Telling the story in statistics

Strand organizer: Esther Roughsedge (National Records of Scotland)

Telling the story in statistics 1 – Monday 9 September, 4.45pm

Maximizing partnerships to communicate demographic research

Teresa McGowan, Becki Dey, Jane Falkingham

University of Southampton

We are all aware of the difficulties of making our data and research discoverable in today's sea of information. Not only is there a wealth of knowledge and expertise vying for attention, often those in a position to share findings are constrained by time and resources, as well as the need to ensure value for money. Over the last ten years, the Economic and Social Research Council (ESRC) Centre for Population Change has found that we become more effective when we maximize our partnerships, amplifying our communication channels and reaching audiences we would find it difficult to reach had we been working in isolation. This presentation will discuss examples of partnership working, from collaborating with our funder (the ESRC) to maximize coverage of research through their many publishing channels, to working with Population Europe and United Kingdom Research and Innovation (UKRI) on an exhibition which has spanned six years and has seen us take demographic research to varied audiences in the UK, Europe and the United States. We will also discuss examples of our work with the Office for National Statistics, National Records of Scotland, and our affiliated institutions, and the value of in-house support from public engagement and policy teams within universities.

Email: t.mcgowan@soton.ac.uk

Reuse of the Welsh Government's StatsWales OData API to produce a variety of meaningful statistical outputs for different audiences

Mason Davis

Welsh Government

Open data APIs (specifically machine-readable open data services) are being used increasingly across web technologies to provide lots of benefits. Open data is data that is freely available for everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control. It allows users to use, scrutinize, reuse, redistribute and combine data, which helps to build a more holistic understanding of the societies we live in and accordingly make better decisions. This new level of user engagement can support new technological innovations and services which can lead to major societal benefits. For example, the StatsWales OData service offers 600 data cubes in both English and Welsh to users and receives over 100,000 requests a month. It is widely used, with examples from the Welsh Audit Office and Powys Local Authority. OData is an Application Programming Interface (API) standard. Originally developed by Microsoft, it was opened up and adopted by the OASIS standards development organization https://en.wikipedia.org/wiki/OASIS_(organization) in 2014: https://www.oasis-open.org/news/pr/oasis-approves-odata-4-0-standards-for-an-open-programmable-web. It provides immediate support and compatibility with Microsoft-based products (Excel being the most relevant to data analysis and manipulation), as well as other platforms. Unlike other APIs, you do not need to do any software development in order to get your data in the first place. The Welsh Government publishes Open Data within its main website, on the geographic website lle.gov.wales, and on our statistics website

statswales.gov.wales. This talk is specific to the reuse and benefits associated with the StatsWales API. The presentation (and accompanying paper) will cover: the OData Standard used by the StatsWales website; the reuse case studies; Power-bi dashboards; analysis of the usage; trends over time; most hit data cubes; and other analysis that's potentially taking place.

Email: Mason.Davis@gov.wales

Milestones: Journeying into adulthood

Sarah Coates, Rebecca Mason

Office for National Statistics

For many young adults in the UK, their social media pages are full of baby pictures and wedding day snaps from friends and acquaintances they've grown up with. Such events have traditionally been celebrated as key milestones of early adulthood. While recognizing everyone's goals are different, this analysis uses the available data (internal and external to the ONS) to look at when these key events typically happen, and discovers the other modern markers of adulthood in work, family and life. Themes covered include: Education – when are people leaving education? Employment – when are people getting their first full-time job? Housing and living arrangements – when are people leaving the parental home? When are people buying their first house? Relationships – at what age are people having children and at what age are people getting married?

On average people are staying in education for longer, with increasing numbers of people choosing to go to university. Young adults are living with their parents for longer, especially young men, with this now being the most common living arrangement for young adults. In general, we have seen a postponement in the timing of milestones such as moving in with a partner, buying your first home, getting married and having your first child. Come and join us to find out more about how a team of analysts and data journalists within the ONS collaborated to bring existing data to life and tell the story of the typical journey into adulthood.

Email: Analytical.Impact.Team@ons.gov.uk

The Index of Multiple Deprivation (IMD): A tool to empower New Zealand's communities

Daniel Exeter

School of Population Health, University of Auckland, New Zealand

For the past 20 years, the New Zealand Index of Deprivation (NZDep) has been widely used to measure area-level deprivation in New Zealand. We recently developed the New Zealand Index of Multiple Deprivation (IMD), a set of tools for identifying concentrations of deprivation in New Zealand. The IMD measures deprivation at the neighbourhood level in custom-designed data zones that have an average population of 712. Data zones are aggregations of census meshblocks (approximately eight meshblocks per data zone). We identified 28 indicators of deprivation, categorized into seven Domains of deprivation (Employment, Income, Crime, Housing, Health, Education, and Access), which can be used separately or combined as the IMD.

Since its introduction, the IMD has been used throughout the country by researchers and non- government organizations, as well as by local and central government departments. Following a brief introduction to the landscape of deprivation according to the IMD, we provide an overview of the different tools that we have developed to empower communities by maximizing the use of the IMD for their research, planning or advocacy. All of the resources developed as part of the IMD project are freely available from our project website: www.fmhs.auckland.ac.nz/imd. Email: d.exeter@auckland.ac.nz

Telling the story in statistics 2 – Tuesday 10 September, 1.30pm

Understanding 'what works' in ageing: The use of demography and population studies by the Centre for Ageing Better to influence policy and practice

Catherine Foot, Amy McSweeney

Centre for Ageing Better, London

The Centre for Ageing Better launched in 2015. We are part of the What Works Network of organizations seeking to increase the use of evidence in social policy and practice. As such, we both commission research and use published research and secondary data to: (1) understand population ageing and its implications and effects for individuals, families, the economy, public sector and society generally; and (2) explore how all these above named actors could act to improve our collective response to ageing and longevity, so as to ensure more people are able to enjoy a good later life, with financial security, good housing, health, well-being and social connection. This interactive session will present some of the recent and ongoing work of Ageing Better, and debate with attendees what opportunities there could be to further improve the impact that demographic research and population studies can have on national and local policy and practice.

Email: catherine.foot@ageing-better.org.uk

Unlocking demography with interactivity

Henry Lau, Phil Leake

Office for National Statistics

The Office for National Statistics published an article for the enquiring citizen looking at the Old Age Dependency Ratio (OADR) in June. Within the article sits an interactive tool which allows users to control mortality, migration, the total fertility rate and state pension age to see how it changes the population and the OADR. For example, users can change net migration to 100,000 per year, or bring the state pension age changes forward as proposed by government. By bringing elements of gamification and allowing the user to interact with the control and instantaneously view the results, they will be able to see how different factors are more or less significant to the OADR. The article explains in plain English what the implications of an ageing population has on state pension, health and social care costs. We use web analytics, usage statistics and feedback from user testing to report on how people engaged with this project, which is enabling self-discovery through interactive data visualization

Email: henry.lau@ons.gov.uk

Enabling self-discovery through interactive data visualization

Mark Turner

Dorset Council

At Dorset Council we have manipulated and blended segments of demographic data along with our own service user data to build a series of data visualizations using Tableau. These dashboards have stimulated increased discussion and information exchange around key issues which affect service users across the county. In their original format the datasets we use, such as the Office for National Statistics (ONS) 2017 Mid-year Estimates, contain too much raw information for non-specialist staff to use effectively. We manipulate the ONS 2017 Mid-year Estimates by geocoding the dataset so we can assemble the data to fit into any of the unique geographies that are used to manage local services. This gives us the ability to present demographic information spatially and in a format that the service user understands. We then blend key

demographic data with service user data to add a context to the population a service area supports. This helps staff build a narrative around the services they provide. Once we have worked with a service and built a dataset around their requirements we then take the dataset and build it into a data visualization to help give staff ownership over their data and give them the ability to explore the information themselves to facilitate a greater understanding. One of the data visualization applications we use is Tableau and through the production of interactive dashboards utilizing demographic and spatial data we have noticed a far greater increase in communication and engagement among our staff. This then serves as a catalyst for further discussion and information sharing, which can empower a service in their future work.

Email: mark.turner@dorsetcouncil.gov.uk

Using games, quizzes, videos and Twitter to promote NRS's demographic statistics

Esther Roughsedge

National Records of Scotland

At National Records of Scotland (NRS), we are trying to find different ways of reaching a wider audience with our statistics. I'll talk about some of the different approaches we have been trying. I will describe developing a life expectancy 'game' to get people to engage with our statistics at events. We have created videos to go online, some giving overviews of what our statistics say on a particular topic, and others creating an online version of workshops we have run on how to bring your data to life using charts and infographics. We have also developed online quizzes and tried different ways of using Twitter to reach a wider audience. We have done most of this with very limited resources, and I'll discuss how much work is involved, what tools we have used, and what the impact has been.

Email: esther.roughsedge@nrscotland.gov.uk