Scottish Government Health Directorates Chief Scientist Office

CHIEF SCIENTIST OFFICE

FOCUS ON RESEARCH

Scottish Health and Ethnicity Linkage Study (SHELS), Phase 4: mortality, life expectancy, all-hospitalisation, hospitalisation for infectious diseases & accidents, and bowel cancer screening.

Researchers: Prof Raj Bhopal, Mr Duncan Buchanan, Mr Chris Povey, Prof Aziz Sheikh, Prof Jamie Pearce, Dr Colin Simpson, Prof Sharon Hutchinson, Prof Laurence Gruer, Dr Christine Campbell (investigators); Anne Douglas, Genevieve Cezard, Markus Steiner (researchers).

Aims:

- Explore ethnic health variations by linking 2001 Scottish Census to routine health data for deaths, hospital admissions, Scottish Bowel Cancer Screening Programme, Blood-borne virus diseases and risk factors in primary care.
- To provide further evidence on inequalities by ethnic group with potential implications for policy and practice.
- To develop methods for public engagement, especially to find out the public's views on SHELS' methods and findings.

Project Outline/Methodology: Up to 12 years of data were used to compare outcomes for each ethnic group compared to the White Scottish population (men and women) for:

1) All-cause mortality including mortality avoidable through health care or prevention
2) Life expectancy
3) Hospitalisations or deaths for infectious diseases and accidents
4) Hospitalisations: All-cause and those where community care can help prevent hospital admission, unplanned readmissions and length of stay
5) HIV, hepatitis B and hepatitis C infections
6) Uptake to the Scottish Bowel Cancer Screening Programme (2007-2013)
7) Testing the use of primary care risk factor data to understand disease risk eg. cardiovascular disease (CVD).

Key Results: In every outcome there were ethnic variations of public health importance. Other White British and Chinese groups tended to have the most favourable outcomes. Two primary care risk factors, smoking and type 2 diabetes, were potentially important explanations for ethnic differences in all-cause mortality and CVD.

Selected examples of results:

All-cause mortality: White Scottish and White Irish populations were similar, while most ethnic minority groups had lower mortality risk e.g. Chinese men had about half the risk of White Scottish men.

Life expectancy: Other White British, Other White and most non-White minority groups had higher life expectancy than the White Scottish population e.g. Indian men 80.9 years: White Scottish men 74.7 years, suggesting this reflects low life expectancy in White Scottish people.

Hospitalisations for infectious diseases: We expected but did not see large ethnic differences. Generally, the Pakistani population had comparatively high admission rates for a range of outcomes (e.g. skin and heart/circulatory infections).

Bowel cancer screening: All South Asian groups had lower uptake of bowel cancer screening.

Public engagement: A multi-ethnic public panel, and professionals, both supported the use of linked anonymised health data for research like SHELS.

Conclusions: Our results change perceptions on the health of multi-ethnic Scotland e.g. health status is not always worse in the minority groups as sometimes perceived. The findings should help improve policies, health services and research.

What does this study add to the field?: Methodology advances were linking primary care and blood-borne viral infection records to a national census (a world first) and calculation of life expectancy by ethnic group (a European first). The ethnic differences add to published knowledge.

Implications for Practice or Policy: The findings have public health implications. wide discussion of the results are taking place. SHELS data have been integral to recent national work on creating an ethnic profile from Glasgow and Scotland, and addressing race equality.

Where to next? New directions for research are being developed. Papers on life expectancy and primary care linkage have been published with widespread media coverage.

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