

## Population and Migration Statistics Committee (PAMS) (Scotland)

### Research on Census Alternatives: Update

#### Introduction

Our work on alternatives to the traditional census is entering a new phase following the decision of the 2011 Scottish Spending Review to fund further research with a view to producing recommendations around 2014. A formal project is being set up to take this forward. This paper provides a brief overview of the work which has been completed or is currently in progress across the main strands of work.

#### Data Sources

We have identified the key data inputs needed for the research and worked with data custodians to secure access to suitable extracts. This has been one of the most challenging aspects of the project. The data extracts which we now have or expect to be available include:

- record level demographic information about individuals from the NHS Central Register, the Electoral Register, the HE Student Record for Scottish Students in England, Wales and Northern Ireland, DWP and HMRC systems (Customer Information System), Further Education Student Record from Scottish institutions ;
- record level anonymised demographic information from the School Census;
- address information from the Community Health Index, the One Scotland Gazetteer, the Assessors Portal, the Census address list and fieldwork returns;
- Survey data from the Scottish Household Survey and the Labour Force Survey;
- the 2011 Census and Census Coverage Survey; and
- births and deaths registration data.

There are still issues around access to Student Record data from Scottish HE institutions, identified data from the School Census and other locally held data, and we continue to work on these.

#### Methods and Analysis

We have completed studies of the coverage of individual administrative data sources based on aggregate level comparisons with the 2001 census or the inter-censal mid- year population estimates. These include Child Benefit data, School Census, Community Health Index, NHS Central Register, older persons state benefits data, Customer Information System and migrant workers NI allocations. We plan to publish an overview of key findings from these studies in Spring of next year. The next stage in this research involves detailed comparison of each administrative data extract we have secured with the 2011 census through record linkage. This will take place during 2012.

We have started to build up skills in record linkage and have now completed several studies using census information, NHS central register data, Electoral Register and HE student record data. Some findings were reported at the Population and Migration Statistics (PAMS) User Conference in October 2011. An evaluation of record linkage tools is in progress. In addition we are beginning to look into ways of developing methodological expertise in other areas, such as modelling and the measurement of quality. We are making use of existing networks and events to learn from experts in relevant fields from the UK and abroad. There is work in place together

with the other UK census offices and the Economic and Social Research Council (ESRC) to involve academic experts in developing some of the methodological aspects of the project and providing peer review at key points.

Plans for analysis in the course of the next few years include the trial of a small number of options which combine several sources of data, for example the construction of a population spine out of individual records, or modelled small area estimates. The intention is to assess the quality of the data such options would provide against the 2011 census. An investigation of potential improvements to a census based model is also planned to take place as part of the project.

### **Address Register**

Work on address registers has begun with a comparison between the census address list and the One Scotland Gazetteer. An interim evaluation report is expected in Summer of next year. As part of the evaluation of the 2011 Census an analysis of the field returns on addressing will be undertaken. This will inform the assessment of the quality of existing address registers.

### **Stakeholders**

The outcomes from this feasibility study are potentially transformational and it is important to ensure that we engage with the wide range of stakeholders throughout the life of the project. These include users of statistics, custodians of data sources used as inputs and members of the public to whom these data relate. Most of our work so far has been with data custodians around the sharing of data for research. Our 2011 PAMS User Conference made a start in our conversation with users. We held a workshop around user preferences for outputs and the results from this will be published in the next few weeks. The role of consultation with users will increase in future, especially around 2013 when the most viable options will begin to take shape. In the meantime we need to ensure that we have understood and adequately addressed concerns about potential privacy risks, especially around methodologies making use of identified data. We have had initial discussions with the Information Commissioner's Office and are in the process of conducting a Privacy Impact Assessment of the feasibility study. As part of this we will be gathering a wide range of views on where the key risks might lie and design our processes to minimise such risks. Monitoring the public acceptability of options which are found to be technically feasible will form an important part of the assessment of their future viability.

### **Information Technology Infrastructure**

Work is in hand to create a dedicated infrastructure which meets security standards for census type information and provides the right research environment and tools to undertake the statistical analysis.

### **Remaining challenges**

Not all necessary data extracts have been secured and work on data access will continue. In particular, following a seminar with Local Authorities' information security and legal officers in September we will be renewing the invitation to contribute local data to this project. The availability of higher level of staffing resource during the life of the project remains a critical precondition for our ability to deliver this wide ranging programme of work.