

# Privacy and Data Confidentiality National Statistician's Quality Review

## **Summary of GSS challenges, next steps and further research and development**

December 2018



	<b>GSS challenge</b>	<b>GSS next steps</b>	<b>GSS further research and development</b>
1	Balancing theory with what is possible/feasible in a statistical context	Disclosure control centre of expertise led by the Office for National Statistics (ONS)	Develop the measures to quantify the risk of disclosure and information loss including taking context into account
2	Predicting and planning for future change	Expand collaborations between the Government Statistical Service (GSS), academia, private sector and other National Statistical Institutes	
3	Evaluating the risk of intruder attacks	Develop tools and the capability for risk assessment	<p>Review the set of intruder scenarios to include potential and emerging threats to privacy and confidentiality</p> <p>Develop strategies for defending against reconstruction attacks</p> <p>Assess the risk pertaining to inferential disclosure</p> <p>Analyse the threat of social media and other data sources to identify appropriate strategies to protect data releases against the risk of a linking attack</p>
4	Keeping updated with the latest methodology	Expand the tool kit of courses and guidance materials	
5	Identify and develop new approaches/methods that take better advantage of the	Identify exploratory research needed to demonstrate the practical application	Investigate how statistical disclosure control (SDC) methods may be adapted to learn from insights provided by differential privacy (DP) by

	opportunities provided by the data environment	for the approaches/ methods	conducting a pilot on a “non-sensitive dataset”  Assess the practicality of producing and using synthetic datasets  Explore the practical applications of machine learning and artificial intelligence protection on privacy and confidentiality
6	Assessing and developing the potential of specialist software	Develop specialist software and automation to support the assessment and implementation of anonymisation best practice	Develop the measures to quantify risk of disclosure and information loss including taking context into account
7	Communicating disclosure risk	Develop an overarching confidentiality protection framework	Assess whether disclosure risk is increased by providing parameters of the protection method  Further develop measures to quantify risk of disclosure and information loss including taking context into account
8	Future-proofing data releases	Ongoing work including Statistical Standards and Policy Committee (SPSC) task force	Analyse the threat of social media and other data sources to identify appropriate strategies to protect data releases against the risk of a linking attack