# International Journal of Population Data Science

IJPDS
International Journal of
Population Data Science

Swansea University
Prifysgol Abertawe

Journal Website: www.ijpds.org

# Quantifying multi-morbidity in an ethnically-diverse inner city population: the health burden of households

Harper, G[1*], Lyons, J[2], Fry, R[2], Akbari, A[2], Ahmed, Z[1], Lyons, R[2], Dezateux, C[1], and Robson, J[1]

[1] Queen Mary University of London
[2] Swansea University

## Background

New insights into the wider demographic context of multimorbidity has been prioritised, notably among disadvantaged and ethnically-diverse populations with a high disease burden. We propose an innovative approach to quantify health burden and disease clustering at household level, to enable predictors of household multimorbidity to be investigated and understood.

## Main aim

To quantify multi-morbidity at the household level using general practitioner (GP) electronic health records (EHRs) in a geographically-defined ethnically-diverse inner city population.

## Methods

We extracted clinical and patient address data from GP EHRs from four east London boroughs (Tower Hamlets, Newham, Waltham Forest and City & Hackney). We included currently registered patients aged $\geq 18$ years as at July 2018, and excluded those with duplicate or complex registrations, new registrations in the previous 12 months, or registrations without historical clinical data or occurring prior to 1948, as well as inactive patients with no recorded EHR activity in varying years depending on age and gender.

We defined multimorbidity using 16 long-term condition Read codesets defined in the Quality and Outcomes Framework. We grouped patients into households, defined as those sharing the same home address on their GP registration, represented by a pseudonymised Unique Property Reference Number.

## Results

Provisional data are presented. We identified 737,920 patients (51% female) eligible for this study out of a total population of 1,171,483 currently registered patients. Of these, 23% aged <20, 69% aged 20-64, 8% aged $\geq 65$, 38% White ethnicity, 3% Mixed, 30% Asian, 14% Black, 5% Other and 12% Not Stated/Null. We identified 312,582 shared households among 737,920 patients. Analyses to derive household-level summary characteristics and relate these to multimorbidity burden are in progress and will be presented.

## Conclusion

Household-level multi-morbidity can be quantified using clinical and patient address data in GP electronic health records.

*Corresponding Author:
    Email Address: g.harper@qmul.ac.uk (G Harper)