residential-level linkage to study substance misuse in intergenerational households: A national e-cohort in Wales, UK

Hywel Evans¹, Ian Farr¹, Grace Bailey¹, Gareth Davies¹, Josh Dixon², Sam Fallick², Joanne Maimaris², Columbus Ohaeri³, Olabambo Oluwasuji³, and Ryan Phillips³

¹Swansea University, Swansea, United Kingdom

²Administrative Data Research Wales, Cardiff, United Kingdom

³Public Health Wales, Cardiff, United Kingdom

Substance misuse (SM) within a household is associated with child deprivation and inferior health. This study was the first to utilise linked healthcare, criminal justice, and children's social care records in Wales, to produce a reusable electronic cohort (e-cohort) of households that experience substance misuse (SMHH) and compare with the rest of the population. Using the SAIL Databank, a population-scale retrospective electronic cohort of co-resident children and adults during 2011–2019 was created. Households were identified using the Residential Anonymised Linkage Field (RALF), which links individuals to their encrypted Unique Property Reference Number. Individuals registered at the same address at the same time for a minimum of 90 days were grouped into a household, to allow for delays in address changes with their General Practice (GP)

and retrospective re-coding due to a change of GP. SM-related healthcare and criminal justice events were then flagged. A large reusable nationwide e-cohort of over 1.8 million people (776,366 children and 1,032,088 adults) was created, where 83,558 children (11%) lived in SMHH, and 48,398 adults who lived with a child (5%) had a SM event. This study gives a comprehensive population-level overview of children living in SMHH and compares with the rest of the population. A novelty of the study is the links between children and all adults registered in a household, to better describe their home environment. Reproducible methods and scripts can be used by researchers to recreate the e-cohort of households to expedite further research.

