

# Telling the story in statistics

Strand organizers: Kirsty MacLachlan, Esther Roughsedge (National Records of Scotland)

---

**Tuesday 11 September 11.00am**

## **Area profiles for policy planners, using simple techniques**

***Ludi Simpson, University of Manchester***

A research project often attempts to draw out synthesised conclusions from data for many areas. Printed reports can rarely display the data for individual areas, yet those areas are often where political decisions and services are designed. The presentation suggests a set of techniques that can be used to make accessible the data and conclusions for individual areas, using a successful example. Flexible access to area results on ethnic identity and inequalities was made available for a wide range of policy and research work after the 2011 census, drawing also on the results from the previous two censuses. The work focused on clear visualisation of tried and tested analyses to provide answers to common questions. The products were 4-page briefings, a book of extended analyses, and eight interactive area profilers on which this paper focuses (<http://www.ethnicity.ac.uk/research/data-sources>). The profilers are Excel files without programming, using only functions available to all researchers: drop-down lists, lookup functions, conditional formulae, conditional formatting, and appropriate charts. The presentation will focus on how the same techniques can be used by any researcher. While Excel has a set of technical functions relevant to this project, the experience suggests priorities and techniques which can also be used in other subject areas, and with other software. These include headline indicators and summary text conditional on the data. These are akin to a newspaper article's first paragraph, the whole profile being the article itself. The data themselves are included, providing a detailed third layer of access to the evidence.

Email: [ludi.simpson@manchester.ac.uk](mailto:ludi.simpson@manchester.ac.uk)

## **The evolution of ONS's website**

***Andrew Dudfield, Office for National Statistics***

Statistics are important and ONS has an awful lot of them. These statistics help determine where hospitals get built; markets move on the outcomes of the numbers ONS publishes. They are a consistent reference point at times of conjecture and in doing so play a vital role in the broadest range of choices we each make. Making sure all of these statistics are open and easy to use is a mission for the entire organisation. Why open? Well, statistics need to be open because they are yours. They are funded by you and for you and it is our job to get them to all of you in the most appropriate way. How can they be easier to use? Within this we have identified three key user needs: allow our users to find and use data more easily; allow users to customise data; allow users to browse by geography. This presentation will focus on what this mean for users of ONS's website and offer an opportunity to feedback of the digital work of the organisation.

Email: [andrew.dudfield@ons.gov.uk](mailto:andrew.dudfield@ons.gov.uk)

## **Why ONS should go to the Pub**

***Johannes Hechler, Office for National Statistics***

I have always loved open science events. Especially the ones in pubs like Pint of Science. The audience are interested, and presenters free to use human language. I always thought my employer (Office for National Statistics) should do this, to support our regional profile and recruitment. Last November I gave my first pub talk at the ESRC Festival of Social Sciences. I spoke about population ageing, and urged the audience to use freely available data over hearsay and to be wary of misrepresentation of statistics in the media. In this talk I will promote why these events are valuable for anyone in academia or producing data. I will present audience statistics and give my personal advice on how to prepare a talk. I will also show how many regular events already exist that just need speakers.

Email: [johannes.hechler@ons.gov.uk](mailto:johannes.hechler@ons.gov.uk)

### **The wedding cake approach**

***Rob Davies, CLOSER, the home of longitudinal research***

Producers of original research, evidence synthesis, or statistics need to demonstrate the impact of their work, whether instrumental, conceptual, or capacity building. Communicating complex scientific evidence to policymakers presents a number of challenges. The process can often be messy, time-consuming and frustrating. Barriers often cited by policymakers to using research include lack of accessibility, poor presentation and communication. Relationships, networks, trust and timing are all important elements in getting your message across, but emotions and values also come into play. This session will discuss the complexity of policymaking and explore the importance of narrative and storytelling, focusing on the 'wedding cake' approach as a potential method. Drawing on academic literature, official reports and recent examples of how this approach has directly influenced policy, it will challenge the audience to think differently about how to communicate their research.

Email: [rob.davies@ucl.ac.uk](mailto:rob.davies@ucl.ac.uk)

---

## **Wednesday 12 September 11.30am**

### **Ways of increasing the reach and impact of our demographic statistics**

***Esther Roughsedge, Kirsty MacLachlan; National Records of Scotland***

At National Records of Scotland, we have tried a range of ways to reach a wider audience with our key messages. We have tried making our statistics more accessible by creating infographics, and made it easier for people to explore our data themselves by creating interactive data visualisations. We have created quizzes and increased our use of social media to reach a wider audience. We have also put together a presentation on 'How is Scotland's population changing and what are the implications?', and we are giving different versions of this to a range of audiences. We do all of this with a very small budget and software which is free or widely available. We will give an overview of what we are doing and tips for people interested in doing something similar.

Email: [esther.roughsedge@nrscotland.gov.uk](mailto:esther.roughsedge@nrscotland.gov.uk)

### **Using infographics as an effective, efficient and economical way to share your research findings**

***Sheena Fletcher, Glasgow Centre for Population Health***

This will be a slide presentation presenting a case study about and learning from my experience of using infographics within the Glasgow Centre for Population Health's communications approach. The presentation will include examples of good practice and tips on how you can get started creating your own infographics using simple processes. Infographics make your key messages and data more eye-catching and easily shareable on social, digital and print media as well as making research findings more accessible, easier to promote and engaging for a wide audience.

Email: [sheena.fletcher@glasgow.ac.uk](mailto:sheena.fletcher@glasgow.ac.uk)

### **Understanding the composition of international migration flows and its trend over time**

***Beata Nowok, University of Edinburgh***

The size and composition of international migration flows are hotly debated in many countries but many misconceptions prevail. A long-term migrant is a person who moves to a country for at least a year, so nationals returning from living abroad are also counted as migrants, which is often not realised by the public. We use ternary plots to facilitate compositional analysis of migration flows, where composition is represented by proportions. Ternary plots allow us to display migration flows grouped into three categories which comes very useful in the European context when migrants are usually classified as nationals of a reporting country, (other) EU nationals and non-EU nationals. We use this example for immigration and emigration flows in the 28 European Union Member States (EU-28) over the period 1998-2015. Since such plots are not commonly used in public discourse, simple interpretation guidelines have been set out along with an

interactive web application developed using R package shiny (available at <https://bnowok.shinyapps.io/eumigration/>). Data can be plotted for multiple states simultaneously, which allows users to identify similarities and differences in migration patterns. Developments over time can be followed easily with the animation feature. Besides, the impact of the entry of new countries to the EU can be assessed by comparing data referring to the EU composition with 28 Member States (as from 1.07.2013) with those referring to the EU composition of the reference period. The largest enlargement of the EU in 2004 is emphasized by colour change. The ternary graph uses also the area of a circle to depict the size of migration flows.

Email: [beata.nowok@ed.ac.uk](mailto:beata.nowok@ed.ac.uk)

---