ROYAL STATISTICAL SOCIETY
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Government Statistical Service

The Future Statistician: vision report

January 2026

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Executive Summary

This report sets out a vision for the role a government statistician will hold in ten years' time, touching on a range of areas that will influence the future of the profession, from technology and artificial intelligence, to professional development, to communication and defining skill sets. This vision has both immediate and long-term opportunities for the profession.

Over the next decade, the future statistician will be respected as a trusted, tech-enabled public analyst, producing timely, reproducible and ethical statistics and analysis that improve decisions and public outcomes. Our unique selling point (USP) is rigorous inference, proportionate analysis, and trusted translation for the public and decision-makers

This vision is grounded in the principles of Trustworthiness, Quality and Value as set out in the Code of Practice for Statistics.

The vision sets out that the future statistician will:

- **Lead in technological innovation** by embracing artificial intelligence, automation and modern analytical tools responsibly.
- **Shape policy and public discourse** through influencing decisions from the outset and clarifying what statistics can and cannot say.
- **Champion the use of data** by safeguarding quality, privacy and governance while enabling analysis through linked, accessible data.
- **Be a skilled communicator** who will translate complex evidence into clear, transparent messages for diverse audiences.
- **Serve public needs and interests** by ensuring outputs are inclusive, relevant and defended against misuse.
- **Be skilled in balancing trade-offs to deliver** through navigating ambiguity and proportionality to deliver timely, high-quality insights.
- **Promote the value of education and continuous development** to build a strong, diverse talent pipeline with clear career pathways.
- **Deliver efficient analysis** by embedding principles of sustainability in every stage of the statistical lifecycle, from efficient data flows to ensuring reuse of data.

This vision positions statisticians as leaders of evidence and innovation, ensuring that government decisions are informed by trusted, ethical and sustainable analysis.

The future statistician will require a mix of current skills and strengths combined with an evolution to add and develop additional skills which embrace new and emerging approaches to communication and analysis.

The future statistician will **continue** to:

- retain and strengthen core statistical skills and identity;
- promote openness, reproducibility and intelligent transparency;
- advocate for the role of statistics in shaping policy and operational delivery; and
- invest in continuous professional development and mentoring.

The future statistician will **evolve** to:

- provide technology leadership, guiding responsible adoption of artificial intelligence and automation;
- develop the skills in public communication to raise statistical literacy and trustworthiness in an era of misinformation; and
- be mindful to sustainability through adopting and developing efficient workflows.

This report identifies five priority recommendations that will be taken forward in collaboration between the RSS and GSS, summarised below.

- **R1: Equip Statisticians for Technological Change:** Provide targeted training and promote modern data infrastructure to ensure statisticians are prepared for rapid technological advances, with collaboration across digital and data professions and a focus on AI-leadership.

- **R2: Clarify Professional Identity and Skills:** Review and update the definition of the statistician role and competency framework to reflect diverse specialisms and new skills, ensuring accountability for rigorous, transparent analysis within evolving multi-disciplinary teams.

- **R3: Support Career Progression and Learning:** Establish a structured programme of continuing professional development for statisticians at all career stages, fostering talent retention, cross-sector learning, and consistency in skills and expertise.

- **R4: Integrate Statisticians:** Ensure statistical teams are embedded across government functions and involved early in decision-making, promoting collaboration with key departments and sharing best practices for evidence-based policymaking.

- **R5: Empower Statisticians as Arbiters of Truth:** Equip statisticians to confidently counter misinformation and communicate with transparency, championing standards of statistical integrity and public trust in official statistics.

The report highlights where existing strategies and governance can support delivering these recommendations. This includes the interactions with the Analysis Function and the Digital and Data Profession; creation of the GSS AI Champions Group and the Analysis Function group on AI; and the vital role of the GSS People Advisory Group with people priorities that cover Capability (Learning & Development), Capacity (Workforce Recruitment, Early and Emerging Talent) and Consistency (Recruitment Standards).

Progress on the delivery of these recommendations and the steps towards realising the vision of the future statistician will be reported on through a joint RSS and GSS annual report. The first report is due in January 2027.

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Background

The Future Statistician is a collaboration between the Royal Statistical Society (RSS) and the Government Statistical Service (GSS). This initiative sets out to answer questions such as:

- In a decade, what will statisticians be doing?
- What skills and training will the future statistician need?
- Which factors will influence how the role evolves, and how will these changes impact areas such as recruitment and professional development?
- What are the immediate and long-term opportunities and challenges for the profession?

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, and those statisticians for whom the application of statistical skills and expertise is critical in development and evaluation of departmental policy and operational delivery. 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 (e.g. the RSS 2024-2029 strategy and the GSS's strategic vision Strength In Numbers) to explore the role of the statistician in the next ten 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, which skills they will have, and how to maximise retention of existing employees, as well as what training the workforce will need and which tools they will be working with. This is key to informing recruitment and training strategies to attract and retain the best talent, as well as for 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. It is also important to consider the status of 'badged' statisticians - both in terms of how professional statistical skills are formally recognised, and how colleagues from other analytical professions can develop and be acknowledged for their statistical expertise.

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 (e.g. 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 at the end of 2024 to explore the future of the profession over the next decade. A report from this roundtable has been published, outlining the constant elements, evolving elements and influential factors impacting the future statistician. A wide range of topics were surfaced, from advances in artificial intelligence and technology, to increased pace of delivery, to potential new responsibilities in data-sharing agreements.

The report ended with a list of eight areas, highlighted during the discussion, in which further exploration could be beneficial. It sought feedback from the statistical community on which areas were most important for having the biggest impact on the future of the statistical profession; which areas should be prioritised for further work; and to identify other important areas which will affect the future of the statistical profession within the next decade.

The areas which clearly came through in the consultation responses were technology, artificial intelligence and automation; feeding data into decision-making; elucidating and recognising core activities and skills; and public communication. New areas identified included consideration of how the future statistician should be efficient and environmentally responsible, and several responses called for joining up with other sectors, including industry, health and academia.

Key themes which emerged from further analysis of the consultation responses included:

- Statisticians' roles evolving from data producers to advisors and interpreters, playing a key role in policy and operational delivery, especially with the rise of artificial intelligence and automation.
- A strong need to clarify the unique professional identity and core skills of statisticians, distinguishing them from other analytical roles, setting out a clear USP which makes statisticians invaluable to the accurate use of data in decision-making.
- The increasing importance of ethical oversight, trust-building, and transparent communication, particularly in combating misinformation.
- The criticality of involving statisticians from the start of a project through to successful delivery, to ensure data quality and effective decision-making.
- Upskilling requirements for both statisticians and non-experts, with emphasis on multidisciplinary collaboration and adapting to new technologies.
- Sustaining the profession through investment in the education pipeline, to ensure a diverse and technically skilled future workforce.
- Recognizing sector differences (government, industry, academia), but most findings are broadly transferable.

- Additional themes include the importance of data governance, public communication, the education pipeline, and addressing funding and leadership challenges.

Further details on the analysis of the consultation responses are provided in the accompanying consultation summary.

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Vision: the future statistician

Over the next decade, the future statistician will be respected as a trusted, tech-enabled public analyst, producing timely, reproducible and ethical statistics and analysis that improve decisions and public outcomes. Our USP is rigorous inference, proportionate analysis, and trusted translation for the public and decision-makers.

This vision is grounded in the principles of Trustworthiness, Quality and Value as set out in the Code of Practice for Statistics.

The Future Statistician will:

1. **Lead in technological innovation**
   We harness modern data platforms, automation and artificial intelligence responsibly, setting methodological standards and piloting new approaches that improve speed, fidelity and reproducibility. We advise on when to deploy technology, when to automate, and when human judgement is paramount.
2. **Shape policy and public discourse**
   We are present at the start of problems, asking the right questions and clarifying what statistics can - and cannot - say. Our outputs inform operational delivery, strategic choices and the national conversation, with transparent uncertainty built in.
3. **Champion the use of data**
   We steward data across its lifecycle: access, linkage, quality, privacy, and governance. We champion intelligent transparency, including Standards for Public Use, open code, and reproducible pipelines, enabling others to build on our work safely.
4. **Be a skilled communicator**
   We translate complex evidence into clear narratives, visualisations and messages tailored to different audiences. We defend against misuse, explaining methods, limitations and trade-offs plainly and consistently.
5. **Serve public needs and interests**
   We organise our statistical agenda around people and communities. We draw from diverse, linked sources to produce inclusive statistics that illuminate lived experience and support equitable outcomes.
6. **Be skilled in balancing trade-offs to deliver**
   We are comfortable with ambiguity. We balance timeliness with rigour, innovation with assurance, and demand with proportionality. We make limitations explicit and choose methods that fit the question and the stakes.
7. **Promote the value of education and continuous development**
   We grow a strong, diverse pipeline for talent, recognising multiple entry routes and specialisms. We value deep technical craft alongside leadership, mentoring, and cross-profession upskilling.
8. **Deliver efficient analysis**
   We embed sustainability as a professional value at every stage, from collection to dissemination - optimising tooling, storage and code practices to deliver efficient data flows and ensure reuse of data.

The future statistician will demonstrate:

- **Trustworthiness**: putting ethics, privacy and user need first; declaring interests; publishing limitations.
- **Quality:** choosing fit-for-purpose methods; applying proportionate quality assurance; version and testing code; peer reviewing.
- **Value**: prioritising questions that matter; designing for decisions; measuring impact; iterating openly.
- **Openness:** sharing data (where legal and safe), code and methods; documenting decisions; enabling reuse.
- **Inclusion**: engaging diverse users; designing accessible outputs; reflecting community perspectives.
- **Efficiency**: considering the sustainability impact in planning, procurement, and delivery.

This will require a mix of the current skills and strengths of a statistician, combined with an evolution to develop additional skills which embrace new and emerging approaches to communication and analysis.

Constant Elements – Supporting and retaining the core skills for the future

The future statistician will continue to retain and strengthen core statistical skills and identity; promote openness, reproducibility and intelligent transparency; advocate for the role of statistics in shaping policy and operational delivery; and invest in continuous professional development and mentoring.

Elucidating and recognising core activities and skills – the future statistician is a leader in the innovative use of data, who is clear on their identity and role as a statistician.

The future statistician:

- continues to be a champion for the Code of Practice for Statistics and promotes the Standards for Public Use of statistics.
- will act as a ‘data custodian’, ‘translator’ and ‘champion of data quality’, inspiring innovative in respect of the potential of the data and user focused in the collection of new data.
- will be confident on their identity, including acknowledging the broad range of specialisms within statistics as well as clarifying intersections with related professions.
- will be involved from the start of work, including asking the right questions and being a ‘referee’ for statistics.

Feeding data into decision-making – the future statistician will advocate for the vital role of statistics in shaping policy, driving operational delivery and supporting public discourse.

The future statistician will:

- be driven to provide accurate figures at pace to meet demand, working with colleagues across professions to make a difference.
- be well trained in data protection, governance, privacy and legislation.
- create improved access to high quality data, which is linked to enable greater insight.
- be confident to navigate their work in a political environment, including relationships with ministers.

Uncertainty, grey areas and trade-offs – the future statistician will be comfortable with ambiguity and skilled in balancing trade-offs, to best deliver and communicate statistics and explain limitations.

The future statistician will:
- be confident in balancing demands for user requests and pressure for new products, to allow data to best inform decision-making and limitations to be understood, as well as to ensure that efforts and outputs are proportionate to need.
- promote openness and sharing of data and code as core professional values, supporting reproducibility and public trustworthiness.

Public statistics – the future statistician serves public need and interests, shaping the statistical agenda around societal needs.

The future statistician:
- ensures that statistics are accessible, inclusive and relevant to different communities, working with a broad range of data sources to achieve this.
- will take responsibility for clear communication, transparency, and defend against misuse of statistics, aligned with intelligent transparency and the Standards for Public Use of statistics.

Evolving Elements – Developing the skills of statisticians for the future

The future statistician will evolve to provide technology leadership, guiding responsible adoption of artificial intelligence and automation; develop skills in public communication to raise statistical literacy and trustworthiness in an era of misinformation; and be mindful of sustainability and adopting efficient workflows.

Public communication – the future statistician is a skilled communicator, increasing public statistical literacy skills and trustworthiness in data and figures.

The future statistician:
- will have a key role in communication, trustworthiness and transparency, which will be important given the political and information climate and the traction of misinformation.
- will help the public critically evaluate statistics and data, and help build trustworthiness by explaining methods and limitations.
- should have increased understanding of how the public consumes and understands statistics, to aid their work.

Technology, AI and automation – the future statistician will be a leader in technological innovation.

The future statistician:
- will be at the forefront of technological change and understand how they fit into the world of technology, including artificial intelligence and other emerging approaches.
- will be an advisor and interpreter rather than solely a producer, and may be involved in upskilling others.
- must be supported through access to appropriate modern analytical tooling to support methodological innovation.

Delivering efficient analysis – the future statistician will embed the principles of sustainability in every stage of the statistical lifecycle from efficient data flows to ensuring reuse of data

The future statistician will:

- actively consider the sustainability impacts of their work at every stage, from data collection and processing, to analysis, reporting, and dissemination. This includes making sustainability a criterion in project planning, procurement, and decision-making.
- adopt and promote efficient workflows, such as when choosing data and analytical tools; archiving and deleting redundant data; encouraging the use of efficient cloud, file formats and code practices.
- raise awareness of the environmental costs of large-scale data processing and AI model training.

Education and continuous development – the future statistician will champion education and diversity, and have access to professional development and clear, attractive career pathways.

The future statistician:

- will be active within a talent pipeline which is strong and diverse, with strong data and investigative skills, arising from emphasis on these areas through from school education to support trusts in furthering their skills.
- will have access to helpful continuous professional development and training, including career pathways that do not necessitate a choice between management and technical skills.
- will be recognised for the value of their skills and experience, with expert statisticians sharing their knowledge to support the wider statistician community.

Recommendations

This work has identified five priority recommendations as being especially high impact for supporting the development and delivery of the vision for the future statistician.

R1 : Equip statisticians for technological change

The GSS and the RSS will provide training programmes to equip statisticians with the relevant skills needed to keep pace with technological advances, and the GSS will promote successful approaches to modern data infrastructure and tools to drive uniformity in decisions that support statistical work.

There will need to be collaborative working with colleagues in the Digital and Data profession (DDaT) to make sure the needs of statisticians are reflected in developing infrastructure that allows for AI-readiness and innovation. The creation of the GSS AI Champions Group and the Analysis Function group on AI will both play a key role in delivering this recommendation.

R2 : Clarify professional identity and skills

The GSS will review how the statistician role is currently defined and update this to include the diversity of specialisms and intersections with related professions, ensuring the competency frameworks and accreditation capture both core and new skills.

As data roles proliferate, the future statistician retains accountability for transparent statistical design, uncertainty and model validation. Statisticians will collaborate closely with data scientists and engineers, but our USP is rigorous inference, proportionate analysis, and trusted translation for the public and decision-makers.

The GSS People Advisory Group are already planning to review the GSS competency framework in 2026, which provides a timely opportunity to reflect on the needs of the future statistician. This needs to be combined with developing a shared understanding of different departmental workforce strategies and the changing roles within multi-disciplinary teams.

R3 : Support career progression and learning

The GSS and the RSS will build a common understanding of the development needs of government statisticians and develop a programme/framework of continuing professional development to support each career stage of government statisticians. This should ensure consistency, minimum levels of expertise, retention of talent, career progression, succession planning, and best-in-class learning and development. This approach should be strengthened through establishing cross-sector exchanges with industry and academia.

The GSS People Advisory Group, and within this, the GSS Learning and Development group, are reviewing bespoke learning developed by departments; identifying overlaps with existing GSS and Analysis Function offerings linking in with the AF People Board; and exploring gaps in current offerings to inform updates to the GSS Foundation Course. Through this, the RSS and GSS can ensure statisticians have access to a blend of formal training, experiential learning, and peer support.

R4 : Integrate statisticians

The GSS will ensure that government statistical teams are set up in a manner that supports close working between the functions which use statistics. This would include close working with policy, communications, operational delivery, digital and technology teams, including involving statisticians early in project lifecycles and earning and maintaining a place on senior boards to ensure decisions are evidence based. Heads of Profession should share examples of good practice and Departmental Directors of Analysis are reviewing analytical structures across government which will be important in informing actions.

R5 : Empower statisticians as arbiters of truth

The GSS and the RSS should empower statisticians to counter misinformation and be 'arbiters of truth', equipping statisticians with the confidence to ensure government communicates with intelligent transparency as underpinned by the Code of Practice for Statistics (the Code) and the new Standards for Public Use. We should ensure that statisticians have the skills and channels to do this.

Statisticians will be equipped and empowered to champion the Code with support from the Office for Statistics Regulation. To bring the Code and the Standards for Public Use to life, statisticians will be supported to develop and share case studies demonstrating how the Code has guided decision-making, improved transparency, or protected public trust. They should establish peer review mechanisms where teams regularly assess outputs against the Code, sharing lessons learned across departments.

Additional recommendations

Other recommendations have emerged from this work, which should be explored and considered alongside the five priority recommendations as future plans are developed.

Responsibilities for delivery

The GSS and the RSS should:

- Collaborate to position statisticians as leaders in technology and artificial intelligence – jointly raising public awareness of the role of statistics in artificial intelligence, and ensuring that statisticians are involved in shaping how new technologies are used across government. This will build on the work of the GSS AI Champions.
- Provide training on data protection, privacy and legal issues, so statisticians can confidently navigate data access and sharing agreements.
- Advocate for sharing data and intelligence across organisational boundaries linked with the GSS Vision: Strength in Numbers.
- Provide training and support to ensure that statisticians prioritise retaining skills in critical thinking, so that statisticians are skilled at judging outputs - a skill that technology alone cannot replace.
- Support public-facing initiatives that build statistical literacy and trustworthiness, including school outreach and media engagement, to promote understanding of basic statistics in society and raise the standard of numerical skills.
- Support education initiatives that make statistics engaging and relevant in school and inspire young people about statistics and data. This could include collaborating with schools and universities to promote statistics as a career, especially among underrepresented groups.

- Encourage a diverse range of entry routes into the profession, including apprenticeships and joiners who have previously been in different fields. This should include the GSS promoting diversity and inclusion in the profession in recruitment and retention, with targeted support for underrepresented groups.
- Raise awareness of the environmental impact of artificial intelligence and data storage – encourage statisticians to consider the environmental impact of their work.
- Establish a mentorship and peer network to facilitate mentoring programmes between experienced statisticians and early-career professionals, including linking statisticians in government with peers in other industries.
- Promote the role and value of statisticians through targeted campaigns within the Civil Service and public-facing platforms – including developing case studies to show the impact of statistical work on policy and public outcomes, and aiming to ensure that statisticians have a seat at strategic tables, influencing data use and policy decisions.

The GSS should:

- Provide training for government statisticians on how to work in political environments and engage with ministers.
- Help ensure that the statistical agenda reflects user needs, by involving users in priority-setting.
- Support the use of a diverse range of data sources, beyond government sources, to feed into government statistics and answer society's most pressing questions.
- Ensure that statisticians are supported with the training and skills they need to balance trade-offs to allow data to feed into decision-making.
- Clarify and introduce career pathways within the civil service and public sector that reward depth of technical expertise in addition to those that reward managerial responsibility.
- Recognise the long-term value of statistics and ensure this is reflected in strategic planning, including advocating within government for the importance of high-quality statistical analysis and the role it must play in evidence-based policy development and decision making.
- Build an inclusive leadership culture, where statisticians feel that they are kept in the loop with changes to the profession and statisticians have mechanisms to raise concerns and be confident that these are heard.
- Facilitate cross-profession upskilling initiatives, enabling statisticians to support other government professionals in data literacy and responsible artificial intelligence use.

The RSS should:

- Build on its ability to provide a focal point for the statistical profession/community to share best practice, develop expertise, build a diverse statistical community, and engage proactively, with impact and insight on relevant issues.
- Help build public understanding and interest in statistics, including its role in combatting misinformation.
- Continue to support statisticians to balance trade-offs to allow data to feed into decision-making, for example through Statistics Under Pressure resources.
- Drive standards in higher education for statistics through activities such as accreditation.

- Advocate publicly for the central role of statistics and robust statistical analysis across business, government, the media, and society.
- Continue to campaign for government to recognise the importance of a public statistics approach, including identifying the areas in which statistics are needed to answer society's big questions, and drawing data from a wide range of sources.
- Seek funding for research into public understanding of statistics and the effectiveness of communication techniques.

Next steps and closing comments

This report is a call to action for departments, professional bodies and senior leaders to invest in the skills, tools and culture to support statisticians and make this future a reality.

Delivering on the vision for the future statistician will require coordinated action, ongoing engagement, and a commitment to continuous improvement. The immediate priorities are to jointly assess the recommendations, align with existing plans and agree specific actions.

Progress will be regularly reviewed to ensure the recommendations remain a priority, and to respond to new and emerging themes. There will be annual reporting, with the first update scheduled for January 2027.

The future of the statistical profession is both exciting and challenging. By embracing innovation, upholding core values, and working collaboratively, statisticians can remain at the heart of evidence-based decision making and public good.

All members of the statistician community are invited to contribute, challenge, and help shape the journey ahead. Do get in touch with your thoughts, ideas, or offers of support at policy@rss.org.uk.

Together, we can build a profession that is resilient, relevant, and ready for the future.