# The Future Statistician: report of GSS and RSS joint roundtable

April 2025

We are currently seeking feedback on this report and the range of possible next steps. We would be grateful to hear your thoughts; please complete this **feedback form** by end of day **Monday 28 July** 2025.



## Background

The Royal Statistical Society (RSS) and the Government Statistical Service (GSS) are collaborating on a project about the future of the statistical profession. In a decade, what will statisticians be doing? Which elements of the role will remain constant, and which will evolve? What skills and training will the future statistician need? And which factors are going to influence how the role of the statistician evolves?

These questions are crucial to both the RSS and the GSS. The GSS encompasses all civil servants working in the collection, production and communication of official statistics, including statisticians, data scientists, researchers, policy experts and data journalists. The RSS is a professional body for statisticians and other data professionals, as well as a charity that champions the role of statistics and data. Both organisations recognise the need to look ahead, beyond the standard timescales for organisational planning (eg the RSS 2024-2029 strategy and the GSS's strategic vision Strength In Numbers) to explore the role of the statistician in the next 10 years.

The aim of this project is to inform RSS and GSS planning and future-proofing, ensuring that these organisations are equipped to meet the challenges of the future and can stay ahead of the curve in their ability to support statisticians and be leaders in the field.

The GSS needs to consider who will compose its workforce over the next decade – who will be recruited, what skills they will have and how to maximise retention of existing employees, as well as what training the workforce will need and what tools they will be working with. This is key to informing recruitment and training strategies in order to attract and retain the best

talent, and is also key to considering how to equip future statisticians to carry out their roles. Considering the future of the statistician is especially important given the crowded data environment. It is important to explore how the statistics profession is perceived and whether people want to become statisticians, including considering how to ensure that statistician roles are viewed as attractive, relevant and impactful in the rapidly changing work environment and world.

The RSS must ensure that its membership offer can keep pace with developments in the statistical field and that membership is valuable and relevant to the needs of members in the future (a substantial proportion of whom work for the GSS), as well as to the needs of future members. The RSS offers training and events for statisticians and data scientists, as well as certification (eg Chartered Statistician, Data Science Professional) and accreditation of university degrees. The RSS also provides volunteering opportunities and a mentoring scheme, and carries out policy work on issues regarding statistics, data and the profession. Planning for these activities demands foresight around the skills, interests and needs of the future statistician.

As a first step in this project, the RSS and GSS held a roundtable (22 November 2024, online) to explore the future of the profession over the next decade. The aim is for the roundtable and this initial report to pave the way for future more in-depth work in areas illuminated by these discussions, in order to inform RSS and GSS planning. Below we set out a summary of the points raised, followed by further detail on the elements and factors arising from these discussions.

## Summary

We have been considering the future of the statistics profession with respect to three key areas: constant elements, evolving elements and influential factors. Discussions to date have pointed towards the following elements and factors in each area. These are illustrated below and summarised in the following table.

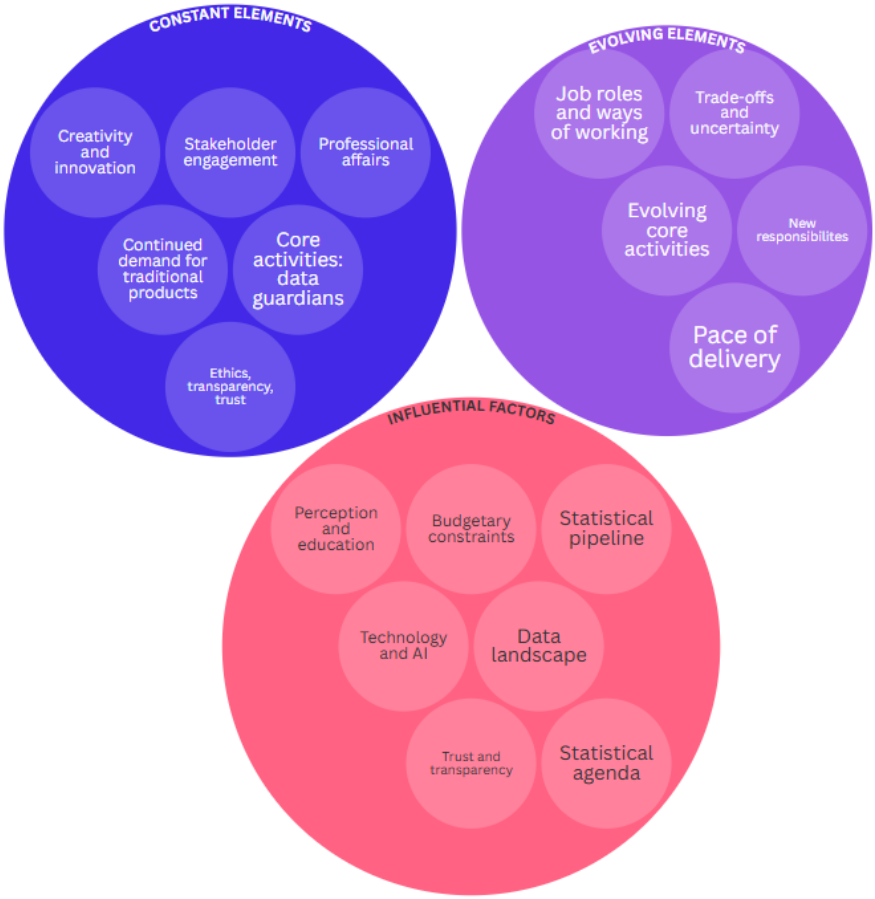


*Figure illustrating constant elements, evolving elements and influential factors identified.*

Table summarising the constant elements, evolving elements and influential factors discussed at the roundtable.

| | |
|---|---|
| **Constant elements**<br><br>Which aspects of a statistician's work remain constant over time? | • Continued **demand for traditional statistical outputs** eg GDP or inflation<br>• Constant **core activities including gathering, analysing and communicating** data – being 'guardians of data'<br>• Ensuring **ethical** use of data along with building **trust and transparency**<br>• The need for **stakeholder engagement** to ensure user needs are heard and users understand the strengths and limitations of outputs<br>• Lesser-considered statistician skills including **innovation, creativity and good judgement**<br>• **Professional affairs** needs including CPD, accreditation and certification |
| **Evolving elements**<br><br>Which aspects of a statistician's | • Changes to how statisticians **carry out the core activities** of gathering, analysing and communicating data, due to developments in data sources; new tools and technologies; and increased focus on trustworthiness<br>• **Potential new responsibilities**, including upskilling other professions and collaborating on data-sharing agreements |

| | |
|---|---|
| work will evolve over time? | • Increased **pace of delivery**, as users have become accustomed to short timeframes and real-time insights<br>• Increased need for **trade-offs and increased uncertainty**, due to increased pace of delivery and wider variation of data sources<br>• Changes to **job roles and ways of working**, with automation impacting junior roles and increased scope for senior data-focused roles, as well as increased need for collaboration and cross-team working |
| **Influential factors**<br><br>What factors will influence and shape the elements that evolve over time? | • **Technology and AI** will influence each of the statistician's core activities (collecting data, analysing data, communicating insights), with automation and compute power enabling rapidly-collected large-scale datasets and fast-paced insights, and AI changing the focus of communication<br>• The **data landscape** – there will be increased use of data and focus on data-driven insights; consideration should also be given as to how to maximise the potential of administrative data and ensure adequate investment in data infrastructure<br>• **Trust and transparency** – public perceptions of information trustworthiness as well as concerns over data privacy will likely influence the work of the statistician<br>• **Budgetary constraints** – funding will be a continuing limiting factor and an increasing challenge, compelling statisticians to consider how to do 'more (or different) with less'<br>• **Perception and education** – attitudes towards the profession will influence recruitment and the pipeline, as will education – the interplay between perceptions of maths, statistics, data and coding should be explored to ensure students are inspired about the relevance and importance of statistics<br>• The **statistical pipeline** – the number of routes into the profession is increasing and diversifying, meaning that potential employees will have a range of existing skills<br>• **Statistical agenda** – the statistical agenda tends to be defined by government, but this should be balanced with user needs more broadly and should begin by considering the questions that the public and decision-makers want answered |

## Constant elements, evolving elements and influential factors

Roundtable participants were asked to consider the future of the profession with respect to three key areas: constant elements, evolving elements and influential factors. Below we expand on the elements and factors raised, and highlight some key areas in which further exploration could be beneficial.

## *Constant elements*

### Demand for traditional products

There will continue to be demand for traditional statistical products, for example GDP and inflation. There is a contrast between these products and newer statistical outputs, for example fast-paced insights that feed into policy-making which can be perceived as a higher priority. It is important to ensure the value of work on traditional outputs is recognised and understood, to ensure workforce capacity meets demand and continuous improvement is sustained.

**Area for further investigation**

- How to ensure the value of work on traditional outputs is recognised and understood, in the face of statistical and data developments, to ensure workforce capacity meets demand and continuous improvement is sustained?

### Core activities: guardians of data

The core activities of a statistician centre around being a 'guardian of data' – obtaining data, producing analysis and insights, and communicating findings, as well as ensuring the quality of these activities. These core activities underpin newer methodologies and statistical workstreams (eg relating to AI and data science) as well as more traditional areas of work, and it will be important to ensure that statistical rigour is maintained as the environment evolves. Statisticians focus on these activities to different degrees – with some statisticians working more in one area than another.

### Ethics, transparency and trust

Statisticians also have responsibilities around the ethical use of data – this will remain constant as the landscape changes. They also have responsibilities around transparency and building trust – ensuring that outputs are accessible and understandable to all users and potential users of statistics, and that users know which data and statistics they can trust.

Statisticians must be able to advocate for their work and ensure the strength of the data and insights are made clear.

**Area for further investigation**

- How to ensure that statisticians can advocate for their work, so that data can feed into decision-making?

### Stakeholder engagement

Statisticians have the responsibility to engage with stakeholders and users of statistics throughout the work cycle, ensuring that their views can feed-in to statistical work, that stakeholders are kept in the loop as work progresses, and that they understand insights – for example ensuring that the strengths and limitations of statistical insights are understood so that findings are not overstated.

## Creativity and innovation

Statisticians must also demonstrate creativity, innovation, imagination and good judgement to best explore data, determine appropriate methods to use, and draw out pertinent insights. These skills may be less recognised in perceptions of statisticians' work.

A key question is how the range of activities that statisticians carry out and skills that they have (including core activities and being guardians of data as well as less-acknowledged skills such as good judgement) relates to other government analytical professions – is there a certain mix of activities and skills that is uniquely core to statisticians? What are the distinctions and areas of overlap with other government analytical professions, and particularly with data scientists? What are the skills that a good statistician needs – for example curiosity to explore data, or being logical?

The balance of these activities and skills is also important, with an imbalance risking statisticians losing their core skills of making sense of data to become – for example – overly focussed on communication, overly technical, or unspecialised allrounders.

Articulation of the core activities and skills needed by statisticians, including what 'good' looks like, would help elucidate the role of statistician. This would be helpful for both established statisticians as well as those entering the profession, and would help inform a range of planning activities, from recruitment to training to professional development.

**Areas for further investigation**

- What are the core activities and skills needed by statisticians – what does 'good' look like?
- How do the skills that statisticians have and the activities that they carry out compare to the skills and activities of other government analytical professions?

## Professional affairs

Statisticians will continue to need ongoing training and be expected to undertake Continuing Professional Development (CPD), to ensure that their skills meet the demands of the evolving environment. Degree accreditation and certification will continue to be important, to enable statisticians to demonstrate the statistical and data skills they have.

A question for consideration is around the extent that training and professional development pathways prepare statisticians and recognise each of the core activities and skills outlined above – do training courses and accreditation acknowledge the different parts of a statistician's role, or are they more geared towards certain aspects eg technical skills rather than communication skills or ability to think innovatively?

It is not clear whether the range of activities and skills outlined above are acknowledged in perceptions of statisticians' work. When advertising job roles as part of recruitment, is the importance and role of communication or innovation in a statistician's job adequately highlighted? Are statisticians recruited with consideration of the broad range of skills that are needed?

**Areas for further exploration**

- Do current training courses adequately prepare statisticians for the range of skills and activities needed in their roles?
- Do current accreditation options adequately recognise the range of skills and activities needed in statistician roles

## *Evolving elements*

The roundtable discussion was framed in terms of how the future of the statistical profession will look in a decade. However, roundtable participants were mixed on their views of how much will have changed in ten years, with some participants thinking that less will have changed in the next decade than we might expect, and others thinking that the pace of change in areas like AI is so rapid that we can only envision its impacts on the profession in the next ~ five years but not further ahead.

### Evolving core activities

While the core activities that a statistician carries out – obtaining, analysing, and providing insights about data – will not change, the way that each of these activities is carried out will change.

Datasets are changing over time – becoming larger, more rapidly-collected and relying on different sources. The tools and technologies utilised to analyse data will change – with aspects becoming automated and more rapid analysis becoming possible. These changes will impact the skills that statisticians need. Statisticians may also have more of a role to play in interpreting large datasets (eg from satellites) and turning these into a story to convey a message.

With access to large language models (LLMs), more non-statisticians will be able to generate answers. The focus of statisticians' communication may therefore evolve from supplying and communicating an answer to a question, to playing more of a role in quality control of the plethora of existing data and answers available, and helping users to understand which data they can trust. Communication and explanation may become more challenging as tools and technologies become more complex, and so statisticians will need to develop new ways to accessibly convey the context around insights. A greater focus on user engagement is likely to be necessary.

### Potential new responsibilities

A role of future statisticians may be to ensure that the data available is robust and reliable, to help ensure the quality of AI outputs that pull in available data (to avoid low quality data influencing trusted statistics).

Forming relationships with other organisations may become a larger element of a statistician's role – for example to partner with other organisations to form data-sharing agreements.

As data and AI become more central to a wider range of roles, consideration could also be given to whether there is a place for the GSS in upskilling other professions in these areas.

Changes to how statisticians' core activities are carried out means that training, certification and accreditation should be reviewed, to ensure that these activities equip statisticians with the skills needed and recognise relevant abilities.

## Pace of delivery

A collection of factors are driving up the pace of delivery. The advent of novel technology and tools, including AI, means that rapid insights are available, and decision-makers and users have come to expect rapid answers. There is an insatiable demand for more data and real-time insights. This may also be driven by practices set up during the Covid-19 pandemic, which demonstrated how swiftly work could be produced – but these ways of working may not be sustainable in the long term.

Given the tightening of policy timelines, it will be important to consider how to ensure that statisticians can develop the fast-paced analytical skills to handle this.

## Trade-offs and uncertainty

There has always been a need for statisticians to make trade-offs – as data is never 'perfect' and compromises must be made. Balancing competing demands is necessary to consider how data can best inform decision-making, for example balancing the quality of the data with the insights that can be gleaned from it, or considering what is strictly necessary to complete in the time available, versus what can be left out (or potentially added a late date) if timelines are tight.

Many roundtable participants highlighted how the increased pace of delivery, along with the expansion of data sources (including from sources outside of government where data may be of lower quality) has increased the uncertainty associated with many datasets and analyses. This increases the need for statisticians to make trade-offs and become comfortable with 'grey area' and communicating uncertainty.

The RSS's Statistics Under Pressure initiative has developed a set of principles to support statisticians to make trade-offs confidently, along with a series of case studies to illustrate examples in which trade-offs had to be balanced for data to best inform decisions. Further work in this area could be helpful.

**Area for further investigation**

- How can statisticians be supported to produce high-quality insights at pace, balance trade-offs appropriately, and become comfortable with uncertainty and grey area?

## Job roles and ways of working

At the more junior level, increasing automation may impact the role of a statistician in their first few years in the profession. Junior statisticians often begin their working life by processing data – a task which is now done automatically – and their role may evolve to need different skills, for example to work with existing tools and technology. Thought should

be given to how these changes impact recruitment and influence training needs and the skills that statisticians develop.

At the more senior level, increased focus on the importance of data may open up opportunities for high-profile /executive leadership roles for statisticians. This could increase awareness and respect for statistical roles, so they are seen on a par with other roles with influence such as accountants or actuaries.

Collaboration and cross-team working should play increasingly important roles in statisticians' work, to allow data to inform public understanding and feed into decision-making. Rather than expecting every statistician to have detailed knowledge of fields such as communication, dissemination and policy, statisticians and should be able to work closely with these teams. A spectrum of levels of knowledge in each of these groups (for example some statisticians having a more detailed knowledge of policy, while this level of knowledge is not necessary for every single statistician) is helpful to facilitate multidisciplinary working.

As mentioned above, there is increasing demand for fast-paced, real-time analyses to feed into policy decision-making, alongside the continued need for traditional outputs and 'deep dives'. This may broaden the skills needed by statisticians – so they can work on either type of product, or it may drive statisticians to specialise in one type or the other.

**Areas for further investigation**

- How will increasing automation impact the statistician's role, and associated training needs and recruitment criteria?
- How to foster an environment where statisticians work closely with other teams (eg policy or communication teams) to feed data into decision-making and ensure appropriate coverage?

## *Influential factors*

### Technology and AI

Technology and AI will influence each stage of a statistician's core activities (collecting data, analysing data, and communicating insights). Technology and AI will enable more rapid collection of data, larger datasets, and rapid analysis of data. The emergence of technology could mean that in some instances, the role of a statistician pivots to focus more on publishing data, with less focus on analyses – as these can be done by users themselves with available technology. There may be an increased focus on statisticians ensuring that the data feeding-in to technology and AI is high quality. Widespread technology and AI use may necessitate strong technical skills in statisticians, including the ability to code well rather than 'hack' existing code.

The abundance of data and accessibility of tools will in turn impact a statisticians' role in communication. The rise of tools like ChatGPT will allow the public to access instant answers without important context; there is a risk of the public and decision-makers using technologies without understanding underlying statistical principles. This may drive a change from statisticians communicating their own insights, to a role for statisticians in quality assurance and helping users to make sense of multiple answers more generally, including

which data and answers they can trust and the limitations associated with different sources of data and methods.

Statisticians should be aware of both the opportunities and risks associated with AI and technology – ensuring that opportunities are harnessed and risks managed, rather than trying to avoid the use of new technologies for fear of the risks. Statisticians should aim to actively and consciously lead the change brought about by these advances, rather than being passively impacted by them. Framing should not be about 'what AI will mean for statisticians' but more about statisticians leading the progress.

How readily technology and AI are incorporated will depend on the standards they are held to – for example, does a new AI tool need to be as good as a human, or better?

**Areas for further investigation**

- How will AI and new technology impact the role of the statistician, and the skills needed?
- How to ensure that statisticians are at the forefront of AI and technological development, and not left behind?

## Data landscape

Data is becoming more ubiquitous and there is an increasing focus on real-time data insights. There have been considerable increases in the importance placed on data, although the 'hype' around data may decline over the next decade.

The number of organisations working with data has been increasing – and data is being produced by a greater variety of sources, not only from government. The large number of players in this field will mean continued challenges in terms of misrepresentation and disinformation.

There has also been a lack of investment in infrastructure to collect alternative sources of data, eg administrative data, meaning that this may still be a challenge in the next decade. Use of alternative sources of data will become more important as there is a move away from focussing predominantly on survey data or Census data.

Investment is also needed in data infrastructure more generally, including working towards a culture where data-sharing is more widely encouraged and relationship-building between organisations is cultivated to facilitate data-sharing agreements. The hesitancy around data-sharing is likely influenced by external (public/stakeholder) perspectives on data sharing and privacy – these concerns will need to be addressed, as detailed in the following section.

## Trust and transparency

The views of the public and users of statistics can drive or impede how statistics and data are collected, analysed and used. Low levels of public trust can hinder advances, for example the linkage of data or the use of new technology to produce novel insights. Recent fast-paced developments in data technology, cyber security risks, and the advent of 'deep-fakes' (images, video or audio that are edited or generated using AI tools) have impacted public trust of data use and available information. The increase of global instability and mis-

and dis-information also impacts public trust in data and statistics. (As an example, attempts have been made to use data to back claims for both climate change being an imminent and important issue, and for climate change not existing).

The decrease of public trust in data and statistics may necessitate a strengthening of the role of the statistician in explaining and communication – explaining the 'black box' and how figures have been produced; demonstrating how data is kept safe; justifying reasoning behind data linkage and communicating the balance of producing new insights versus privacy concerns.

One issue could be that the wider public is rarely interested in methodology and the source of information. However, statisticians could have a key role in helping to support people to be able to critically evaluate the quality of statistics and data themselves, to reach appropriate conclusions about their robustness and trustworthiness. This would involve increased user engagement and understanding of users' concerns and perspectives.

There may also be an increased role for statisticians in ensuring that personal or sensitive data is kept secure – both in ensuring the security of data and that it is not misused, as well as communicating this.

**Areas for further investigation**

- How can statisticians help fight mis- and dis-information?
- How can statisticians support the public to be able to critically evaluate claims they come across and reach appropriate conclusions about their trustworthiness?

## Budgetary constraints

Funding for statistical activities is likely to be constrained, and budget will be a continuing and increasing challenge. Decisions will need to consider the balance of funding for statistics against other frontline services. Funding for statistics is linked to government and public recognition of the importance of statistics and data and appetite for them.

There will be pressure for 'more to be done with less'. There is demand for new statistical outputs and analyses, alongside continued demand for the existing outputs. It can be challenging to cease production of existing outputs as statistical products can be interconnected – and stopping one aspect can negatively impact another output. It will be key to consider how statistical products and activities are prioritised.

New technologies, including AI, can require large upfront investment before any cost savings can be made further down the line. The context of civil service reform provides an opportunity for statisticians to make the case for large upfront investment in this area. Increased interest in AI may provide a path for funding for AI-related activities from interested funders, eg for research or policy work at the RSS.

It will be pertinent to consider how to ensure that the government and public recognise the crucial role of statistics and data, and recognise the value of investing in these areas.

**Area for further investigation**

- In the face of budgetary constraints, how to ensure that funding is allocated towards activities that will allow statistics to best serve the public good and statisticians to lead advances in technology and AI?

## Perception and education

The perception of statistics is an important influence on the future pipeline of statisticians, as well as on the importance placed on data-driven insights and decision-making. There are concerns that school students are not enjoying learning about statistics and maths, and that the current curriculum does not inspire students about the interesting and relevant applications of statistics. These perspectives, among school students, are often then propagated into the general population.

There is a discrepancy between perceptions of maths and statistics, and perceptions of coding and excitement around AI. If students are going through the school system with a negative view of statistics and maths, but having learnt (possibly self-taught) to code, this will influence the skills they will amass – ie knowing how to code but without a robust understanding of statistics and the importance of understanding data structure. This will have implications on the knowledge of the public and users of statistics, and therefore implications on the role statisticians will need to play in communication with the public.

The ONS and RSS have begun initiatives to improve data literacy and consider how society and young people engage with statistics, and there will likely be a continuing or increasing need for these types of activity in the future. The ONS education toolkits for young people aim to improve data literacy, and the RSS William Guy Lectureship aims to inspire students about the relevance and importance of statistics. The RSS Education Policy Advisory Group (EPAG) has published recommendations on how statistics and data should be taught in the curriculum, including calling for increased use of real-world contexts and data exploration to engage students. Increasing student engagement with, and enjoyment of, statistics and data would have implications on the pipeline of future statisticians, as well as improving the statistical literacy skills of the general population.

**Areas for further investigation**

- How to ensure that school students are inspired about statistics and data and recognise their relevance, in order to increase engagement with the subject among the public and support a sustainable pipeline into the profession?
- How to work towards equity in education to help ensure a diverse pipeline?
- How does the recent popularity of coding, and increase in coding skills among the population (possibly along with the absence of in-depth statistical knowledge), impact potential applicants to the profession as well as the role of statisticians?

## Statistical pipeline

The number of pathways into the statistics profession is increasing and diversifying, and this trend is likely to continue. As an example, the number of data science courses in the UK has risen recently from a handful to around 500 currently. There has been a related reduction in pure statistics courses. The diversification of pathways into the profession will likely impact recruitment, with consideration needed to advertisement routes and the different skills that applicants will have acquired depending on their backgrounds.

There is also a more general transition from employees tending to stick with single, life-long careers, to employees moving from position to position – with slightly, or even majorly, different roles or skills sets in each. This impacts the skills that people entering statistical roles are bringing. Retraining may be needed in some areas, whereas applicants will have high levels of skills in other areas. Employers should be clear, and make clear to applicants, which skills are necessary for the role and which can be learnt or developed later, on the job. For example, employers may prefer candidates to have a thorough comprehension of the importance of understanding data structure, while programme-specific coding skills can be learned later on the job, in line with company platforms and tools.

The negative reputation of recruitment in some areas can influence potential employees' inclination to apply. To ensure a pipeline of diverse applicants in line with EDI objectives, care should be taken that application processes do not put off potential candidates.

The identity of future statisticians may also evolve, with regards to how people in the profession see and label themselves. For example, some statisticians may begin to see and label themselves as data scientists to reflect their areas of expertise and demand, while others may want to retain the title of statistician to reflect traditional training or expertise.

**Areas for further investigation**

- Given the increase in routes into the profession and increased variation in existing skillsets and experiences of applicants entering the profession, what are the core skills or experience needed for a statistical role (versus areas that can be learnt on the job)? This is linked to discussions (detailed above) on the importance of identifying what makes a good statistician at different levels, which is important to support both recruitment and professional development.
- Given the changes in role requirements, education options, pathways available and technological developments, will the 'future statisticians' be identifiable as 'statisticians' or will they identify as something else – possibly with different levels of core statistical skills, knowledge and behaviours depending on their role?

## Statistical agenda

Demand for government-produced statistical outputs tends to originate from within government; workplans are set by government departments within set fiscal frameworks. This makes it difficult to balance the government's statistical interests against the priorities of other groups (eg the public, or private or third sector), and for predominately government data to be used in official statistics. But at the same time, non-government groups are producing more data and seeking more data to answer their questions.

The RSS's vision for Public Statistics explores how official statistics could best serve the public good – including beginning by identifying the questions that need statistics to help answer them (rather than starting from the available statistics or only considering government interests), and recognising that data to promote the public good may also need to be drawn from a wider range of sources than just government. Building on this, it could be helpful to consider how government-produced statistics can serve the public as far as possible in the next decade, and considering how to ensure that future statisticians are equipped to handle the changes that this approach brings.

**Area for further investigation**

- How to foster an environment in which statistics serve the public as far as possible in the next decade, and how to ensure that statisticians (inside and outside of government) are equipped and ready to do this?

# Key areas for further investigation

In this section we group and list the areas highlighted above in which further exploration could be beneficial.

Elucidating and recognising **core activities and skills**

- What are the core activities and skills needed by statisticians – what does 'good' look like?
- How do the skills that statisticians have and the activities that they carry out compare to the skills and activities of other government analytical professions?
- Do current training courses adequately prepare statisticians for the range of skills and activities needed in their roles?
- Do current accreditation options adequately recognise the range of skills and activities needed in statistician roles

Impact of **technology, AI and automation**

- How will AI and new technology impact the role of the statistician, and the skills needed?
- How will increasing automation impact the statistician's role, and associated training needs and recruitment criteria?
- How to ensure that statisticians are at the forefront of AI and technological development, and not left behind?
- How to ensure the value of work on traditional outputs is recognised and understood, in the face of statistical and data developments, to ensure workforce capacity meets demand and continuous improvement is sustained?

Supporting statisticians to be comfortable with **uncertainty, grey area and trade-offs**

- How can statisticians be supported to produce high-quality insights at pace, balance trade-offs appropriately, and become comfortable with uncertainty and grey area?

Supporting statisticians to enable statistics to feed into **decision-making**

- How to ensure that statisticians can advocate for their work, so that data can feed into decision-making?
- How to foster an environment where statisticians work closely with other teams (eg policy or communication teams) to feed data into decision-making and ensure appropriate coverage?

**Public communication**

- How can statisticians help fight mis- and dis-information?

- How can statisticians support the public to be able to critically evaluate claims they come across and reach appropriate conclusions about their trustworthiness?

**Pipeline and education**

- How to ensure that school students are inspired about statistics and data and recognise their relevance, in order to increase engagement with the subject among the public and support a sustainable pipeline into the profession?
- How to work towards equity in education to help ensure a diverse pipeline?
- How does the recent popularity of coding, and increase in coding skills among the population (possibly along with the absence of in-depth statistical knowledge), impact potential applicants to the profession as well as the role of statisticians?
- Given the increase in routes into the profession and increased variation in existing skillsets and experiences of applicants entering the profession, what are the core skills or experience needed for a statistical role (versus areas that can be learnt on the job)?

**Funding**

- In the face of budgetary constraints, how to ensure that funding is allocated towards activities that will allow statistics to best serve the public good and statisticians to lead advances in technology and AI?

**Public statistics**

- How to foster an environment in which statistics serve the public as far as possible in the next decade, and how to ensure that statisticians (inside and outside of government) are equipped and ready to do this?

# Next steps

This report is intended to summarise the points discussed during the GSS and RSS joint roundtable at the end of November 2024. The aim is for this work to pave the way for future in-depth work around the factors identified here in order to inform RSS and GSS planning.

We recognise that there are viewpoints that we may not yet have captured, and hope these can be captured in future stages of this work. We welcome suggestions regarding other groups or individuals who may wish to feed in to this work.

We welcome feedback on this report, including areas of particular importance that the RSS and GSS may wish to explore in more detail to aid planning around organisational strategies including relating to recruitment, training, organisational preparedness or professional affairs, among other areas. Please let us know your thoughts on the areas that are most likely to impact the future of the profession, as well as where further work is needed, via our **feedback form** (by end of day Monday 28 July 2025).

# Appendix – roundtable briefing pack

In this appendix we provide the agenda, meeting objectives, scoping notes shared ahead of the roundtable, and invitee list.

**Agenda**

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|---|---|---|
| Welcome | Sarah Cumbers (Chair) | 10:00 – 10:05 (5 minutes) |
| Overview of project – background and key themes | Victoria Obudulu | 10:05 – 10:10 (5 minutes) |
| Importance of this work to the RSS | Sarah | 10:10 – 10:15 (5 minutes) |
| Importance of this work to the GSS | Victoria | 10:15 – 10:20 (5 minutes) |
| Discussion of three key themes | Breakout rooms | 10:20 – 10:50 (30 minutes) |
| Feedback in plenary | All | 10:50 – 11:05 (15 minutes) |
| Group discussion | All | 11:05 – 11:25 (20 minutes) |
| Close | Sarah | 11:25 – 11:30 (5 minutes) |

## Meeting objectives

- Identify the elements that will remain constant with regards to the statistics profession, and the implications of this
- Identify the elements that will change with regards to the statistics profession, and explore how these changes will impact the profession (including with regards to training, recruitment, career pathways etc)
- Identify the factors that will influence the future of the profession, and the implications of these.

## Overall aim

For the discussions from this meeting to inform a scoping report, which explores the future of the profession and identifies potential actions that the GSS and RSS could take to support the future statistician. This report can pave the way for future more in-depth work on these elements and actions. These insights can inform planning for both the RSS and the GSS.

## Further information on scope and areas for consideration

| Area | Scope and aspects to consider |
|---|---|
| Definition of a 'statistician' | Consideration of 'statistician' in a broad sense, including consideration of the evolving analytical roles across the public and private sector such as data scientists/analysts, and consideration of the boundaries between these groups |
| Private versus public sector | The future of the 'statistics' profession should be considered across both the private and the public sector (the RSS focuses on both; the GSS focuses more specifically on the latter but must consider both due to interactions). |
| Links to trends in education and skills | Including RSS standards for university courses, reduction in pure statistical courses, increased interest in apprenticeships, increase in data science courses, balancing deep methodological knowledge vs policy and applied statistics. This should cover not only the changing trends in education and skills, but also the influence we can and should have over them. |
| Available tools | Considering how the tools available impact on what we do within the profession, including the potential mismatch between tools available in the public sector versus those in use by recent graduates. How can statisticians engage with AI and Large Language Models in a way which enhances their value to statistics in terms of the principles of trust, value and quality and ethics? |
| Inclusivity and diversity | Ensuring as a profession that we are an inclusive and diverse as possible, and how we can ensure this going forward into the future. |
| Risk appetite | Considering if risk appetites are changing over time e.g. timeliness of data, varying quality expectations, lower level geographies with lower level sample quality, greater use of administrative data etc Are there more requirements to meet both the expected rigour of statistics alongside experimenting? Ethics need to be considered as part of this. |
| User expectations | Considering if user expectations are changing over time. Are the questions we are being asked to answer changing? As data capture becomes easier and dashboards/metrics become more common are expectations high that insights will be available in near to real time? How do we ensure statistics add value compared to Management information that may be readily available to users? |
| Role of the citizen | Consider the role of the citizen in the production of statistics and how that might change over time, e.g. building partners in the |

| | |
|---|---|
| | statistical community, social licence, engagement and ensuring outputs are accessible. |
| Communication | The increasing emphasis on statisticians being communicators and interpreters. How might this change in the future? |
| Influencing factors | Identifying issues that could impact on the statistical profession over the next 10 years – eg regulation, technology (AI, what's next for Google), R&D, global instability, fake news/public trust, and cyber security risks of actors subverting the data.<br><br>External factors which may impact the role of a statistician over the next 10 years are in scope; internal GSS or RSS factors that may impact the role of a statistician are not in scope |

## List of invited attendees

### GSS

- Victoria Obudulu, Deputy Head of the GSS
- Emma Rourke, Deputy National Statistician
- Jamie Thomas, Deputy Head of Profession for Statistics for MHCLG
- Katie Dodd, Deputy Head of Profession for Statistics at DWP
- Libby Richards (on behalf of Jennet Woolford), ONS Deputy Director of Public Policy Analysis
- Lucy Vickers, Chief Statistician and Chief Data Officer for DHSC
- Michael Wilmott, Head of GSS Policy and Co-ordination
- Osama Rahman, Director of the ONS Data Science Campus
- Paul Matthews, Head of Profession for Statistics for Scottish Government
- Robert Kent-Smith, Deputy Head of the OSR
- Sarah Henry, ONS Director of Methodology and Quality
- Stephen Burgess, ONS Deputy Director of Prices Production
- Eleanor Cuzner, Senior Policy Advisor, GSS Policy and Coordination

### RSS

- Sarah Cumbers, RSS Chief Exec
- Andrew Etherington, RSS Official Statistics Section
- Clare Morris, RSS Vice President for Professional Affairs
- Daniel Gibbons, RSS Data Ethics and Governance Section
- Dhru Shah, RSS Future Leader
- Edward Rochead, Chair of the Alliance for Data Science Professionals and Head of Profession for Science in MOD
- Giles Pavey, RSS Data Science and AI Section
- Paul Allin, RSS Honorary Officer for National Statistics
- Sophie Carr, RSS Vice President for Statistical Literacy and Education
- Ricky McGowan, RSS Head of Standards and Corporate Relations

- Jonathan Everett, RSS Head of Policy
- Deniz Gursul, RSS Campaigns and Policy Manager