Estimates of ethnic group mortality for local authorities in England

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What happens when international migrants settle? Ethnic group population trends and projections for UK local areas
To project populations by ethnicity for local authorities we need to estimate the mortality rates and survivorship probabilities for ethnic groups.

Previous projections apart from the GLA’s projections have only used all group mortality and survivorship probabilities.

But we know that mortality varies greatly between persons classified by country of birth and from work with the Longitudinal Study.

We use an indirect method to estimate ethnic group mortality by using SIRs to estimate SMRs for ethnic groups.
We use spreadsheets in a clever way to compute life tables efficiently for a large number of local authorities by single year of age and sex. The LTs yield mortality rates … survivorship probabilities and so SMRs.

We compute SIRs for LAs using the Limiting Long Term Illness variable from the 2001 Census.

We then explore simple models that predict SMR from SIR for each sex:
• All LAs
• LAs in England, Wales, Scotland and Northern Ireland separately
• LAs in England with/without high BME populations
• All LAs with national dummies and co-variates
We estimate SIRs for LAs by sex and ethnicity using 2001 Census tables.

Direct computation is feasible only for some LAs and some ethnicities because of small numbers.

Indirect computation is being explored:
- Use national ethnic SIRs
- Use local all group SIRs
- Use national ethnic SIRs and local all group SIRs (independence assumption)
- Use a more sophisticated “borrowing from strength” model combining the national and local factors

Given robust estimates of SIR by sex and ethnicity we use the best model from the previous slide to predict SMR by sex and ethnicity.
1. Introduction

2. Methods

3. Results (2)

4. Conclusions
1. Introduction

2. Methods

3. Results (3)

4. Conclusions

Indian SMR
1. Introduction

2. Methods

3. Results (4)

4. Conclusions
Once reasonable SMR estimates by sex and ethnicity have been made we will then use them to adjust local all group mortality rates.

The mortality rates of all ethnic groups will be adjusted to be consistent with all group mortality rates.

Life tables can then be generated for all LAs, sexes and ethnic groups and hence survivorship probabilities for use in the projection.

We will extend the analysis to Wales, Scotland and Northern Ireland (where a national model may be best).
Comments and questions welcome