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Methodology: Insight; Innovation; Implementation; Impact

**Methodology Driving Innovation in Statistics**

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**Abstract**

More than ever, there is a demand for timely statistics to help explain the world around us. Our users are changing too and we must be prepared to meet their needs. John will explore the link between how changes to methodologies can help bring better statistics to users more quickly, taking advantage of the data revolution. As technology grows, so too does the availability of more data and in richer forms. This helps drive new, innovative ways of using these data to keep up with the fast pace of a changing world. Sound, transparent methodologies underpin the quality of statistics and are the driving force behind improving the evidence used for decision making.

Key Words: Mobilise, Methodology, Analysis, Data, Revolution, Digital

**1. Speech**

The job of the GSS is to mobilise the power of data to help Britain make better decisions.

To be successful we need to operate on the same wavelength as the decision making process. We need to be fast - the response by colleagues in DEFRA last year to the floods was a good example of getting information out in real time to enable rapid responses by emergency services. We need to provide granularity - aggregates often mask rather than enlighten consideration of an issue. July’s release by ONS on UK productivity is a good example of providing extra richness to enable better understanding of an important issue. We also need to be relevant to the questions faced by the country - the recent release from the Home Office on fires in tall residential buildings is a good example of statisticians taking the initiative to create a new output tailored to improve understanding of an important issue of public interest after the Grenfell Tower fire.

To be successful we also need to embrace the data revolution. Many of our methods are founded on the proposition that data are scarce or costly to generate yet now we have previously unimaginable sources of information readily to hand to complement existing sources. There are some great examples from around the world, like the use of satellite image data in the Afghan census and the use of mobile phone data by official Statisticians in Senegal. Closer to home there is use of sensor data to monitor air quality. Embracing the data revolution also means embracing new techniques and methods. Examples of the use of machine learning to identify caravans from aerial photography, the development of methods to explore the impact of weather on time series, taking disclosing control to a new level as the risk profile for discovery increases and changes shape.

We are in a good position to make the most of the potential. The GSS is unique in having no axe to grind and are seen as determinedly impartial in our approach. At the same time we have a reputation for professionalism that earns trust. Our challenge is less about what we produce and more about how we ensure that our voice is heard in an environment where too many people believe things that are not true and do not believe things that are true. There is scope for more methodological attention to be given to the science of good statistical communication.

When I was chair of United Nations Statistical Commission in 2015 I said to colleagues from around the world that this is a moment for the statistical community to step up, step forward and step on the gas. Now in 2017 the examples I have given and many more show that here in the UK the GSS is stepping up, stepping forward and stepping on the gas. John Manzoni visited ONS Newport on 28 June and was impressed but wants us to go further and faster. I am confident that we can rise to that challenge. You have a special role to play since methodology is a critical enabler for innovation.

After the election many of us spent a day together reviewing the landscape of area where we can help with decisions facing the country. We talked in depth about dicey topics: trade, migration, the labour market, housing and mental health. We can all highlight others - Frank Field has drawn attention to destitution for example. This conference is an opportunity for you to think how to develop methods that will enable the GSS to deliver a helpful service in those areas where major decisions will be taken that affect us all.

David Norgrove, Chair of the UK Statistics Authority, and I spoke at last week's (5 July 2017) meeting of Permanent Secretaries and got a warm response as we explained how the GSS strategy will deliver on the promise of "data as a service" for the public good. The powers in the Digital Economy Act will enable clear pathways for the necessary data to be harnessed for analysis. This is our time. This is your time.

I remember the first of these methodology conferences when the idea of methodology as a function was new to UK official statistics. Thanks to the inspiration we have received from our friends around the world - Susan Linacre from Australia, Mike Hidoroglu from Canada, Cynthia Clarke from USA and of course the wonderful Frank Nolan from New Zealand, as well as the tireless commitment of all of you, we have arrived at a moment when methodology is ready and willing to drive innovation in statistics and analysis and provide a uniquely valuable service for the public good. Now over to you to make the most of the opportunity this event gives to you to inspire and learn from each other.

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