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Does change in area-level deprivation, change health outcomes? A latent class growth analysis of population data.

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Background

While the link between deprivation and health is established, little is known about the association of persistent deprivation or deprivation trajectories over time with adverse health outcomes.

Aim

To examine latent class trajectories of area level-deprivation from 2010-2016 and their association with social distress indicators from 2017-2021.

Method

Analysis was based on linked administrative data (N=1,569,110) from NI GP Registrations Index, emergency department records (2017-21), enhanced prescribing data (2017-21) and biennial area-level deprivation (2010-2016). Latent class growth analysis (LCGA) identified deprivation trajectories between 2010 and 2016; and regression-based models, adjusted for age, sex and urbanicity, examined their association with indicators of individual level distress: occurrence of death, any accident and emergency (A&E) visit, and any psychotropic medication between 2017 and 2021.

Results

Based on comparison of models and fit statistics, a non-linear LGCA model identified six trajectories: consistently deprived (21.2%); slight improvement (7.1%); substantial improvement (1.2%); consistently average deprivation (31.7%); slight worsening (18.5%); and consistently non-deprived (20.4%). Consistently living in a deprived area was associated with higher likelihood of death, A&E visits and receipt of hypnotics, anxiolytics, and anti-depressants. Compared to consistent deprivation, slight improvement was associated with lower likelihood of death (OR=0.94, CI: 0.91-0.97) and all psychotropic medication in the follow-up period.

Implications

Findings indicate that even a slight improvement in deprivation status can have a positive influence on health outcomes. Further population-wide analysis of deprivation trajectories, their determinants and associated health impact will inform targeted interventions that promote social mobility and improved health.

