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Regular General Practitioner contact - analysis of methods for measurement using administrative data

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Introduction

There is a small body of literature examining the relationship between “regularity” of contact with General Practitioners (GPs), i.e. the pattern of visits over time, and health outcomes. Methods previously used to measure regularity may be conflated with the number of GP visits (frequency) which may impact on effect estimates.

Conclusion/Implications

Despite a large body of literature on provider continuity, little research has examined regularity of GP contact. This is the first work to compare measures of regularity and represents an important methodological advancement. Researchers should consider regularity of contact as a dimension of continuity of care when designing studies.

Objectives and Approach

Two published regularity measures, one derived from the variance in the days between GP visits and the second a categorical indicator, were assessed alongside a new measure designed to be uncorrelated with frequency. A cohort at risk of diabetes-related hospitalisation was identified from primary care and hospitalisation data. Associations between regularity and frequency were assessed for each measure using negative binomial regression. Hospitalisation outcomes were regressed on regularity scores using negative binomial models, with and without frequency included, to assess whether associations between regularity and frequency biased estimates. Simulated data tested each measure's responsiveness to changes in GP visit patterns.

Results

The new regularity measure showed a substantially weaker association between regularity and frequency than the two previously published scores. According to the new measure, more regular GP contact was associated with a reduction in the rate of hospitalisation and this association was unchanged by the inclusion of frequency as a covariate. Under the existing measures regular contact was also associated with reduced hospitalisation, but the association differed depending on whether frequency was included in the model, suggesting that associations between regularity and frequency may confound relationships with health outcomes if uncontrolled for. Simulated data suggested that the measures responded differently to changes in visitation pattern with the existing categorical indicator being the least responsive.