



Office for
Statistics Regulation

State of the Statistical System 2024

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Executive Summary

Drawing on our work as the UK's statistics regulator, this report shares our views on the performance of the statistical system and the challenges facing it, highlights areas of progress and innovation, and sets out our recommendations for advancing the system.

The UK's statistical system includes those who collect, produce, disseminate and regulate official statistics, alongside central bodies that set strategic direction. We want this report to support the system in continuing to strive for excellence and working to address challenges collaboratively.

Our standalone guide, [The Office for Statistics Regulation's Guide to the UK Statistical System](#), provides an overview for readers who wish to know more about the different components of the statistical system in the UK.

The statistical system has benefited from the publication, in 2024, of two wide-ranging reviews:

- [The Independent Review of the UK Statistics Authority \(UKSA\)](#), commissioned by the Cabinet Office as part of its Public Bodies Reviews program and conducted by Professor Denise Lievesley CBE, focused on the governance, accountability, efficacy and efficiency of the UKSA. The review was published in March 2024.
- The Public Administration and Constitutional Affairs Committee (PACAC), responsible for overseeing the work of the UKSA on behalf of Parliament, carried out an inquiry exploring the changing statistics and data landscape, and the UK's readiness to respond to it. Its report, [Transforming the UK's Evidence Base](#), was published in May 2024.

We have referenced specific findings from these reviews where these are relevant in this report.

The current landscape

Producers have continued to see increased **demands for new statistics and insight**, but with less focus on a single high-profile issue than we have seen in previous years. In the main, producers have been able to respond to these demands. However, financial and resource pressures and recruitment challenges have meant that several producers have had to cut back existing outputs to invest in new priorities. This mismatch between the demands for data and the supply of resources has placed the system under strain, meaning that it is increasingly difficult to meet user needs. It is important that core statistics be sufficiently resourced and funded to serve the public good.

Increased demand and financial constraints will remain important pressures in the year ahead. To be at its best, it is important that the **Government Statistical Service (GSS)** build on the development of its GSS Vision and GSS Strategic Delivery Plan and key appointments. In face of financial constraints, demand for central GSS support provided by the Office for National Statistics (ONS) outstrips supply. In our view, some services are delivered more cost effectively by the GSS centrally than by

individual producer organisations. Therefore, the system should consider how it can best deliver a central service that promotes and supports the profession.

User engagement is vital if the statistical system is to produce evidence that meets users' needs and answers their questions; it should underpin everything the system does. Through our regulatory work, we have seen many examples of good engagement, but users have continued to tell us that they would like to see statistics producers engage more widely, listen more (including to experts who can support new developments) and be more open and less defensive when facing criticism. We recommend that the system invest more heavily and strategically in its approach to engagement. The Statistical Assembly stemming from the [Lievesley Independent review of the UK Statistics Authority](#) will be key to making this a reality.

Ensuring quality

Long-standing **challenges with household survey response rates** became more critical, with impacts such as the suspension of UK survey-based labour market estimates in October 2023 due to falling response rates in the ONS Labour Force Survey, which covers England, Scotland and Wales. Surveys will remain essential in some areas, but it has become more challenging and expensive to maintain quality. This underlines the importance of different collection approaches and nudge techniques to deliver the best-quality estimates. Where appropriate, administrative data can also provide part of the solution.

Our **economic statistics**-focused [Spotlight on Quality](#) programme has identified the need for the statistical system to do more to ensure it is using suitable data sources to measure the modern economy and is enhancing the communication of economic statistics so that users fully understand the quality of the data, any sources of uncertainty and the impact of the trade-off between balancing timeliness and accuracy on revisions performance.

Improvement and innovation

We have seen a range of **innovative transformation programmes** across the statistical system. To maximise the benefits, we want to see more join-up and coherence across developments. Overarching plans and priorities should be set with, and communicated to, users of statistics.

Users have demanded increased comparability of statistics across the four nations in topics like health, and we see producers taking a leading role in improvements in **comparability and coherence** – helping to make it clearer to users when statistics can and cannot be looked at together. It is important that the system, co-ordinated by ONS, build in user needs for UK-wide coherence from the outset, working in partnership across the UK.

Significant progress is still needed in overcoming many of the remaining, often longstanding, barriers to **data sharing and linkage**. Despite the value of sharing and linking data being widely recognised, and pockets of innovative and ambitious work, there remain areas of challenge. These include the public's attitude to, and confidence in, data sharing and culture and processes in government.

The Lievesley Independent review of the UK Statistics Authority and the PACAC Transforming the UK's Evidence Base report highlight the need to overcome the systemic barriers to data sharing between departments. Unless significant changes

are implemented, we are concerned the progress that has been made could be lost. We want to see all the parts of the system working together to address these challenges, to reach a place where sharing and linking datasets, and using them for research and evaluation, is the norm across the UK statistical system, rather than the exception.

With developments in **artificial intelligence**, it is vital that the statistical system be equipped to maximise the opportunities and address the challenges that will arise in this area. The statistical system, including OSR as its regulator, should show strong leadership in the AI era by setting relevant standards based on the Code of Practice for Statistics. This includes being transparent about the real and perceived risks of using AI in official statistics and how these are addressed, to build public confidence.

Effective communication

We have seen producers **effectively communicating** key messages from rich and complex datasets through a variety of means that are tailored to different audiences. Census outputs in particular were not just published as data tables and bulletins, but through innovative interactive maps, tools and games which allow users to better engage with and understand data related to their own lives and geography. However, more needs to be done to embed high-quality communication around quality, uncertainty and revisions when data are published and used, including sharing best practice.

It is important to take an open, clear and accessible approach to the release and use of data and statistics – we call this '**intelligent transparency**', the principles of which are now well embedded across the analytical professions. We see government departments increasingly following these principles and making underlying analysis available when statements using unpublished data are made. However, concerns are still being raised with us in relation to ministers and other government officials quoting unpublished figures or figures that lack context in the public domain. We want intelligent transparency to be the default approach to releasing and using data and statistics across government. Transparency and good use of data were particularly important in the General Election campaign, and our [dedicated election pages on our website](#) supported these approaches.

The current landscape

Demand

Heads of Profession (who are accountable for professional statistical matters in departments and agencies) have told us that demands on the system vary across producers, either remaining relatively stable or increasing. Single high-profile issues, such as the COVID-19 pandemic and the war in Ukraine in previous years, have had less impact on the system than before. Instead, the demands on the system are more wide ranging, and include a broader range of issues and demand for high-frequency data and data dashboards within government departments.

The system has responded to meet increasing demand for local area statistics that can be used to understand differences between areas and policy impacts. Some demands have been for new data, while others have been for data to be presented in ways that are more usable and accessible. Examples of good practice include the [Office for Local Government \(Oflog\) Local Authority Data Explorer](#) and [ONS's Explore Local Statistics project](#).

A demand for new statistics that give insight into the experience of different groups in society has also emerged. Areas of focus here include:

- the [first statistics from ONS's new Veterans' Survey](#), launched in 2022 to gain a better understanding of the experiences of veterans and their families
- [Home Office-produced analysis and metrics on racial disparity in stop and search in England and Wales](#) to meet actions set out in the [Inclusive Britain report](#)
- new statistics from the [Department for Education on Children Missing Education](#) and [Elective Home Education](#), filling an important data gap

Sharing and linking datasets has enabled new policy insights. For example, [a collaborative project using the Integrated Data Service](#) examined differences in Welsh language ability in the Census 2021 and in surveys. The outputs are informing policy development and future approaches to collecting these data.

Reflecting increases in costs across the public sector, many producers have told us that they are facing demands for new products and insight, often with fewer financial and staff resources. We would like to see more information made publicly available about the numbers, skills and resources that the GSS has at its disposal. This would make it easier for users to understand the pressures the system faces and how these are changing over time. Heads of Profession have also raised concern about recruiting and retaining staff with the right skills. Departmental recruitment controls, ensuring workers have the right coding and automation skills and differential pay across different related specialisms have all been identified as challenges.

The mix of continued demand for new and innovative statistics and financial constraints means that producers are increasingly having to make decisions to cut back, or think about cutting back, on some of the statistics they produce. This can involve reducing the detail of statistics, supporting content and commentary and the frequency of production, or even the cessation of producing some statistics. We have

also heard that these resource challenges mean that some important user needs are going unmet.

Producers should continually review the statistics they produce to ensure they deliver value to users. [The Code of Practice for Statistics](#) sets out the importance of producers being sufficiently resourced to deliver statistical services that serve the public good. While the system has to respond to financial pressures facing all areas of government, it is essential that core statistics be resourced to deliver public good. We have supported the producers taking these decisions, both through our regular engagement and publishing blog posts with [guidance](#) and [case studies](#).

In the best of these producer efforts, user needs and engagement have been front and centre. [Health-related statistics producers are reviewing their outputs](#) across organisations, working towards the aim of a joined-up health and social care public narrative, where statistics across different health producers are better aligned and provide complementary statistical products.

Faced with budgetary pressures, at the end of August 2023, the Northern Ireland Statistics and Research Agency (NISRA) launched a [consultation](#) with proposals to rationalise the statistical outputs produced by NISRA statisticians in the Department of Finance and published its [response](#). NISRA faced a reduction in funding of £1.9m in nominal terms in 2023-24 compared to its opening budget in 2022-2023, a real-terms cut of close to 20%. NISRA used insight learned work from previous engagement and its understanding of user needs to develop proposals, which it then ran by users; this gave NISRA a chance to explain its rationale and receive important feedback on how it could minimise the impact of its proposals on users.

The Government Analysis Function [Reproducible Analytical Pipeline \(RAP\) strategy](#) outlines an approach to improving the efficiency of the production and quality assurance of statistics and analysis, alongside other benefits. Producers have continued to invest in RAP to deliver quality and efficiency benefits.

Government Statistical Service

Last year, we reported mixed views from statistics producers on the identity of the Government Statistical Service (GSS) as part of the broader Government Analysis Function. This theme was also identified in the [Lievesley Independent review of the UK Statistics Authority](#), which noted that some Heads of Profession feel that *“there has been a sense that the profession had lost some of its status and identity in recent years following the introduction of the Analysis Function”*. Lievesley also noted that *“there is a perception that resources - including the time and energy of ONS’s leadership - which used to be directed to the GSS alone are now being shared across the wider function”*.

This view is reflected in our own engagement with Heads of Profession, the GSS and the Analysis Function. Heads of Profession say that these concerns have been exacerbated by financial constraints both in departments, which means the demand for central support is stronger, and in ONS, which has led to a reduction in the central GSS support available. The practical impact of this is visible in areas like harmonisation, with the size of the ONS team allocated to this work being reduced significantly. We are encouraged to see collaborative working by GSS Heads of Profession, including a community-led approach to some core functions. However, there still needs to be a core of central support. It is good that ONS and Heads of

Profession are working to determine a model for GSS central support, within the wider landscape of the Analysis Function, that delivers the most benefit in the context of financial pressures.

We have also seen several welcome and important strategic developments across the GSS over the last year, including work to develop a GSS Vision and GSS Strategic Delivery Plan due for publication later in 2024; the appointment of a Deputy National Statistician responsible for engaging with the GSS; and the appointment of a Deputy Head of the GSS to give greater voice to Heads of Profession. These steps have strengthened the status and identity of the profession, which in turn can help with recruitment, retention and professional development.

Engaging with users

User engagement is fundamental to ensuring that statistics serve the public good. There are many good examples of user engagement across the system. But users have continued to tell us that they would like to see statistics producers engage more widely, listen more (including to experts who can support new developments) and be open and less defensive when facing criticism. The [UKHSA has been undertaking a programme of reviews](#) looking in depth at each of its official statistics publications which serve as an example of good practice. The review team has been conducting user surveys, interviews and workshops to gather feedback on the quality, relevance and accessibility of the statistics products. This has helped to identify areas for improvement and actions that will enhance the value of the statistics for the public good.

In developing its migration statistics, ONS has engaged with a range of users, including the migration expert group, individual key stakeholders and the Government Statistical Service Migration Steering Group, and has presented at multiple conferences, including the Migration Statistics User Forum. The Future of Population and Migration Statistics consultation also sought feedback from users to further develop ONS's understanding of user needs.

Earlier in the report, in the Demand section, we have highlighted good practice by NISRA and the Health and Social Care Statistics Leadership Forum of engagement when seeking to rationalise outputs.

A central conclusion of the [Lievesley Independent review of the UK Statistics Authority](#) is that the Authority Board should move into a more visible, ambitious space. The review highlighted that *“consultations which do take place are sometimes perceived to be somewhat tokenistic and not open to new suggestions and ideas from the user community”*. Lievesley also noted that *“The UKSA should take a more prominent role in identifying data needs and using this to set the programme for UK statistical priorities thus demonstrating its interests in ensuring that the UK has the data needed for sound decision making across society”*.

The review recommends that the UKSA should primarily achieve this by establishing a triennial Statistical Assembly, which will consult widely with statistics users and producers to understand the range of views regarding the priorities and data needs of the UK. It is important that the assembly be able to provide advice that balances user needs with resources, or builds the case for additional investment.

Our recommendations

The statistical system should continue to operate flexibly and take further steps to identify where it can work in a more joined-up way to deliver efficiently.

We want the GSS to finalise work on its strategy and use this as a basis to bid for funding to provide more holistic central support; to not do so would be a false economy as stronger central support would deliver more consistently and efficiently without the need for replication across government departments.

Based on what we have heard from users, the GSS should take steps to invest more heavily and strategically in its approach to engagement and ensure engagement is wider and less defensive.

Ensuring quality

Survey response rates

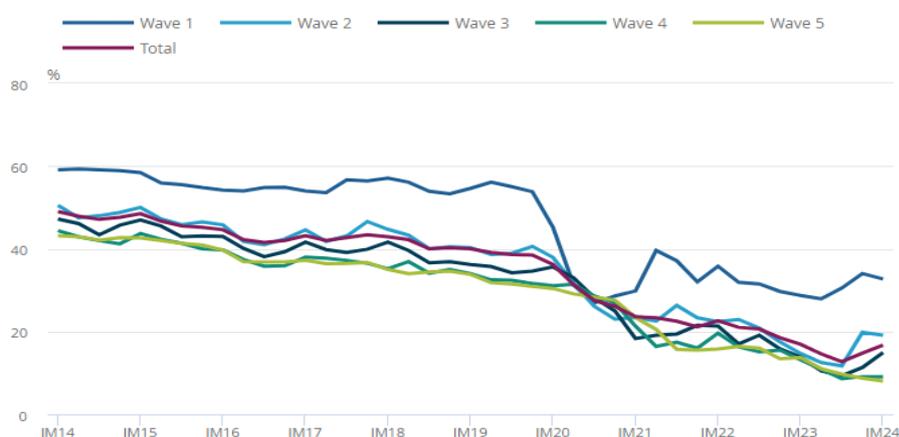
Good statistics need good data inputs, so statisticians want data collections with sufficient coverage, whether these are surveys or administrative sources. In the UK, and in other countries across the world, we have seen a steady decline in response rates to household surveys, which can reduce the accuracy of estimates and is a potential cause of bias in the survey data. Surveys will remain essential in some areas, but it has become more challenging and expensive to maintain quality.

We saw further challenges during the COVID-19 pandemic as many producers had to rapidly adapt their approach in light of the suddenly limited opportunities to interview people face to face.

Household surveys provide data for some of the most important statistics used to inform decisions in significant areas, including government spending and setting interest rates. Increased uncertainty and gaps in these data present challenges for decision-makers, so it is essential that any gaps and quality issues be robustly addressed; this will inevitably lead to the need for additional investment.

Figure 3: Wave-specific response rates

Great Britain, excluding imputed households, January to March 2014, to January to March 2024



Source: Labour Force Survey from the Office for National Statistics

Source: [Labour Force Survey from the Office for National Statistics \(figure 3\)](#)

Notes: JM refers to January to March. Each quarter of the LFS sample is made up of 5 waves. Respondents are interviewed for 5 successive waves at 3-monthly intervals and 20% of the sample is replaced every quarter.

The Labour Force Survey (LFS) is one of the most significant social survey collections in official statistics in the UK. In October 2023, response issues in the ONS Labour Force Survey, which covers England, Scotland and Wales, became so acute that ONS had to suspend LFS-based labour market estimates for the UK and introduce an experimental method using administrative sources. We [undertook a rapid review](#) and provided recommendations to ONS on how it could maximise the value of these data.

ONS has since taken steps to improve the number of interviews conducted and reinstated LFS-based estimates, for which we carried out [a further review](#). As part of a longer-term response, ONS is already planning to introduce the Transformed Labour Force Survey (TLFS) in England, Scotland and Wales, which will make greater use of online data collection. This work has so far shown a promising increase in the response rates. Northern Ireland is also transforming the NI LFS to an online first survey called the NI Labour Market Survey.

It will be important for producers to share best practice both in and outside the official statistical system to address these challenges and consider how the most suitable administrative data, different collection approaches and nudge techniques can be used to mitigate declines in response rates.

Last year, the National Records of Scotland (NRS) faced unexpected challenges with data quality, as the overall response rate for Scotland's Census 2022 was lower than the designed rate. NRS put measures in place to ensure that the best-quality estimates were produced and to provide assurance for users. These measures included oversampling its Census Coverage Survey in areas where it expected a lower response, and establishing an [International Steering Group](#) to deliver external expertise and advice.

The International Steering Group was a group of experts from different countries and organisations that advised NRS on its statistical methods and use of administrative data. The group ensured that NRS was aware of best practices and experiences from other censuses and surveys. Its guidance helped NRS ensure that its methods were robust, transparent and consistent with international good practice. In our [accreditation of Scotland's Census 2022](#), we found that NRS had taken a rigorous and methodical approach to the quality challenges that had arisen. Members of the statistical system who face similar challenges can learn from NRS's experience.

Furthermore, business survey response rates have recovered from the challenges faced in the pandemic. ONS and NISRA have been undertaking good work to consider how they can optimise their survey operations to ensure they align with the needs of respondents and to increase the volume and quality of data received through business surveys.

Challenges of measuring the economy

Economic statistics are not compiled in isolation as individual data series. They are derived within a complex and organic framework of economic variables and models,

which come together to build a comprehensive picture of the UK's economy. This starts at the goods and services produced, transformed and consumed, taking into account public sector finances and our relationship with the rest of the world, and ends with our balance sheet, which shows how the transactions in our economy have affected our net worth. These statistics also consider the prices we pay and the jobs we do.

Economic statistics are vital for understanding the economy and a key source of information and intelligence for those making important decisions on tax, spending and interest rates. These statistics need to be of good quality, use data sources that reflect the modern economy and clearly communicate any uncertainties.

Through our [Spotlight on Quality programme](#), we have developed a [new model for assessing statistics](#) that allows us to respond to the complexity of the economic framework used to compile important economic indicators. This approach has allowed us to scrutinise the elements of quality that are most relevant to each set of statistics and dive deeper into the sources, methods and quality assurance than possible in our standard assessments.

Our initial reviews on [Producer Price Inflation](#) and the [Profitability of UK companies and Gross Operating Surplus of private non-financial corporations statistics](#), alongside the rapid reviews we carried out in response to challenges with Labour Market Statistics and GDP, identified common themes around data source quality and communication. We plan to undertake a systemic review to consider these common threads and track ONS's progress on improving economic statistics since Professor Sir Charles Bean conducted his [independent review of UK economic statistics](#).

We are glad to see ONS taking a more prominent role in [work to develop the next round of international standards](#) for economic statistics. Our review will also consider ONS's preparedness for implementing these new standards, which we see as an important step for improving measurement to better capture the modern economy. ONS has also made significant progress this year on the Beyond GDP agenda, which looks beyond traditional approaches to take a holistic look at economic, environmental and social progress, and public sector measurement, which has been welcomed by users and strengthened ONS's international standing.

Our recommendations

The GSS should produce a strategic level plan for household data across the statistical system that considers how administrative data, different collection approaches and nudge techniques are best used to deliver the best-quality estimates.

We want to see ONS place a greater focus on communication and data sources as economic statistics are developed and published. Drawing on our findings from our Spotlight on Quality programme, we plan to undertake a systemic review to consider the progress that ONS has made toward the recommendations following the Bean review.

Improvement and innovation

Transformation and administrative data

Last year's report highlighted several transformation programmes designed to improve the quality, efficiency and relevance of statistics. We noted it is important to understand and mitigate any risks emerging during the transition to new methods and data sources. This year, we have seen even more transformation activity, underscoring the need for producers to be alive to the need for risk management.

Transformation programmes can help to ensure that statistics use modern methods and data sources, often allowing enhanced statistics to be delivered more efficiently. The use of administrative data is a key enabler of many of the transformation projects being delivered across the system, as data sharing and the capabilities to unlock these data become more widespread. Administrative data are collected for operational purposes, usually as part of the delivery of a service, with statistical use being a secondary purpose. These data are often created when people interact with public services, such as schools, the NHS, the courts or law enforcement agencies and the benefits system.

Administrative data are usually generated and maintained by public bodies in delivering front-line services. Many of these bodies have also faced financial pressures. Producers have told us these pressures can affect the quality of data. It is important that producers understand quality impacts and, where they can, mitigate data burden on public bodies.

So that statistics on population better reflect changes in society and technology and meet user needs, ONS is developing its methods for estimating the size and makeup of the population using a new dynamic population model (DPM). The DPM uses a statistical modelling approach to draw from a range of data sources, including administrative and survey data. ONS is now producing admin-based population estimates for England and Wales using the DPM.

Currently, the ONS admin-based population estimates are [classified as official statistics in development](#) – this highlights to users that they are statistics undergoing development and testing. We are [working closely with ONS](#) to determine whether the statistics will meet the professional standards set out in the Code for accreditation.

The DPM work is a significant development for the UK statistical system. The DPM production and development work is complex and challenging, and the teams behind it are working hard to deliver ambitious goals. ONS's international migration statistics, which are in part an input into the DPM, are also going through an ambitious transformation programme. ONS has moved away from the International Passenger Survey as its main data source and is working towards an approach based on administrative data sources. We have been advising ONS as it develops these statistics, and [in our most recent review](#) we found that ONS has made progress towards meeting user needs, with significant improvements made to the statistics.

With different approaches to population statistics across the nations of the UK, it is important that the resulting statistics be joined-up and coherent across the UK. ONS should continue to work collaboratively with producers in Northern Ireland, Scotland and Wales.

The DPM work is happening alongside ONS's transformation of its Labour Force Survey. ONS has been transforming its Labour Force Survey (TLFS) for Great Britain with the aim of switching to this as its main source of labour market data. The TLFS is an enhanced version of the existing Labour Force Survey (LFS) and is an online-first survey with a 'knock-to-nudge' approach, which involves field interviewers knocking on a respondents' door to encourage a response if they have not previously answered the survey. As well as increasing the achieved sample, these steps are aimed at making sure that the people who participate in the survey better represent the entire population. We are [advising, challenging and supporting ONS](#) as it develops this new approach.

Other notable transformation work includes [that by NISRA on improving labour market statistics](#) through survey transformation and increasing the use of administrative data and other data sources. NISRA intends to move to a new online-first Northern Ireland Labour Market Survey (NI LMS) in autumn 2024.

Scottish Government is taking a system and profession wide approach to the transformation and improvement of statistics [by publishing its strategic priorities for official statistics in Scotland](#). The priorities are designed at a high level under the broad pillars of users, efficiency, data and people. Statisticians in Scottish Government are empowered to take forward improvement work under these pillars as they see fit. This is supported centrally by a range of activity: regular communications and sessions on different ways of thinking about the use of data and applying the Code of Practice, a leadership programme for statisticians focused on improvement and peer community groups to tackle cross cutting statistical issues.

Comparability and coherence

Issues relating to comparability (where different statistics can be compared over time and by geographic region or topic area) and coherence (where related statistical outputs explain the topic they cover in a consistent way when used together) have continued to be important as areas where statistic producers have invested resources to bring about improvements.

For each of the nations of the UK, there are different policy contexts reflecting the devolution settlement. This means the delivery of services in areas such as health and education differs across governments, and therefore, operational data and the focus of data collected for policy evaluation vary across the four nations. It can be challenging for the system to reconcile these differences and produce comparable statistics.

Producers should explain how their statistics do, and do not, compare with statistics for other parts of the UK. The blog post by the Chief Statistician of Wales on [Comparing NHS performance statistics across the UK](#) serves as a good example. Where it is not feasible to produce UK-comparable outputs, producers should support users by signposting other related statistics and clearly explaining what is and what is not comparable across the UK, as well as the different methodologies used.

There are a number of examples of good practice in health and social care statistics. [Work led by ONS](#) with partners across the UK (including government departments, health departments and health bodies) is making it easier to understand the comparability of health data for England, Wales, Scotland and Northern Ireland. This includes [ongoing work to improve the cross-UK comparability of Accident and Emergency wait time statistics](#). Other examples of recent work to bring together

comparable statistics from across the UK include [statistics on fuel poverty and homelessness](#).

The ONS Local and Coherence division, devolved governments and relevant departments have been working together to create [new UK-wide data](#) in high-priority areas of shared interest across the UK. These have included new data on public transport availability and house building.

Our recent [review of the quality of the police recorded crime statistics for England and Wales](#) highlighted the [crime trends explainer published by the ONS](#) as good practice in explaining the coherence of related sets of statistics. The explainer sets out the different ways that crime is measured, determines which measure is best for different crime types and discusses some of the trends that have emerged.

The comparability of UK census outputs and population statistics will be a particular focus this coming year. The ongoing development of the admin-based population estimates and the pace of delivery of what is a new method of estimating the population in England and Wales will inevitably create implications for the comparability of population estimates across the UK.

It is important that the system, co-ordinated by ONS, build in user needs for UK-wide coherence from the outset, working in partnership across all parts of the UK. A key factor will be ensuring that all parts of the system are adequately resourced for addressing coherence issues.

UK comparability issues were explored in detail in both the Lievesley Independent review of the UK Statistics Authority and the PACAC Transforming the UK's Evidence Base report, with the PACAC report highlighting the detriment to individual citizens in areas when it is impossible to compare the experiences of those living in each of the four nations of the UK. The committee has recommended that we conduct a review on the adequacy of comparable UK-wide data.

Data sharing and linkage

While we continue to see examples of data sharing and linkage being used to enable analysis of key societal issues, significant progress is still needed in overcoming many of the remaining, often longstanding, barriers to data sharing and linkage.

In July 2023, we published our [Data Sharing and Linkage for the Public Good report](#). We found that the COVID-19 pandemic provided a particularly strong impetus to share data for the public good. But, despite the value of sharing and linking data being widely recognised, there remain areas of significant challenge, including uncertainties about the public's attitude to, and confidence in, data sharing and the culture and process in government. The report made recommendations for overcoming barriers to data sharing and linkage for the public good under the themes of public engagement and social license, people, processes and technical challenges. We highlighted our concern that unless significant changes are implemented, the progress made could be lost. Since our report was published, we have been engaging with the organisations that are key to delivering our recommendations, and we published an updated report and recommendations in July 2024.

While there are pockets of innovative and ambitious work happening, overall little progress in actioning the recommendations in our 2023 report has been made across the statistical system and government. [Our update report](#), published in July, sets out

the challenges that current processes pose to effective and efficient data sharing and the need for greater leadership from government.

Despite these challenges, ambitious examples of data sharing have provided powerful insight. For example, the Ministry of Justice's [Better Outcomes through Linked Data \(BOLD\)](#) programme aims to improve the connectedness of government data in England and Wales. The programme was created to demonstrate how people with complex needs can be better supported by linking and improving the government data held on them in a safe and secure way. As well as improving understanding of participants' concerns about their data being used, BOLD has led to analytical outputs such as that published by the National Confidential Inquiry into Suicide and Safety in Mental Health based at the University of Manchester to investigate [the factors associated with suicide by people accessing drug and alcohol treatment services](#).

Administrative Data Research Wales has gone from a proof of concept for data linkage to using linked data in focused ways to provide specific insights into its [Programme for Government](#). Examples where this has influenced decision-making include [Linking Flying Start scheme attendance data to education Foundation Phase baseline on-entry assessments](#), [Linking Care & Repair home advice and modification interventions data with care home admissions data](#) and [Linking school workforce census data to COVID-19 vaccination records](#).

In Northern Ireland, NISRA statisticians in the Department for the Economy, the Department of Education and in the Administrative Data Research Northern Ireland (ADR NI) team are working together to develop a Longitudinal Education Outcomes database for Northern Ireland (LEO NI), which will provide insights into labour market trajectories for people with different educational backgrounds.

These examples, and others like them, demonstrate the richness and complexity of analysis that can be undertaken when cultural and technical barriers are overcome. The ONS's [Integrated Data Service \(IDS\)](#) and consultation on [the future of population and migration statistics in England and Wales](#) make a compelling case for what could be achieved by sharing and linking data.

Data sharing was a key theme of the [Lievesley Independent Review of the UK Statistics Authority](#). Mirroring our findings, the review concluded that the UKSA's efficacy is hampered by the systemic and cultural barriers to responsible data sharing between government departments. We support the review's call for the centre of government to take a lead role in addressing these challenges. Data sharing was further explored in the House of Commons PACAC committee report, [Transforming the UK's Evidence Base](#), which recommended that the Cabinet Office, in partnership with ONS, develop a comprehensive programme aimed at improving data-sharing for statistical and research purposes.

AI opportunities and challenges

The rise of user-friendly artificial intelligence (AI) and 'large language models' (LLMs) such as ChatGPT has focused attention on the potential uses of AI in the public sector.

While we have not encountered examples of AI use in official statistics production in our regulatory work, ONS and other government departments are conducting feasibility studies to test possible uses. Such studies include those testing how AI can

be used to improve the searchability of statistics on websites, produce non-technical summaries, recode occupational classification based on job descriptions and tasks and automatically generate code to replace legacy statistical methods.

The Code of Practice for Statistics provides a framework for ensuring the quality and trustworthiness of statistics produced with AI. Our [Guidance for Models](#) explains how the pillars in the Code can help in designing, developing and using statistical models. However, we are aware that there will likely be a need for more specific guidance, from ourselves and others, in the future.

At present, the risks around AI, as viewed through the lens of the Code pillars of trustworthiness, quality and value, include:

- Trustworthiness risks – there are concerns that malicious external agents might use AI to undermine public trust in statistics and government. Attempts to do so could include promoting misinformation campaigns to cause confusion around political issues, with targeted advertising and AI-generated blog posts, articles, and video and audio content.
- Quality risks – quality concerns centre largely on AI models' accuracy, potential biases introduced via model training data and transparency issues. For example, the Government Digital Service, while testing its newly developed chatbot GOV.UK Chat, experienced issues with hallucinations (incorrect information presented as fact) and accuracy that were unacceptable for public sector work, though these issues have informed more development work. Furthermore, the 'black box' nature of AI models makes it difficult for producers to be completely transparent about how statistical outputs are produced. The statistical system will need to find acceptable solutions to these challenges.
- Value – concerns around the trustworthiness and quality of AI-generated statistical outputs and communications are impacting their perceived value to both organisations and the public. The latest iteration of the [Public Attitudes to Data and AI Survey](#) suggests that public sentiment towards AI remains largely negative, despite its perceived impact being reported as neutral to positive.

Guidance and strategic leadership on AI across government is evolving at pace. The [AI Safety Institute](#) has been established to focus on advanced AI safety for the public interest, and the recently published [Generative AI Framework for HMG](#) provides guidance on using generative AI (a form of AI that can interpret and generate high-quality outputs including text and images) safely and securely for civil servants and people working in government organisations.

Given the opportunities and risks of AI, as a regulator our current focus is on two main areas: the use and regulation of AI systems, such as large language models (LLMs), in the production and communication of official statistics and our role in responding to the use of AI to generate misinformation.

Our recommendations

We see many innovative transformation programmes, but in some cases there is a lack of join-up between these programmes, which limits the learning and sharing that can take place across the system and is fundamental to successful innovation. We

would like to see the GSS share knowledge, best practice and expert support to maximise the benefits of transformation programmes.

We are working on additional Code-related guidance which will set out more clearly what we consider transformation work to be, and how we regulate and support statistics producers who are working in this way. In this guidance, we will set out a need to see clearer plans and governance around these transformations to support user confidence in the programmes.

Producers should make it clear to users how their statistics compare across different geographies. If there is significant demand for direct comparisons that is not addressed by existing statistics, producers should work together to produce additional analysis.

We want to see the system working with partners to implement the recommendations set out in our [Data Sharing and Linkage for the Public Good report](#). We will continue to advocate for, direct and advance data sharing and linkage across government through our regulatory and systemic work. OSR's work on data sharing and linkage will also feed into our ongoing work on [updating the Code of Practice for Statistics](#) and how we set out our expectations in this area for producers.

With developments in artificial intelligence, it is vital that the statistical system be equipped to maximise the opportunities and address the challenges that will arise in this area. The statistical system, including us as its regulator, should show strong leadership in the AI era by setting relevant standards based on the Code. This includes being transparent about the real and perceived risks of using AI in official statistics and how these are addressed, to build public confidence.

Effective communication

Communicating effectively

Good communication is essential for statistics to be used and understood effectively. When good-quality statistics are communicated well, public good is increased, people can make better data-based decisions, and trust in the system is enhanced. We see producers communicating statistics effectively and accessibly, drawing out key insights from the data. We now want to see producers progress to better communicating the quality of the statistics – particularly with regard to uncertainty. An increasing body of evidence, [including research by ESCOE](#), shows that communicating information about uncertainty improves the public's understanding of it and does not reduce trust in the data.

Producers are demonstrating good practice. In November 2023, ONS published a series of international migration publications which brought together a range of materials, including information on the uncertainty in the estimates and the methodology used, to support users. This comprehensive series represented an excellent example of ONS's communication of its migration estimates.

We have also seen good practice from the Scottish Fiscal Commission (SFC), [who voluntarily apply the Code of Practice for Statistics](#), finding that analysts make complex concepts easy to understand using visual guides and [explainers](#). Additionally, SFC takes an open and transparent approach to explaining its methods and assumptions to both expert and non-expert users. SFC also delivers [media presentations](#) to journalists

to promote correct interpretations of its work among this group, supporting accurate reporting by the media.

The publication of the Census results highlighted examples of good practice in the communication of statistics. The presentation of the results gave users unprecedented freedom and flexibility in producing their own analysis and cuts of the data. In Scotland, the National Records of Scotland promoted the transparency and understanding of the results by explaining relevant quality information to help users understand, interpret and use these important statistics.

However, for some other statistics, more could have been done to improve user understanding around uncertainty and revisions to enable appropriate use of the statistics. In Autumn 2023, ONS made larger-than-usual revisions as part of its annual Blue Book (UK National Accounts) revision cycle, which generated a range of criticism from users and the media. In November 2023, we published a [review of ONS's approach to revisions to GDP](#). We found that while ONS's approach to revisions was appropriate and well managed, it could have improved its communication, for example, by enhancing the analysis of uncertainty and revisions using both qualitative and quantitative approaches and better explaining revisions during economic turning points. We welcome [the quick action ONS took to improve its communication](#) following this review. In our rapid reviews of labour market statistics and gender identity statistics, we also recommended that ONS be clearer with users about its research and development work and provided additional supporting quality information.

A gender identity question was asked, on a voluntary basis, for the first time in the 2021 Census for England and Wales conducted by ONS. This question is also the Government Statistical Service's harmonised standard in development for collecting data on gender identity. Those whose gender identity differs from their sex represent a small proportion of the population. The concept may be unfamiliar to many people and there are few robust alternative sources of data to cross-check against. This creates challenges for data collection.

In April 2023, we [commenced a review](#) to look into concerns raised with us directly and publicly in the media. These concerns included how well the census question was understood and the effects of possible misinterpretations on the quality and usability of the gender identity data from the 2021 Census for England and Wales. In [our interim report](#), we found that ONS should have developed its quality information more fully, including clearly highlighting areas of uncertainty in this new collection, before releasing the data to support appropriate use. We have recommended that ONS carry out further testing of the question and work with NRS on any joint learning efforts across the different censuses. We are currently working on our final report on the gender identity census data in England and Wales, which we will publish later in the summer.

Intelligent transparency and misuse

We continue to see widespread use of official statistics to inform public debate and, in most cases, statistics are appropriately used. While we continue to [receive a significant amount of casework](#) (when someone raises a concern with us, or when we identify a concern ourselves, regarding the production and use of statistics), rarely do we find a blatant misuse of statistics. Quite often, the root cause of concern is a lack of broader context about the statistics that might lead to their misinterpretation.

A lack of transparency around data and statistics can result in confusion about where numbers have come from or lead to accusations of manipulating the data – both of which are relevant to supporting public confidence and maintaining trust in statistics and those producing them.

Our overarching ambition is that when data and statistics are used publicly to inform parliaments, the media and the public, they are always published with appropriate explanation of the context and sources. To support this aim, we publicly promote the importance of taking an open, clear and accessible approach to the release and use of data and statistics – we call this ‘intelligent transparency’.

Applying the principles of intelligent transparency across government supports public confidence and maintains trust in data and statistics and those producing them. When these principles are upheld, public conversations can focus on the important issues rather than the validity and transparency of the data. This also benefits those speaking on behalf of government by reducing the need for corrections in the media and in parliaments.

In September 2023, we published an update on our [intelligent transparency guidance](#). This provided questions that can be used to ensure transparency and new content on proportionate approaches to ad hoc releases. We also set out common [misuses](#) of statistics, particularly where misleading claims are repeated.

Heads of Profession have continued to play an increasingly important role in championing the [principles of intelligent transparency](#) across both their work and within government departments. Specifically, we have seen closer working with ministers, special advisors and policy and communication colleagues to ensure statistics are used in a way that is consistent with these principles and supports the public good. Producers have told us that the development of these principles has promoted the independence of statistics across government.

While there is now a greater understanding of the need for intelligent transparency among analysts, more work is needed to fully embed its underlying principles consistently across government, especially in relation to equality of access. We have been delivering teach-ins to analytical and communications teams within departments and are encouraged by their response and engagement. However, we are still seeing concerns raised with us via our casework process in relation to ministers and other government officials quoting unpublished figures in the public domain. This often occurs when figures are based on ad hoc management information, rather than official statistics. We aim to continue to share the principles of intelligent transparency with new audiences, including ministerial private offices and special advisors.

The UK 2024 General Election campaign period saw significant use of statistics to inform democratic debate and by the media. We [encouraged producers](#) and [leaders of political parties](#) to continue to present appropriate contextual information to limit the risk of misuse and to engage widely with those who might use the data to identify common pitfalls. Our [dedicated election section on our website](#) brought together our new and existing guidance to help users navigate statistical claims and support those working with statistics in upholding the Code of Practice for Statistics.

Producers are increasingly using online platforms, including social media and blogs, to publicly share their statistics. Social media can quickly amplify messages, which can be advantageous for reaching new audiences but also have a negative impact when

the messages amplified have the potential to mislead. The structure of the internet and social media means statistics can gain a life of their own, even when the producer takes all the right steps to prevent misuse. Social media flattens information to the same level of importance – for example, a post by a producer may appear in someone’s feed alongside a video of a cat and a post from a friend. When misuse is seen among a long list of information, it makes it easier for subtly misleading claims to slip through. We have seen an increase in casework where an abbreviated claim made on social media has changed the meaning of the underlying data and led to misinterpretation. We have brought together philosophers with an interest in the use of data in online communications to discuss these challenges and have used the insights from these discussions to shape how we respond to casework for best effect.

For many who see publications of analytical information by government, the distinction between official statistics and other data may not be clear. To support public accountability, [government should publish its analytical evidence](#) wherever possible, and every time analysis is used or quoted publicly. This includes when management information (information that is used in the normal course of business to inform operational delivery or policy and management decisions but is not subject to the same quality assurance as official statistics) is quoted publicly.

Publishing more of the analytical evidence that government produces in a transparent and accessible way supports accountability, evaluation and improved outcomes. It builds public confidence in an organisation’s commitment to evidence-based decision-making and the appropriate use of data more generally. A good example of this approach is the [Welsh Government’s published data on homeless people and rough sleepers](#), which provide valuable insights to users and decision-makers about some of the most vulnerable people in society.

We never want to inhibit public debate or discourage the use of analytical information, and we recognise that ministers and other officials get up-to-date management information about fast-moving situations. But the use of this information in public statements should be by exception rather than a regular occurrence. When data are used in this way, we expect the principles of intelligent transparency to be met, namely that the data are accessible to all and enhance public understanding, and that analytical expertise is sought for their use in public to ensure adherence to the Code.

We intervene when we see these principles are not upheld; recently, [we asked the Welsh Government to improve the transparency of its journey time estimate in relation to the 20-mph speed limit roll out](#). When we step in, departments generally respond positively, and the analysts work with policy and communications colleagues to make the evidence available. Indeed, the Welsh Government responded quickly to our recommendation and [issued further explanation](#) for users on the evidence to support this claim.

During the 2024 election, we stepped in to promote and safeguard the use of statistics in public debate. We do not act to inhibit or police debate. However, we were willing to publicly highlight cases where campaigning parties made statements that draw on statistics and data that are not published or presented in a misleading way. This included on claims made by different political parties about opposition party spending plans.

[In a statement on 6 June 2024](#), responding to concerns raised with us on a claim made in the ITV election debate on 4 June 2024 by the Conservative party regarding

Labour party tax rises, we stated that *“when distilling claims into a single number, the context should be sufficient to allow the average person to understand what this number means and how significant it is”*.

In a letter on 24 June [responding to concerns raised with us about the Labour Party’s analysis of Conservative Party commitments](#), we stated the following. *“Future costings are always subject to uncertainty and dependent on choice of methodology. To help people understand the assumptions that have gone into costing models, it is essential that the underlying calculations, data sources and context are provided alongside the figures. When distilling these claims into a single number, there should be enough context to allow the average person to understand what it means and how significant it is. Omitting this information can damage trust in the data and the claims that these data inform.”*

As the statistics regulator our role in such claims is to determine whether they are sufficiently transparent for people to come to their own view, rather than to comment on whether the calculations themselves are reasonable.

Our recommendations

We want to see more sharing of best practice on the communication of quality and uncertainty. More widespread use of existing good practice would be beneficial to both producers and users of statistics.

We want intelligent transparency to be the default approach to releasing and using data and statistics across government. This year, we will focus on raising the profile of intelligent transparency with non-analyst senior leaders, operational departments and communication teams to ensure intelligent transparency is a government default. This vision is shared by the Public Administration and Constitutional Affairs Committee, who, in its May 2024 report, Transforming the UK’s Evidence Base, *“recommend that government communications professionals are trained on the OSR’s Intelligent Transparency guidance, and that the Government Functional Standard for Communication be updated to make it clear that officials are expected to comply with that guidance”*.