

10:00- 11:00	Registration and refreshments	
11:00- 11:10	Welcome	Pete Whitehouse (Conference Chair)
11:10- 11:15	Video Message: Importance of government statistics and influence and impact of statisticians	First Minister of Scotland
11:15- 11:55	Keynote 1 Making big data work: Lessons learned from inside Google	Matt McNeil (Google)
12:05- 13:00	Parallel Session 1	
	1.1 Impact: Devolution and Accountability New forms of data (perspectives across 3 countries)	David Fry (DCLG) Roger Halliday (SG) Glyn Jones (WG)
	1.2 Influence: Making the Most of the Media Statistics and the media: a statistician's view	Prof Kevin McConway (Open University, Royal Statistical Society)
	TBC	Martin Stabe (Financial Times)
	1.3 Innovation: Visualising for Impact The attraction of statistical data: Innovative data visualisations at destatis.de	Tanja Kowalski (Destatis)
	TBC	Ian Taylor (Flying Binary)
	1.4 Innovation: Case Studies in Big Data and Social Media Use, analysis and interpretation of big data, opportunities/challenges of social media, innovation in data collection – real time data	Stuart Martindale (DFID)
	What Google and Social Media can tell us about the demands on the health service	Katie Davidson (DoH)
	1.5 Professional: Open Data The role of open data in society	Richard Stirling (Open Data Institute)
	Scotland's open data platform	Gregor Boyd (SG)
13:00- 14:00	Lunch	

14:00 - 14:50	Parallel Session 2	
	2.1 Impact: In Public and in Private	
	How numbers are used by the media to tell a story	Jamie Jenkins (ONS) Stephanie Howarth (ONS)
	Statistics at Number 10: The impact of evidence	Kieran Elliot (Downing St)
	2.2 Influence:	
	Statistical innovation for decision making: From data to services	Emanuele Baldacci (EuroStat)
	2.3 Innovation:	
	Government statistics: the spatial dimension	Prof Robert Barr (Manchester Geomatics)
	2.4 Innovation:	
	Innovating with job market data	James Neave (Adzuna)
	2.5 Professional Development:	
	Professional Development: Career Pathways and Development Routes	Neil McIvor (DWP)
15:00 - 15:45	Keynote 2 Policy perspectives	TBC
15:45 - 16:15	Keynote 3 Professional influence of Statisticians on public, parliament, and policy making	John Pullinger (National Statistician)
16:15 - 16:30	New GSS Competency Framework The new GSS competency framework: a modern framework for an evolving profession	Neil McIvor (People Committee)
16:30 - 17:00	Refreshments	
17:00 - 18:00	Question Time: How can statisticians influence/help the development of public policy? (Panel Session)	Session Chair: Glen Watson Prof Peter Diggle (Royal Statistical Society) Anthony Reuben (BBC) Tjark Tjin-A-Tsoi (CBS Netherlands)
19:30 - 21:00	Dinner & Royal Statistical Society Awards	
21:00	Evening Entertainment	

09:00-09:10	Welcome	Pete Whitehouse (Conference Chair)
09:10-09:15	Video Message: Importance of government statistics and influence and impact of statisticians	First Minister of Wales
09:15-10:05	Keynote 3 Getting Official Statistics Used: Challenges and Solutions	Sir Andrew Dilnot (UK Statistics Authority)
10:10-11:20	Parallel Session 3 (learning events)	
	3.1 Statistics & Policy:	
	Recorded Crime: how the Home Office is improving its police data	Sophie Riley (HO)
	Analytical challenges implementing payment by results for the Transforming Rehabilitation programme	Jonny Hughes (MoJ) IU Garcia-Siches (MoJ)
	3.2 Administrative Data & Quality:	
	The increasing influence of Statistics in the VOA – or how contributing figures to CPIH has changed an Agency	Adrian Ball (VOA)
	‘Off the beaten track’ - DFID’s experiences applying the UKSA Administrative Data Quality Assurance Toolkit in the developing country context	Sian Rasdale (DfID) Mukund Lad (DfID)
	3.3 Methodologies:	
	Data Analytics within the department for Education	Richard Hindmarch (DfE)
	Real-time analysis of big data for public health	Roger Morbey (Public Health England)
	3.4 Presentation and Dissemination:	
	Everything you need to know about social media (in relation to official statistics)	Nick Woodhill (Good Practice Team)
	3.5 Professional:	
	Improved impact and influence for GSG members: How the Code of Practice and the UK Statistics Authority can help, and where we could do more	Ed Humpherson (UK Statistics Authority)
11:20-11:50	Break	

11:50-
13:00 **Parallel Session 4**
(learning events)

4.1 Good Practice:

[Generating synthetic microdata to widen access to sensitive data sets: method, software and empirical examples](#)

[Dr Beata Nowok](#)
(Edinburgh University)

[ONS research into methods for anonymised data matching](#)

[Pete Jones](#) (ONS)

4.2 Data Collection:

[Making online surveys a reality for business](#)

[Jason Bradbury](#) (ONS)

[Developing an innovative web survey](#)

[Julia Dudley](#) (Cabinet Office)
[Katie Green](#) (Cabinet Office)

[The UK Data Service Variable and Question Bank:
Use cases and future developments](#)

[Hersh Mann](#)
(UK Data Service)

4.3 Methodologies:

[Dealing with spatial autocorrelation in the valuation of office rents by using multilevel and semi parametric regression approaches](#)

[Aniel Anand](#) (DBIS)

[Segmentation with admin data, claimant beliefs and staff views](#)

[Elaine McCauley](#) (DWP)

4.4 Presentation and Dissemination:

[Getting started with visualisations and interactivity:
Improving accessibility and engagement](#)

[Ben Collier](#) (SG)
[Rachel Kirkham](#) (NAO)
[Hiren Bhimjiyani](#) (DBIS)

4.5 Professional Development: Data Science

[Data science in government:
The benefits and challenges of implementing new
analytical techniques and technologies in government](#)

[Dawn Leyman](#) (HMRC)
[Karen Gask](#) (ONS)
[Dan Heron](#) (GDS)
[Rob Breton](#) (ONS)
[Aimee Murphy](#) (DfE)
[Martin Ralphs](#) (ONS)

13:00-
13:30 **Conference close and lunch**



Pete Whitehouse



**The Scottish
Government**

I am a career government statistician who has worked for the ONS, DWP, Eurostat and a number of departments and agencies of the Scottish Government - most recently Education and Health. Like many government statisticians, this diversity of experience has made my job extremely interesting, incorporating amongst other things the production and oversight of statistical publications and analyses, writing and contributing to Ministerial speeches and briefing, implementing new analytical and technical solutions, developing and implementing analytical strategies, and leading cross office and cross profession work. I also chair the GSS Health and Social Care Theme Group.

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Matt McNeil



Matt is Head of Google Cloud Platform business for the UK & Ireland, responsible for the business development, sales and account management teams. We are focused on helping our customers in adopting and using Google's Enterprise Cloud technologies, including Google Compute Engine, App Engine, BigQuery, Machine Learning and Big Data solutions.

Matt Joined Google Enterprise in 2009 as UK & Ireland Industry Head for Retail, and worked with foresighted customers such as Burberry, Specsavers and Ocado to be the first of many retailers to adopt Google Apps for Business. In 2011 Matt took up the EMEA lead for Enterprise Business Solutions, and led the launch of the Google Cloud Platform compute and Big Data business in EMEA. Matt then spent 2 years leading the account management for Google Cloud Platform in EMEA and responsible for managing the largest customer deployments and ongoing relationships in the region.

Previous 10 years experience in IT industry, managing CxO consultancy engagements, leading programme turnarounds, delivering offshore projects and designing and developing systems within the healthcare, telecommunications and space technology sections for Logica, the largest European IT Services vendor.

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Title: Making Big Data Work: Lessons Learned From Inside Google

Abstract: Google manages some of the largest datasets in the world and is setting a global standard by leveraging data to inform key business decisions internally, as well as helping others do the same through Google Cloud Platform. Google has spent 10 years building products that can be fully managed, allowing for easy prototyping but also enabling operational insight at industrial scale. The end result? Moving fast, making things simple, and keeping people focused on what matters most - building the next big thing.

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David Fry



Department for
Communities and
Local Government

As Head of Strategic Statistics at DCLG, David Fry is currently responsible for the management and analysis a major social survey – the English Housing Survey. His team also collects housing and planning data from local authorities, publishes the indices of multiple deprivation, analyses lettings of social housing and carries out sub-national analysis of well-being.

David has over 20 years of experience working as a government statistician across Whitehall, holding positions within the Office for National Statistics, HM Treasury and the (then) Department for Trade and Industry. In this time he has held a wide variety of roles, including leading on the public sector mapping agreement, briefing on the labour market, contributing to thinking on the national minimum wage, publishing a book of statistics on children and examining the pay of MPs.

As Head of Profession for Statistics, David is responsible for leading and developing the analytical capacity of over 50 statisticians in DCLG. He is a Fellow of the Royal Statistical Society.

David is particularly interested in the dissemination and use of statistics, and his team led the development of Open Data Communities – DCLG’s response to the open data initiative.

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Roger Halliday



The Scottish
Government

Roger Halliday started as Chief Statistician in November 2011. Before that, he worked in the Department of Health in England as a policy analyst managing evidence for decision making across NHS issues.

He qualified with a degree in statistics in 1993 from St. Andrews University and joined the Department of Social Security (as was) as an assistant statistician. He worked for spells at the Department of Health in England and in a number of statistical and policy making roles at the Scottish Government before leaving in 2005. His areas of expertise are around children, learning, skills and the economy, as well as in health.

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Glyn Jones



Llywodraeth Cymru
Welsh Government

Glyn Jones is the Chief Statistician for the Welsh Government and is based in Cardiff. As Chief Statistician, Glyn is responsible for the production of official statistics produced by the Welsh Government and playing a lead role in cross-administration statistical issues.

He holds a BSc (Hons) degree in Mathematics and Its Applications from Cardiff University and an MSc in Public Service Management and Leadership through the University of Herfordshire. He is a member of the Royal Statistical Society.

He has been employed in the Government Statistical Service since 2000 first as a statistical officer working on economic statistics at the Office for National Statistics. In late 2000 he joined the then National Assembly for Wales working first on transport and demographic statistics before moving on to different posts dealing with education statistics. In 2010 he took up the position of Head of Statistical Services and in 2013 he was appointed Chief Statistician and Head of Profession for statistics.

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Title: Devolution and accountability: new forms of data

Abstract: We all know that data can be a powerful tool in better decision making, but how does that actually work within the context of devolved Government? And how can making local data available empower communities? David Fry (Head of profession at the Department for Communities and Local Government) and Roger Halliday (Chief Statistician at Scottish Government) will share the approaches and practical steps you can use in making the data you work with more influential and

help your organisation solve problems and focus on the outcomes that improve people's lives.

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Prof Kevin
McConway



Kevin McConway is Professor of Applied Statistics at the Open University in the UK, where he has worked since 1980. Alongside teaching students specialising in statistics and in several other disciplines, he researches in a broad range of applications of statistics, primarily including ecology, health service provision and the role of statistics in the media. He studied statistics, mathematics, psychology and business at Cambridge, UCL and the Open University, and is currently a Vice-President of the Royal Statistical Society.

He has been the main academic adviser on the BBC Radio 4 series More or Less (an Open University co-production) since 2005, and his publication list includes The Big Issue and New Scientist as well as more conventional academic journals and books.

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Title: Statistics and the media: a statistician's view

Abstract: How should statisticians interact with the media? What should statisticians know about how the media operate? For several years I have worked (occasionally) with journalists, and provided expert statistical comments on press releases and media stories. I will describe my experience of the many-sided relationship between researchers, press officers, journalists, and the public they are writing for, from the point of view of the statisticians who are also involved. I will discuss the complicated nature of numbers as facts. Finally I will present a few reasons for being optimistic about the position of statistics in the media.

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Martin Stabe



Martin Stabe is head of interactive news at the Financial Times, leading a team of data journalists, designers and web developers tasked with producing innovative, data-driven forms of online storytelling for FT.com. The team supports FT investigations with data collection and analysis, and produces news applications, interactive graphics and online maps.

Martin joined the FT in 2010 from business-to-business publisher Emap, where he was online editor of Retail Week. He began his career as a reporter covering digital media for British newspaper industry magazine Press Gazette.

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Title: TBC

Abstract: TBC



Tanja Kowalski



Tanja Kowalski is a computer scientist (course of studies: computational visualistics). For Destatis, the Federal Statistical Office of Germany, she has been working in the publishing and dissemination department since 2006. Among her responsibilities are the development, maintenance and enhancement of interactive visualisations and applications using statistical data, as well as the administration and technical enhancement of the Destatis website including the mobile version and web usability. Tanja is also contributing to a national working group and Eurostat Task Force regarding dissemination and visualisation of statistics.

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Title: The attraction of statistical data: Innovative data visualisations at destatis.de

Abstract: Official statistical data is (still) not usually associated with the words “attractive”, “fun”, “exciting”, “enthraling”. Appealing visualisation can help to turn *just data* into something intriguing and inspiring. Combined with interaction, it’s easier to produce interest in further exploration of data. But it’s a challenge to find the right kind of visual representation, and a good balance between displayed data and reduced complexity, attraction and professionalism. It’s also dependent on the targeted user groups.

There are many ways to reach a broader audience for statistical data. But a broad dissemination isn't the only goal of statisticians. Nowadays it's also important to enhance the *understanding* of the data. Simplification in order to increase comprehension for the less statistically trained can be one way, accompanying explanation to the presented graphics can be another. There are many more, of course.

Destatis has published a variety of data visualisations covering diverse subject themes, presentation forms and target groups. This presentation will provide an overview of some of these, both recent and well-established. I will give an outline of user feedback and the impact on the media. I will also share some of our experiences - encouraging as well as less positive ones.

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Stuart Martindale



Department
for International
Development

Stuart joined the government statistical service in 2011 at DCLG, working on local government and housing statistics. In 2013 he moved to Nigeria where he has combined a past in traveling on expeditions around the world with working in the GSS as DFID Nigeria's in country statistician.

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Title: Use, analysis and interpretation of big data, opportunities/challenges of social media, innovation in data collection – real time data

Abstract: The 28th of March 2015 saw a presidential election leading to the first democratic transfer of power in Nigeria's history. The election was dubbed by some to be Nigeria's 'first social media election' with the suggestion that

social media contributed to the transparency of the electoral process and the surprisingly calm response to the opposition victory. DFID Nigeria supported a range of social media approaches during the election in communication, voter education and election monitoring.

Following the election we have worked with the Centre for the Analysis of Social Media (a joint venture between Demos and the University of Sussex) to apply big data analytic techniques across the vast dataset of social media produced during the election period. This presentation details the results of that research; assessing how effective DFID's partners were at communication during the election and how analytics can help target and extend the reach of communication via social media; analysing how social media was used to comment on the conduct of the election and how it might be used for the monitoring and understanding the conduct of other elections other in developing and fragile states; and also looking at the limitations of using social media in the election context.

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Katie Davidson joined the civil service in August 2014 as a Fast Streamer having completed a degree in Management Sciences at Loughborough University. Katie has also previously worked within Oncology for a large Pharmaceutical firm and has a strong interest in data science.

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Katie Davidson



Department
of Health

Title: What Google and Social Media can tell us about the demands on the health service

Abstract: This piece of work looks at whether it is possible to predict increases in demand on health services using alternative data in the form of Google search Queries and other social media platforms. There has been work performed previously on the two separately with the Google flu trends findings forming the basis of our methodology (Google flu trends demonstrates the relationship between search terms related to flu and official influenza surveillance data for eighteen countries). The work we are currently undertaking is to establish whether relationships exist between search queries and health service use. Once this relationship has been established we will be exploring the value of this real time data in predicting changes in demand for winter health priority areas. This data has the potential to provide health services sufficient early warning to prepare for increased demand and also identify triggers behind individuals entering the system at different entry points allowing us to look into reducing demand.

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Richard Stirling



Richard leads ODI's international delivery network of nodes, overseeing all ODI work with the public sector in the UK and internationally, as well as managing the ODI's successful start up incubator programme. Richard has considerable experience at the heart of UK government transparency and data initiatives, creating the strategy and implementation of open data in the UK and advising the UK Prime Minister and Cabinet Office on public sector reform.

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Title: The role of open data in society

Abstract: The Open Data Institute is catalysing the evolution of open data culture to create economic, environmental and social value. Illustrated with examples from startup companies, this session will talk about how open data and data innovation are helping to create a new culture in society, including here in the UK and internationally. It will provide the opportunity for government statisticians to consider their role in this new culture and the opportunities open data can offer.

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Gregor Boyd



Gregor Boyd is a statistician in the Scottish Government's Office of the Chief Statistician. His team deals with statistics policy and is currently developing an open data platform for Scottish official statistics.

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Title: Open Data

Abstract: What is open data, what are the benefits and how do I get started? The GSS has been doing "open data" for years, long before the current excitement about it. What can we do to ensure that we are at the forefront of this movement? In Scotland we are currently developing an open data platform to disseminate official statistics. We hope that this will lead to a revolution in the way that we disseminate statistics.

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**Jamie Jenkins**

Jamie is the lead on health analysis at the ONS and has experience of working across several GSS departments in his career. Stephanie is based in the Good Practice Team providing support across the GSS to raise standards and help share best practice.

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**Stephanie
Howarth**

Stephanie Howarth is a member of the GSS Good Practice Team. The team works with statisticians across government to improve the way statistics are presented and communicated. Stephanie joined the Government Statistical Service in 2005 and previously worked as a statistician at the Welsh Government.

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Title: How numbers are used by the media to tell a story

Abstract: Stephanie Howarth (ONS) and myself have recently completed secondment roles at the BBC where we provided statistical support. We advised on the quality & robustness of statistics that came in to the building before broadcast. We also had to source statistics from various

GSS publications to provide evidence for stories (a challenge on many occasions) and tackle the need to ensure the numbers were understood by a lay audience.

To do this we were based at both the headquarters of BBC Broadcasting House in London and at BBC Wales in Cardiff where we worked closely across different types of outlets. In London the focus was sourcing statistics to fact check political claims to support the content surrounding the 2015 General Election. This meant meeting with various journalists to identify their needs and then speaking with various analysts across the GSS (and beyond) to provide solutions. This had to be done at rapid pace (quite often in minutes rather than days) and is a change to the culture across most of the GSS.

In Cardiff we would support the news agenda by attending a daily meeting of all news outlets to talk through the topical stories of the day. We would then source statistics to put some context behind the stories to be shared to the general public. Without statistical expertise it can be easy to make mistakes and use the wrong numbers and the presentation would focus on tips to engage with the media and what not to do.

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From a background of Psychology and Sleep Research, I joined the Civil Service as an AS in Defra before moving to DECC. At the start of 2015, I joined No.10 in the Prime Minister's briefing team.

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Title: Statistics at Number 10 – The impact of evidence.

Kieran Elliot



10 DOWNING STREET
LONDON SW1A 2AA

Abstract: As an analyst working in the PM's briefing team at Number 10, I get insight into the workings of central Government and how evidence and analysis are used to influence and implement policy. In my role, I work on PMQs, domestic visits, Question Time and Any Questions. Through this I get to see work and analysis being undertaken across all Government departments. My presentation will discuss

how Number 10 uses statistics and the impact they have on the PM's work & policy decisions. I will also talk about life outside of statistics for a statistician and take questions on the workings of Number 10.

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Emanuele Baldacci is currently director of methodology, IT and corporate statistical services at Eurostat. From October 2011 to April 2015 he was the head of the integration, quality and research department in the Italian statistical office. Before that he was a deputy division chief in the International Monetary Fund, a senior economist in the World Bank and also served as chief economist at SACE: the largest Italian trade finance group.

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Emanuele Baldacci



Title: Statistical Innovation for decision making: from data to services

Abstract: This paper will illustrate recent innovation in statistical product dissemination and future trends in Innovation for the delivery of tailored statistical information to meet increasing and differentiated user needs. Demand for statistical information is increasingly putting under stress statistical organizations by requesting

more flexible data products and a broader set of statistical data and indicators to be used in different decision based contexts.

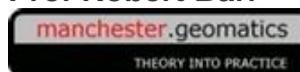
To satisfy these needs statistical organizations need to move away from the traditional commodity sector of data production into delivery of information rich services to be consumed by a variety of users. This requires a transformation in the way statistical production processes are designed to foster industrialization of the business chain and standardization of processes to strengthen efficiency and raise quality levels. Moving to mixed source statistical production and harnessing new data sources is key. Product innovation is also critical as statistical services tailored for decision making are designed and delivered to new categories of users that are both consumers and producers of information.

Innovation in production and dissemination systems relies on data analytics services and new data consumption tools that maximize the ability of users to navigate the data to extract knowledge. The paper will focus on the key elements of these trends in the ESS Vision 2020 program and modernization activities carried out by Eurostat drawing some preliminary lessons for the future.

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Prof Robert Barr



Robert (Bob) Barr is an academic geographer. He worked at the University of Manchester for 30 years and is a Geographical Information Systems specialist. He was a co-founder in 1986 of the Manchester Regional Research Laboratory which he spun out as a company, Manchester Geomatics (MGL), in 1999. He remains Chairman of MGL. Bob was a founder member of the Association for Geographic Information, spent 13 years on the Association's Council and was Chairman in 2001.

Currently Bob is Visiting Professor in Geographic Information Science at the University of Liverpool, and Honorary Research Fellow in the School of Environment at the University of Manchester. He was an Expert Member of the Advisory Panel for Public Sector Information and of the Open Data User Group. He is also a Borough Councillor and Non-Executive Director of a major regional Housing Association. Bob was awarded an OBE for 'services to geography' in the 2008 New Year Honours.

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Title: Government statistics – the spatial dimension

Abstract: Most statistical operations in government involve the storage, retrieval and analysis of numbers or text. Where visualisation is required, it is usually to display the results of analysis or to explore data which was originally alphanumeric.

Geospatial information, the coordinates, or identifiers, of points, lines or areas to which information refers, is used much more rarely in the statistical service. Even in the Office for National Statistics geographical, now often referred to as geospatial, information has a low profile except when taking the decennial Census of Population.

In this presentation the importance of geospatial information will be discussed, as well as how it can be incorporated into conventional statistical practice. Ignoring the spatial dimension can lead to important errors that undermine the credibility of statistics as occurred in the 2001 Census.

The fitness of the UK's current geospatial data infrastructure for statistical use will be assessed. At a time when the use of geospatial information in the private sector is booming, can government statisticians afford to be left behind?

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James Neave



James has spent over 10 years working in the field of data analytics and predictive modelling. He is currently leading the data science function at Adzuna, a rapidly growing job search engine with a presence in 11 countries and over 5m user visits per month.

Previously he has designed automated valuation models for property whilst at Rightmove and as Managing Director of CoreLogic Solutions. He also spent two years helping to set up Castle Trust, a new type of retail bank. James has an MBA from Cambridge and an engineering degree from Oxford.

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Title: Innovating with job market data

Abstract: Two main themes are covered in this presentation. First, how Adzuna collects and disseminates real-time data on ~95% of all UK job adverts. Second, how this data is combined with machine-learning techniques to create innovative and useful products for job-seekers. The presentation should be of interest to anyone wanting to learn more about the following topics: data scraping, neural-networks, data science and text-mining.

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Neil Mclvor



Department
for Work &
Pensions

Neil Mclvor's career has developed from his first posting as an Assistant Statistician in 2003 to his current role as Deputy Director of Statistical Services, and Deputy Head of Profession for Statistics in DWP, which he started in March 2013. Neil's career has included working in different departments, leading cross professional policy analysts, and significantly being a policy lead both as a Grade 6 and member of the Senior Civil Service - before returning to the profession.

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Title: Professional Development - Career Pathways and Development Routes

Abstract: Neil will talk through some of the defining moments that shaped his career, and give incites on how he prepared himself for a role as a senior leader in the Civil Service. Neil will also talk about the importance of a varied and broad range of experience, and how he sees the profession developing over the next 5 years.

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Title: The new GSS competency framework: a modern framework for an evolving profession

Abstract: Neil Mclvor - in his role as chair of the GSS people committee will talk about how the profession needs to adapt to the changing world of every increasing data and technology. The session will focus on the work done by the People Committee to develop a modern competency framework necessary to support individuals to prepare for the varied and changing roles statisticians may be required to undertake in this new world.

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Glen Watson
 Office for
National Statistics

Glen is the Director General for Population and Public Policy in ONS and, as one of three Deputy National Statisticians, provides leadership across the Government Statistical Service (GSS). He is a member of the UK Statistics Authority Board and the National Statistics Executive Group.

He leads ONS's Data Collection, Census and Social Analysis and co-ordinates GSS work supporting public policy, for example, statistical and analytical support to the Government's new Implementation Taskforces.

Glen is also co-chair of the European Statistical Service (ESS) Vision Implementation Group, driving modernisation of the entire ESS and has represented the UK at various United Nations (UN), Organisation for Economic Co-operation and Development (OECD) and ESS meetings.

Since joining the ONS in 2004, his roles have included Director General of ONS (2012 to 2014), Census Director (2007 to 2012) and various senior management roles in Neighbourhood Statistics, Economic and Social Statistics, surveys, Health, and Population and Demography.

After University, Glen started his career in the insurance industry and then spent over 14 years in the Ministry of Defence in military workforce planning, economic analysis, procurement and logistics support, health statistics and corporate information systems roles. He is a fellow of the Royal Statistical Society, a Chartered Statistician and has a Diploma in Accountancy and Finance.

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Prof Peter Diggle
 ROYAL
STATISTICAL
SOCIETY

Peter Diggle graduated BSc (Liverpool) in 1972, MSc (Oxford) in 1973, PhD (Newcastle upon Tyne) in 1977. Between 1974 and 1984 he was Lecturer, then Reader in Statistics at the University of Newcastle upon Tyne. Between 1984 and 1988 he was Senior, then Principal, then Chief Research Scientist in CSIRO Division of Mathematics and Statistics, Canberra.

Prof Diggle is President of the Royal Statistical society (July 2014 to December 2016), Distinguished University Professor of Statistics in the Faculty of Health and Medicine, Lancaster University and Professor in the Department of Epidemiology and Population Health, University of Liverpool. He also holds Adjunct positions at Johns Hopkins University School of Public Health, Columbia University International Research Institute for Climate and Society and Yale University School of Public Health.

His research involves the development of statistical methods for spatial and longitudinal data analysis, and their application in the biomedical and health sciences. His current projects include a study of the spatial epidemiology of campylobacter in the UK, malaria prevalence mapping in Malawi and the use of routinely recorded electronic data-streams for real-time public health surveillance.

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Anthony Reuben

Anthony Reuben is a business reporter at BBC News who was until recently the corporation's head of statistics, flying the flag for statistical robustness through his articles on the BBC News website, appearances on radio and television and providing training and advice for colleagues.

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Tjark Tjin-A-Tsoi

Since April 2014 Tjark Tjin-A-Tsoi is the Director General of Statistics Netherlands.

Tjark Tjin-A-Tsoi has been Chief Executive Officer of the Netherlands Forensic Institute (NFI) since 2007. In this role, he was responsible for general management, strategic planning (including setting priorities), internal and external communication, coordinating research and development activities, and developing and maintaining the NFI's institutional and scientific networks.



Before joining the NFI, Dr Tjin-A-Tsoi was director of competition at the Dutch Competition Authority and held positions at Ernst & Young Corporate Finance BV, Rabobank International and Shell Technology Centre Amsterdam.

He is currently also on the Supervisory Board of the National Initiative Brain and Cognition, the Social Advisory Board of the Netherlands Institute of Forensic

Psychiatry and Psychology, and the Advisory Board of the Complexity Programme of the Netherlands Organisation for Scientific Research.

Tjark Tjin-A-Tsoi gained a PhD in Theoretical Physics from the University of Amsterdam and subsequently held a postdoctoral fellowship at the University of Munich.

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Title: Question Time: How can statisticians influence/help the development of public policy?

Abstract: Glen Watson (DG – ONS) will be hosting a topical debate which will bring together key stakeholders from across the UK and European Statistics community. You will have the opportunity to pose questions to the eminent panel members and to engage in lively and thought-provoking debate. In addition to Glen, the Panel will bring together a senior UK policy civil servant, the head of a key European national statistics institute, an influential opinion former and user of statistical evidence from the British media, and a leading figure from the UK Statistics community.

Bring your questions, and be ready to challenge and to be challenged.

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Sir Andrew Dilnot



Sir Andrew Dilnot CBE is Chair of the UK Statistics Authority.

The post of Chair of the UK Statistics Authority is a Crown appointment, made with the approval of Parliament following a pre-appointment hearing before the House of Commons Public Administration Select Committee and a formal motion debated on the floor of the House of Commons. Andrew was appointed to succeed the Authority's first Chair, Sir Michael Scholar KCB, and he took up post in April 2012 for a five-year term.

Andrew was elected as Warden of Nuffield College, Oxford with effect from September 2012. Between 2002 and August 2012, Andrew was Principal of St. Hugh's College, Oxford. He was awarded a CBE in 2000 and knighted in the 2013 Queen's Birthday Honours for services to economics and economic policy.

Andrew was educated in Swansea and at St. John's College, Oxford where he read Politics, Philosophy and Economics. After graduating from Oxford, he joined the

Institute for Fiscal Studies (IFS), and between 1991 and 2002 he served as its Director.

Andrew was the founding presenter of BBC Radio 4's series on numbers and statistics, *More or Less* and co-authored (with Michael Blastland) *The Tiger that isn't: seeing through a world of numbers*, a study of the role and use of statistics.

In 2010, Andrew was appointed to chair the Commission on Funding of Care and Support, which published its report *Fairer Care Funding* in July 2011.

He is an Honorary Fellow of St. John's College, Oxford, of Queen Mary, University of London, and of the Institute for Actuaries. Andrew also holds an honorary doctorate from City University.

Between 2009 and 2012, Andrew chaired the Statistics User Forum and was also a Trustee of the Nuffield Foundation. He has served on the Social Security Advisory Committee, the National Consumer Council, and the council of the Royal Economic Society.

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Title: Getting Official Statistics Used: Challenges and solutions

Abstract: TBC



Sophie Riley
 Home Office

Sophie is Head of the police recorded crime team in Home Office Crime & Policing Statistics. Her team work with police forces to collect crime and outcomes data, improve its quality and use the data to help inform policy colleagues, Ministers and the public. Sophie's team have developed an exciting case level database which provides details on individual crimes, including when and where the offence took place and victim data.

Sophie has worked in many other departments, including Her Majesty's Inspectorate of Constabulary, Department for Transport, Ministry of Defence and the Food Standards Agency.

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Title: Recorded Crime: how the Home Office is improving its police data

Abstract: The Home Office Data Hub contains individual crime level data from police forces, providing a rich data set on different types of crimes, where and when they occur, victims, stolen items, etc. This is an opportunity to learn about some of the challenges we have faced and overcome in the development of the database, and see some of the valuable analysis that these data make possible. For instance, looking at the times of day certain offences take place, or how many sexual offences being recorded by the police took place years ago. Looking forward, learn about what else the data will be feeding into, e.g. populating street level crime maps, and linking to crimes to offenders in the Police National Computer.

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Jonny Hughes

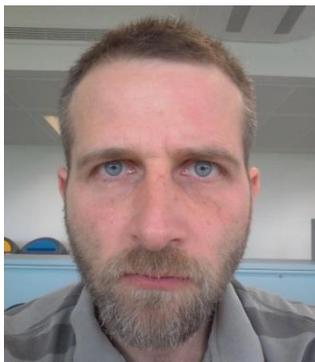


Ministry
of Justice

Jonny is a grade 6 statistician, and has been in the GSS for 11 years. He now leads on strategic analysis at MOJ, having previously led on designing the Ministry's payment by results prison pilots and more recently heading up the 'prison, probation, reoffending and payment by results statistics' team.

He started his GSS career at the Office for National Statistics working on the consumer prices index, before working on decent homes policy at the Office of the Deputy Prime Minister, multination aid at the Department for International Development, and as a labour market statistician at the Department for Work and Pensions.

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Iu Garcia-Siches



Ministry
of Justice

Iu joined the GSS and government two years ago after a rather long career in the private sector. He studied statistics and bioinformatics and he has worked in a myriad of industries including publishing, banking, market research and direct mail marketing. In government, at the Ministry of Justice, he has spent the last two years working on the payment by results element of the Transforming Rehabilitation programme.

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Title: Analytical challenges implementing payment by results for the Transforming Rehabilitation programme

Abstract: In February 2015 the Ministry of Justice launched a new offender rehabilitation programme – the Transforming Rehabilitation programme – without any doubt one of the most impactful reforms of the previous administration. The programme contains a

payment by results (PbR) element which was devised by MoJ statisticians working together with colleagues from other professions. It involved piloting PbR, the fine tuning of reoffending measures used to evaluate success, the definition of baselines and payment thresholds, and quality assurance for all the new processes.

In this session we will take you through the journey of the project: how and why it evolved, how we balanced clarity and accuracy, and finally the tools we used to ensure quality and accountability in the roll-out of the programme.

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Adrian Ball



As Director for Information and Analysis Adrian is accountable for ensuring that the Agency, and others interested in its work, have the evidence that it needs to make sound decisions. This includes ensuring that the Agency has the capability to analyse and publish statistics, ensure that the Agency has information to manage its performance, provide advice to policy makers and correctly decide what can be shared with the outside world.

He is also part of the Strategy Group Leadership and support the Chief Strategy Office in providing strategic thought.

I am a statistician both by training and experience. I started my career as a medical researcher, looking at the health effects of exposure to radiation, before joining the Civil Service hoping to work on something similar. Of course, I was assigned to the Department for Education. Since then, in the way of analysts, I have moved around Government Departments learning new things and applying what I know to their issues. This has meant that I have worked on a wide range of areas, from school funding, through the development of the RPI to estimates of smuggling into the UK. It's all been very interesting, but somehow I've never got back to medical research.

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Title: The increasing influence of Statistics in the VOA - or how contributing figures to CPIH has changed an Agency.

Abstract: In 2013 the VOA became part of the production chain for CPI and CPIH, when administrative data collected for the purpose of Housing Allowance operations were used as the basis for the Owner Occupier cost element of the index. This talk looks at the challenges that this has caused, from legal difficulties in sharing information, through the creation of an analytical function to service the delivery, to collaboration between ONS and the VOA to ensure that the correct methodology, including an understanding of index methods, is employed. It will also cover the

impact that the work has had on the corporate view on collecting administrative data, when it is used for one of the most important economic indicators in the UK.

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Sian Rasdale is currently the Senior Statistics Adviser in Finance and Corporate Performance Department in DFID, overseeing work on results reporting and National Statistics publications on Official Development Assistance. Prior to this post Sian spend 12 years working in the Scottish Government in a variety of posts.

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Sian Rasdale



Mukund Lad: was the statistics adviser to DFID Rwanda for three years and is now adviser to DFID Southern Africa. He is also involved with sharing good practice on effective monitoring of aid projects across DFID's network of country and regional offices. He previously worked at DCLG, HMRC, DTI and DfES.

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Mukund Lad



Title: 'Off the beaten track' - DFID's experiences applying the UKSA Administrative Data Quality Assurance Toolkit in the developing country context.

Abstract: The Department for International Development (DFID) leads the UK government's effort to promote sustainable development and to end poverty in developing countries.

GSS Statisticians in DFID play a key role in collecting, reporting and ensuring the quality of the data DFID uses to monitor performance of its programmes across developing countries.

To support better project management and improve the quality of data used to monitor performance DFID statisticians have drawn upon the UKSA Administrative Data Quality Assurance Toolkit to develop an improved mechanism for investigating, managing and communicating data quality of project results. As part of this work DFID statisticians have been out to the 'field' to visit DFID projects which are delivering results on a range of areas including nutrition, access to clean water and school enrolments. DFID Statisticians have then followed the results through the system from hospital, to local data collection, to central government through to DFID country office.

DFID statisticians are now in the process of developing a toolkit for use by programme managers to enable them to make preliminary assessments of data quality.

The talk will highlight the relevance of the toolkit even in very different and challenging data collection environments.

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**Richard
Hindmarch**

I have been in my current role for 18 months, spending the majority of my time developing the departments' risk assessment tools for academies. Before that I worked within a policy facing team, focusing on academies again. I have also done a student placement in department of health.

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**Department
for Education**

Title: Data Analytics within the department for Education

Abstract: The department and agency should set out how and when they will develop an analytical capability to spot risks" Public Accounts Committee, June 2014. This presentation looks at what we have done to fit this brief, talking about the departments' first steps towards risk assessment. It will then highlight how analytical techniques like clustering analysis, decision tree learning, principle component and nearest neighbour analysis have been used to develop a tool that operational colleagues have embedded into their own work and the challenges we have faced to do that. Finally, we will look at the future of Data Analytics within the department.

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Roger Morbey

Roger Morbey is the statistical project lead for the real-time Syndromic surveillance team of Public Health England. Roger is a statistician with a background in health and the voluntary sector. Current work involves developing systems for Syndromic data including statistical methodologies and automated production of statistical warning alarms.

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Title: Real-time analysis of big data for public health



Public Health
England

Abstract: Motivation: Syndromic surveillance is the real-time collection and interpretation of data to allow the early identification of public health threats and their impact, enabling public health action. The “Rising activity, multi-level mixed effects, indicator emphasis” (RAMMIE) method

enables detection of unusual activity across a wide range of syndromes, nationally and locally. Results: The method is shown here to have a high sensitivity (92%) and specificity (99%) compared to previous methods, whilst halving the time taken to detect increased activity to 1.3 days. Availability and Implementation: The method has been applied successfully to syndromic systems in England providing realistic models for baseline activity and utilising prioritisation rules to ensure a manageable number of ‘alarms’ each day.

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Nick Woodhill



Nick Woodhill joined the GSS as a Fast Streamer in 2007. His first post was in ONS Methodology where he worked on sample design and estimation in business surveys. Nick moved to the MOD in 2008, working on economic statistics, health statistics and finally leading the civilian personnel forecasting team. In 2013 Nick joined the GSS Good Practice Team as a G7.

Nick is passionate about engaging with users of GSS statistics and increasing both our knowledge and use of social media.

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Title: Everything you need to know about social media (in relation to official statistics).

Abstract: This presentation will look at the basics of using social media to identify and engage with users (both fundamental parts of the Code of Practice for Official Statistics). Starting with the essentials, the presentation will first provide hints and tips on how look and listen. The interactive presentation will then showcase best practice and finish with a strategic look ahead. There will be tables discussions and plenty of opportunity to ask questions / share experiences.

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Ed Humpherson



Ed Humpherson – Director of Regulation – UKSA

The Head of Assessment is the Authority's principal adviser on the assessment and reassessment of official statistics and their compliance with the Code of Practice for Official Statistics, and is operationally known as the Director General for Regulation.

Ed Humpherson was appointed as Director General for Regulation in October 2013 and took up post in January 2014.

Prior to joining the Authority, Ed was a Board Member and Executive Leader for Economic Affairs at the National Audit Office, a post he held since July 2009. This role included responsibility for the overall strategic direction of NAO's work on economic affairs. Amongst other previous responsibilities, Ed oversaw the NAO's response to the recent financial crisis through building capability in capital markets and financial services work. He also coordinated the NAO's programme of work on the administration of the tax system and the welfare system; led the NAO's work on public private partnerships and major infrastructure developments, including in transport and energy; and oversaw the development of the NAO's audit of the Whole of Government Accounts.

Between 2007 and 2009, Ed Humpherson was Assistant Auditor General, and before that was NAO's Director of Regulation between 2003 and 2007. Ed joined the National Audit Office in 1993.

Ed Humpherson was educated at the University of Edinburgh where he obtained a first-class MA honours degree in Politics and Economic History.

Ed is a Chartered Accountant and a member of the Institute of Chartered Accountants in England and Wales. Ed is married and has three children.

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Title: Improved impact and influence for GSG members: How the Code of Practice and the UK Statistics Authority can help, and where we could do more.

Abstract: TBC

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Dr Beata Nowok



THE UNIVERSITY
of EDINBURGH

Beata Nowok is a research fellow at the Administrative Data Research Centre - Scotland (ADRC-S), University of Edinburgh, where she undertakes research on synthetic data. Previously she worked in the Longitudinal Study Centre - Scotland (LSCS) on the Synthetic Data Estimation for UK Longitudinal Studies (SYLLS) project.

Before joining the LSCS in 2013, she was a research fellow in the ESRC Centre for Population Change (CPC). Between 2004 and 2006, she worked in the Central European Forum for Migration and Population Research (CEFMR) in Warsaw. Her research interests include applications of quantitative methods in demography, in general, and longitudinal analysis of migration behaviour, in particular. She holds a PhD in Demography from the University of Groningen, the Netherlands and an MSc in Quantitative Methods and Information Systems from the Warsaw School of Economics, Poland.

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Title: Generating synthetic microdata to widen access to sensitive data sets: method, software and empirical examples

Abstract: Wide access to microdata is crucial to the advancement of research and evidence-based policy but it is often constrained by confidentiality concerns. Synthetic data techniques developed to allow for the release of high-quality microdata without compromising confidentiality provide an attractive solution to this problem. In synthetic data risks of disclosures are minimized by replacing some or all of the data values with simulations from statistical models estimated from the original confidential data. The usefulness of the disseminated synthetic data depends, however, on the correct specification of these models which can be a difficult and complex task. The recently developed *synthpop* package for R simplifies considerably the process of generating synthetic data. The users have a choice between different parametric and non-parametric synthesising models. The latter includes classification and regression trees (CART) models. The *synthpop* package offers also tools to assess quality of the synthetic data sets. They compare, in tabular and graphical form, features of the synthetic data and models fitted to them with the characteristics and estimate results for the original data. This presentation will provide the general background to the synthetic data methods, introduce the *synthpop* package for R and illustrate its functionality with empirical examples.

[Back to agenda](#)**Pete Jones**

Pete is working on a project to develop future alternatives to Census taking that rely more on the use of administrative data. The ONS Beyond 2021 Project has a long term aim to make use of multiple administrative sources to produce statistics about the population and its characteristics.

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Title: ONS Research into methods for anonymised data matching

Abstract: The Office for National Statistics (ONS) has conducted a review (the Beyond 2011 Programme) of the future approach to the census and population statistics in England and Wales. The National Statistician made a recommendation to Government on 27 March 2014 that there should be a predominantly online census of all households and communal establishments in 2021. This will be supplemented with increased use of administrative data and surveys in order to enhance the statistics from the 2021 Census and improve annual statistics between censuses. This paper discusses research to develop methods to link large record level administrative datasets in a privacy preserving manner. Matching multiple administrative sources is both resource intensive and elevates risks relating to the privacy of data about people and households. We have therefore sought to develop fully automated methods to link anonymised data. Critical to the research has been the development of techniques that can identify similarity between anonymised records and the accurate classification of those records into matches and non-matches. A number of quality assurance exercises have been undertaken to test the methods on linking administrative and Census data, including data from health, DWP and Education. Results so far are highly promising showing very high match rates (consistently over 90%) but more importantly relatively low levels of false positives (less than 1%) and false negatives (around 2%). ONS has an interest in promoting the use of these methods to integrate data more widely, both within the office and across the GSS.

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Jason Bradbury
Office for
National Statistics

Jason is Programme Director for the Office for National Statistics' Electronic Data Collection programme; one of the office's key strategic and transformational projects. This programme is critical to changing the way ONS engages with people and business and will start to deliver benefits from 2015/16.

As programme director of a project on the Government's Major Project Portfolio Jason has recently completed the "Major Projects Leadership Academy"; an 18 month development programme with the Said Business School, Oxford.

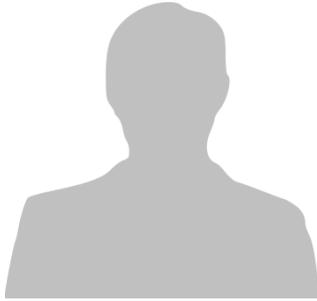
Prior to his current role, Jason was responsible for the operational delivery of many of the countries' key business and financial surveys. Before joining ONS in 2012, Jason spent two years as the Head of Strategy within the UK National Statistician's Office, and before that 10 years in the MOD (Bristol/Bath), 6 years informing social security policy in the Department for Work and Pensions (Newcastle) and 2 years in the Department for Transport (London). Before joining the Civil Service in 1994 he worked in retail management for Next PLC. When not at work, Jason enjoys spending time with his family, playing golf and, occasionally, performing in stage musicals.

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Title: Making online surveys a reality for business

Abstract: The ONS is changing the way it runs business surveys; shifting from collecting more than one million paper forms per year, to full online operation. The Electronic Data Collection (EDC) programme which leads this is using an agile approach to development (compliant with the Government Digital Service standards); placing users at the heart of the development and drawing on iterative usability and operational test and pilots – including testing for mode effects. The ONS is running a first major pilot during the summer of 2015 and will run its first major online survey (a new Purchases Survey of 31,000 companies) during the first quarter of 2016. After this online will be rolled out to the ONS' 80 other business surveys and has huge potential for use across other parts of government. This presentation will describe our journey so far, demonstrate the system and reflect on user feedback.

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Julia Dudley



Cabinet Office

Julia Dudley is an analyst who oversees the delivery of the Cabinet Office's only Official Statistic: the Community Life Survey. She also oversees the Civil Service People Survey and has a PhD in neuroscience.

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Katie Green



Cabinet Office

Katie Green is a Social Researcher in the Cabinet Office, with an academic background in Psychology and Crime Science (MSc). She works on the Community Life Survey: the Cabinet Office's only Official Statistic, and recently completed the analysis and statistical report on the 2014-15 results. She also works on the Office for Civil Society's ongoing evaluation work.

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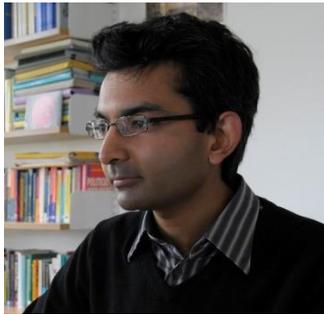
Title: Developing an innovative web survey

Abstract: The Community Life Survey was first commissioned in 2012 to track the latest trends and developments across areas key to encouraging social action and empowering communities. The data forms Official Statistics and retained key measures from its predecessor, the Citizenship Survey. The survey has always employed a face-to-face design. Whilst the face-to-face interview survey provides robust, representative statistics and is considered the 'gold standard' for survey research, it is a resource-intensive approach that could be influenced by social desirability bias. We have therefore been looking at new approaches to data collection which could lead to innovation in data collection both in and outside Government.

To further develop an understanding of different methods, an important strand of the Community Life Survey 2013-14 contract, was to explore alternative methods of data collection with our contractor (TNS BMRB), specifically the feasibility of introducing an online/postal version of the survey. In the first phase of work, we successfully developed an online/postal survey method that employed probability sampling methods similar to those used for the face-to-face interview survey, however the two designs produced significantly different results. This led to the question; was the difference in results due to the different modes of data collection or the different

sample recruitment methods? Further experiments suggested that mode effects caused the bulk of the difference; that is, even if the same people answered both surveys, the results would be different. This means that even though our time series may be disrupted, our user community should not be concerned about sample bias.

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Hersh Mann is the Data Support Manager for the UK Data Service. He trained as a political scientist and has a long-standing involvement in quantitative research methods training. He has responsibility for supporting and training researchers in using the UK Data Service.

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Hersh Mann

UK Data Service



Title: The UK Data Service Variable and Question Bank: Use Cases and Future Developments

Abstract: The Variable and Question Bank (VQB) is a key resource discovery tool developed by the UK Data Service. Originally called the Survey Question Bank (SQB) as part of the Survey Resources Network project, this resource made question texts searchable via the DDI metadata schema created in Nesstar by the Economic and Social Data Service. The VQB has since moved to the UK Data Service's Discover structure and further enhancements and extensions have been made which make it possible to link related questions e.g. the same question used across several surveys or to identify questions that belong to a larger defined set. Today the VQB currently features well over 500,000 variables from nearly 700 individual surveys. This presentation will highlight the features of the VQB and examine the user experience of this tool as part of our ongoing feedback consultations with the researchers who use our service. Our collaborative efforts with external partners (e.g. the ONS) will also be discussed before we consider planned improvements to the VQB within the context of the overall set of UK data Service resource discovery tools.

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Aniel has worked at the Valuation Office Agency, responsible for developing analytical tools to assist in the valuation of property. As part of his MSc dissertation in Official Statistics at the University of Southampton, he has researched different approaches for accounting for the property location in its valuation.

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Aniel Anand



Title: Dealing with spatial autocorrelation in the valuation of office rents by using multilevel and semi parametric regression approaches

Abstract: Properties within the same location are likely to have similar rents. Therefore, if location is not properly captured in a regression model which predicts rent, the error terms of nearby offices will be spatially correlated. I therefore explored if locational economic characteristics from administrative sources and fixed effects for Local Authorities could be used to explain the variations in office rents. This showed a high degree of spatial autocorrelation still present so I considered how homogeneous England and Wales was by developing regional specific regressions and used Chow's test to identify structural breaks. Moran's I was used to determine the extent of regional spatial autocorrelation which showed London to have a unique property market.

Multilevel modelling can be used when the data structure is hierarchical to account for location and reduce spatial autocorrelation. This is an innovative approach as previous literature tended to focus on spatial regression models. I then contrasted this with an Ordinary Least Squares (OLS) and Generalised Additive Model (GAM) approach. The root mean square error is used to assess the prediction precision of the models both within the sample and the validation dataset. This showed that whilst the multilevel model had the best in-sample prediction, it performed the worst out of sample, indicating that the multilevel model over-fits the spatial element of the model. The OLS and multilevel model did not sufficiently deal with the problem of spatial autocorrelation, still occurring up to 130 metres. The GAM however reduced spatial autocorrelation between offices to 20 metres.

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Elaine McCauley joined the GSS long ago and is joint head of the Labour Market Trials Unit in DWP, jobsharing with a Social Researcher. Simon Clay joined GORS in 2006, and has worked in Fraud and Error Measurement and the Family Resources Survey before joining the Labour Market Trials Unit.

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Elaine McCauley



Department
for Work &
Pensions

Title: Segmentation with admin data, claimant beliefs and staff views

Abstract: DWP, like other departments, is being asked to cut costs while maintaining service quality, while more digital access provides more options for services. To do this, we need to ensure expensive interventions are targeted at those they benefit most, and digital options are used where they are effective.

Previous approaches to Active Labour Market Policies have targeted more intensive options on claimants who have spent longer on benefit. Targeting interventions effectively from the start of the claim can save staff and claimants from spending time on less helpful interventions and help people into work faster. This project is based on a Randomised Control Trial of the frequency of meetings between jobseekers and staff, which collected data on claimants' circumstances, attitudes and beliefs and on staff perceptions of their ability to find work, and combined this with admin data. A number of approaches (CHAID, "Cadi" and standard regression) are being used to measure which factors are most relevant to claimant responsiveness to the intervention. The aim is to understand how to target this type of intervention and develop a useable segmentation model, and more broadly to improve understanding of what data we need to collect and use as we develop our "digital offer" to jobseekers. [Analysis is being done now and we expect to have results before September.]

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Ben Collier



**The Scottish
Government**

The Transport Statistics team in Transport Scotland is a small team of 4 statistical staff covering many aspects of transport, such as: personal travel behaviours, road safety, sustainable travel, public transport amongst others. Chris Newson (statistician) and Ben Collier (assistant statistician) from the team will deliver this presentation.

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Rachel Kirkham



National Audit Office

Rachel is the co-lead for Statistics at the National Audit Office. She is an experienced Auditor and is currently working on the Whole of Government Accounts, where she has made innovative use of data-visualisation and coding to improve communications on WGA and the efficiency of the audit. Rachel volunteers at London Zoo in her spare time, where she hangs out with monkeys (and talks about conservation).

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Hiren Bhimjiyani



I lead on interactive data visualisation in the BIS Data Science Team. I learned coding from working on data linking at MoJ and ETL at DoH. I now use HTML5 and JavaScript to develop interactive data visualisations for such varied areas such as Vocational Education and the staff survey.

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Title: Getting Started with Visualisations and Interactivity: improving accessibility and engagement

Subject to numbers this session may be run as a

participative workshop. Delegates may be asked to bring their own devices and to pre-install software prior to the conference.

Abstract: Data visualization, simply put, is the presentation of data in pictures or graphs. Most people can get information much more quickly from visual representations of data. Interactive data visualization goes beyond static graphics. It gives the consumer more control over the information they see. This allows them to display what is relevant to them and, where possible, to get more detailed information. Interactivity also allows them to view change and find patterns in data, and in particular interactive data visualisation can improve user engagement by supporting exploratory thinking. This session will share learning from the development of static and interactive data visualisations from three departments across the GSS and provide advice on using new technologies and software to enhance accessibility and engagement.

Ben Collier, from Transport Scotland, will explain how they developed infographic summary sheets to communicate the key points for each of the 13 topic chapters in the 300-page Scottish Transport Statistics compendium. He will explain how to make use of shortened URLs and QR codes in order to provide easy access for users to related web content and track user engagement, and demonstrate a new data browser tool developed in MS Excel.

To date, the National Audit Office visualisation of the Whole of Government Accounts data has received over 3,500 visitors. They are now rolling out interactive data visualisations to a selection of forthcoming reports. Using data analytics software, Rachel Kirkham will explore interactive visualisations of high level data from financial statements of some 5,500 public bodies, provide a guided exploration of data and software capabilities and explain how to create such tools using Tableau.

The Department for Business Innovation and Skills Data Science and Visualisation team will share their learning with the wider GSS community to help improve the ways in which we present data. Hiren Bhimjiyani will demonstrate in a live environment some of the interactive data visualisation tools and technologies that are available and lead a tutorial in how to get started in creating interactive data visualisations.

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Dawn Leyman



After holding a variety of positions within HM Revenue and Customs (HMRC), Dawn took on the role of the Deputy Head of Profession for Statistics in 2014. One of her first challenges involved bringing together a working group to assess the current capability across Government in Data Science. From here the Data Science Accelerator Programme was born and at the time of writing, the third cohort are merrily on their way to becoming data scientists!

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Karen Gask



Karen Gask is a statistician at the Office for National Statistics (ONS). After gaining a degree in mathematics, she held a variety of positions in the NHS and ONS and has a strong interest in social statistics. She is a big data and open source software enthusiast, and has been working in ONS' Big Data team for the past year. She is currently analysing data from the property website Zoopla to identify holiday homes.

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Dan Heron



Government Digital Service

Dan joined GDS as a Data Scientist in 2014. He previously working in a variety of analytical roles in local government including business intelligence development, business analysis and traditional quant/qual market research. Originally from Cheltenham his first degree was in History before seeing the light of 'data' analysis and completing a Masters in Analytics. In addition to his analytical and developer work as a Data Scientist, Dan also has a strong interest in data visualisation. He is currently a Visiting Lecturer at the University of Westminster teaching data visualisation theory and practice to postgraduate students.

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Robert Breton



Robert Breton is an Economist at the Office for National Statistics (ONS). After gaining a masters in Economics, he has held a variety of positions across government and has a strong interest in Data Science. He is a big data and open source software enthusiast, and has been working in ONS' Big Data team for the past year. He is currently working on a project investigating the feasibility of using web scraping for consumer price statistics.

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Aimee Murphy

Aimee Murphy joined the GSS in 2012 and following participation in the first cohort of the data science accelerator programme, is now working as a Data Scientist at the Department for Education.

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Department
for Education



Martin Ralphs



Martin Ralphs has led the Good Practice Team since November 2013 after spending ten years working in statistical methodology for the Office for National Statistics and Statistics New Zealand. Martin led methodological support for the Beyond 2011 Programme during 2011-12 and headed up the Spatial Analysis Centre in ONS Methodology. He spent two years on secondment at Statistics New Zealand in Wellington where he led on developing small area modelling, geospatial and visualisation capability. Before joining the civil service he was a researcher and lecturer in geospatial science at the University of East London. Martin has a keen interest in statistical analysis and modelling, data visualisation and geographical information science, as well as new

opportunities from big data and open source technology, and a passion for making statistics effective and accessible.

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Title: Data science in government - the benefits and challenges of implementing new analytical techniques and technologies in government

Abstract: Large and complex data is increasingly becoming more readily and cheaply available, as is the technology to collect and analyse that data. If government can access and analyse complex data sets, new sets of data and real-time data, there is huge potential for improving the way we develop policy and operations. Government already holds data which is being analysed by talented analysts, but we believe that the data science techniques that are applied to these new and complex data sets can also be used to obtain value from the data we currently hold. The Government Data Science Partnership (GDSP) was created to raise awareness about the potential of data science and help to embed these new approaches and skills in government. We are approaching this with a 'learn by doing' methodology - completing short projects to demonstrate what can be done with data science. The insights we have learnt are informing strategic thinking about the capability across government in terms of skills, technology and access to data.

This session will provide an overview of the scope and progress made by the GDSP outlining the benefits demonstrated for data science in government and the challenges encountered along the way.

Progress will be demonstrated through three of the projects undertaken:

- Web scraping data for price statistics
- Analysis of smart-type meter data
- Analysis of unstructured data from comments on webpages (gov.uk) to identify service failure or demand surges

This sounds all very good but I don't have the time, technology or the training to do this in my department! Does this sound familiar? Answer: join the Data Science Accelerator Programme. The aim of this accelerator programme is to further explore the nature of these three barriers of time, technology and training on a small scale, and to provide feedback and inform decisions on how best to build capability across Government in the future. As part of this exciting and innovative programme you will be given a really good laptop, access to a data science mentor and time away from the office to work on a project from your home department. This session will provide further details of how you can apply to the programme and you will also hear from one of our previous members.

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