

# Privacy and Data Confidentiality Methods

## A National Statistician's Quality Review

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## Strategic context – National Statistician’s Quality Reviews

- A new programme of reviews, supporting producers of statistics to:
  - ✓ look ahead to emerging opportunities and challenges
  - ✓ meet current and emerging user needs, and enable innovation
  - ✓ capitalise on new data sources and technologies
  - ✓ review their statistics within the wider context
  - ✓ draw on the full range of expertise across government and beyond

## Privacy and confidentiality methods: the case for change

- **Digital Economy Act 2017** enables better sharing of data
- **General Data Protection Regulation** encourages greater transparency and accountability
- **Huge increase** in quantity and sources of data

*Unprecedented opportunities for innovation, but....*

- **Intruder attacks** are becoming increasingly sophisticated
- **Increased data availability** can make reidentification easier
- **Data breaches** have potentially disastrous consequences

Closely collaborating and **joining forces** with experts helps us to ensure that the GSS prepares for the future and identifies opportunities to improve and innovate

John Pullinger, UK National Statistician





Georgetown  
University



PRIVITAR



Office for  
National Statistics



Government  
Statistical Service



The University of Manchester



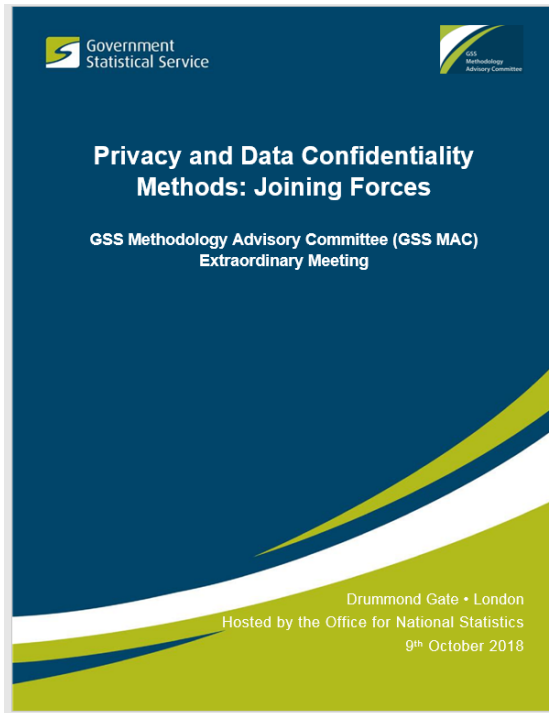
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## Building the community



- GSS Methodology Advisory Committee facilitates access to experts in government, academia, private sector and other NSIs.
- “Privacy and Confidentiality Methods: Joining Forces” brought together 60 leading experts across the world.
- Opportunity to share knowledge, debate contentious issues and shape the NSQR.

## A catalyst for change – engaging with target audiences

### **Plain-English synthesis of findings**

- Targeted at decisions makers and statistical producers
- The challenge facing the statistical system and the case for change
- Emerging themes and new approaches

### **Contributing articles**

- Targeted at privacy and confidentiality experts
- Detailed articles covering latest advances

### **Roadmap**

- Next steps for the GSS
- Sets out leadership role for the Office for National Statistics

## Emerging themes include....

- Balancing risk of disclosure with data utility
- New challenges resulting from rapid developments in data collection and processing
- New dissemination strategies
- Intruder testing as a potential approach to managing threat



# Theory & Practicality: A Perfect Marriage



## What is the threat?

- More sophisticated intruder scenarios / reconstruction attacks
- Role of other sources, linking and social media



## Differential Privacy

- Provides insight into traditional SDC approaches
- Differential privacy is:
  - still a young field
  - mathematically neat
  - methods normally involve adding controlled noise to outputs
  - offers quantitative measure of risk
- Traditional SDC approaches:
  - lots of precedent
  - often context driven assessment
- Pilot study in progress

## Building capability across the statistical system

- Further develop collaborations with other NSIs, academia and private sector
- Establish a cross-GSS Taskforce:
  - ✓ Identify and address priority areas
  - ✓ Determine capability requirements
  - ✓ Develop understanding of current practices
  - ✓ Share knowledge and expertise

## Next 'Steps'? An ONS-led Disclosure Control Centre of Expertise

# DisCoE



- Expand toolkit of courses and guidance
- Overarching confidentiality protection framework
- Applications of techniques and technology

# Thank you

The full review can be found at:

<https://gss.civilservice.gov.uk/guidances/quality/nsqr/privacy-and-data-confidentiality-methods-a-national-statisticians-quality-review/>

Or by searching: 'National Statistician's Quality review'

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