Office for Statistics Regulation

The State of the UK's Statistical System: 2020-21

July 2021

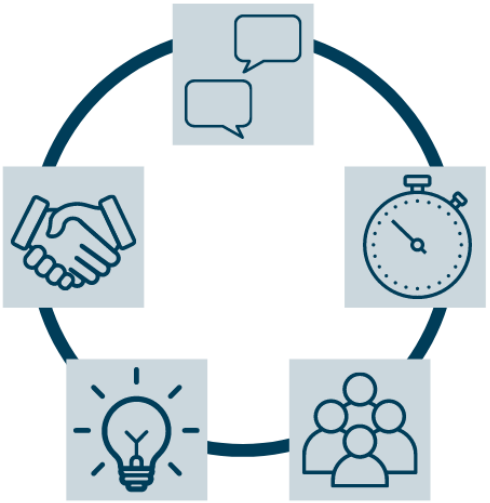
Contents

1. Executive Summary

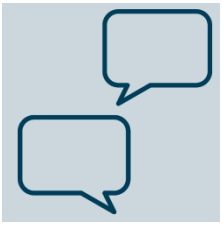
In this review we focus on the current state of the UK's statistical system.

Over the past year, the COVID-19 pandemic has tested all aspects of our society and our lives within it, and the statistical system has been no exception.

Our review focuses on the five thematic areas which we have found to be central to the statistical system's response. Areas where we would like to see the positive momentum of the past year harnessed and improvements made to ensure that statistics and data serve the public good now and in the future.



Building on the momentum of the past year: five thematic areas



Responsive and proactive

Statistical producers (producers) across the UK governments have been responsive and proactive in producing data and statistics to support policy and to provide wider information to the public which really adds value. The UK statistical system should:

- Continue to be responsive and proactive in its delivery of statistics.
- Horizon-scan to identify existing and future data gaps and consider how these gaps should be addressed.
- Consider how best to use better infrastructure, processes and systems to improve the efficiency and sustainability of its processes.

Timely

Producers have responded impressively to the need for very timely data to ensure that decisions around responses to the pandemic are based on the most up-to-date evidence. The UK statistical system should:

- Continue to identify ways to be timely in its delivery of data and statistics, balancing the need for timeliness with accuracy and reliability, coherence and comparability.

- Consider users' needs when deciding how best to address this balance and be clear with users about the limitations of specific approaches.

Collaborative

Collaboration and data sharing and linkage have been a key strength of both the UK statistical system and the wider analytical community over the past year. This more joined-up approach has improved our understanding of the impact of the pandemic both on public health and on wider areas such as employment and the economy. The UK statistical system should:

- Build on the progress made in the past year and be more collaborative.
- Share and link data in a secure way to really add value and deliver the public good. With data sharing and data linkage becoming the norm.

Clear and insightful

We have seen some good examples of clearly presented and insightful statistics which serve the public good. The UK statistical system should:

- Continue to improve its communication and presentation of statistics and data, with a focus on adding insight.
- Support statisticians to have greater freedom to engage openly about data and statistics and their limitations, both within and outside government.

Transparent and trustworthy

For statistics to serve the public good they must be trustworthy, and this includes statistics being used and published in an open and transparent way. We have seen efforts to put information in the public domain and producers voluntarily applying the Code of Practice for Statistics ('the Code') to their outputs. However, inevitably the increased volume of and demand for data has placed a greater burden on producers and led to selected figures being quoted publicly when the underlying data are not in the public domain. The UK statistical system should:

- Make transparency the default across all statistics and data.
- Promote voluntary application of the Code pillars for sources of analysis and data that are not official statistics to ensure that the pillars of Trustworthiness, Quality and Value are embedded across all statistics and data.

2. Introduction

In this report we set out the Office for Statistics Regulation's (OSR's) view on the current state of government statistics, with the future of the statistical system in mind. We highlight examples of statistical producers (producers) doing things well which we would like to see continue in the future, and the improvements we would like to see to ensure statistics and data better serve society's needs.

Statistics and data produced by public bodies play a crucial role in answering people's questions: providing accountability, helping people make choices and informing policy. Many of the key questions of the past year have been driven by the COVID-19 pandemic, such as how many cases of COVID-19 have there been in my local area? How many people have been vaccinated? Statistics and data have helped to answer these questions, in turn helping people to make choices, such as where and when to go on holiday, and inform government policy, such as whether to relax lockdown restrictions. Statistics and data also continue to inform wider individual, local and government level decision-making, including what school to send your child to, where and when to buy a house, local planning decisions around education and housing and understanding how the labour market and economy are performing.

We also reflect on progress on the areas raised in last year's report (see Annex A).

To most, the distinction between "official statistics" and other statistics and data published by government is arbitrary. Therefore, when we consider the UK statistical system, we think of it in the wider sense of all data and statistics produced by public bodies which publish "official statistics". In response to the increased appetite for data and statistics to inform decisions around the pandemic we have increasingly commented on wider statistics and data produced by public sector bodies.

We have drawn from across our regulatory activity during the financial year April 2020 to March 2021 to inform our thinking and reflect on the performance of the UK's statistical system. This includes assessments, casework, compliance checks and systemic reviews. We have also held meetings with Heads of Profession for Statistics across government, the National Statistician, statistical leaders in the devolved administrations and external statistical commentators.

The audience for this report is primarily the UK statistical system. But over the past year we have increasingly observed the relevance of our trustworthiness, quality and value approach to statistics regulation to wider data and evidence. We therefore also believe that there are lessons to share with the wider analytical professionals across government. External statistical commentators may also be interested in the findings contained within this report and in our vision for how this report's findings can help improve the future statistical system.

2.1 Who we are

The OSR is the UK Statistics Authority's independent regulatory function, established by the Statistics and Registration Service Act (2007).

With offices in England, Scotland and Wales, we provide independent regulation of all official statistics produced in the UK, and aim to enhance public confidence in the trustworthiness, quality and value of statistics produced by government.

We do this by setting the standards official statistics must meet in the Code of Practice for Statistics. We ensure that producers of official statistics uphold these standards by conducting assessments against the Code. Those which we assess as meeting the standards are given National Statistics status, indicating that they meet the highest standards of trustworthiness, quality and value. We also report publicly on system-wide issues and on the way that statistics are being used, celebrating when the standards are upheld and challenging publicly when they are not.

2.2 Our vision

Our vision is simple: statistics should serve the public good.

What do we mean by serving the public good? Statistics published by public sector bodies should be produced in a trustworthy way, be of high quality, and provide value by answering people's questions. Statistics are part of the lifeblood of democratic debate. This means statistics should meet the needs of a much wider range of users than Ministers and Parliaments. The public should also have access to information that is trustworthy, high quality and valuable in that it answers the questions they have. This has never been as important as it has been during the COVID-19 pandemic when the public has had an increased appetite for facts and insight.

Our 5-year strategic business plan sets out what we are trying to achieve and the kind of regulator we want to be. It is complemented by our business plan, which explains our specific aims for 2021/22, which will guide our priorities and judgements through the year, and explains in detail how we work as an organisation to achieve our aims.

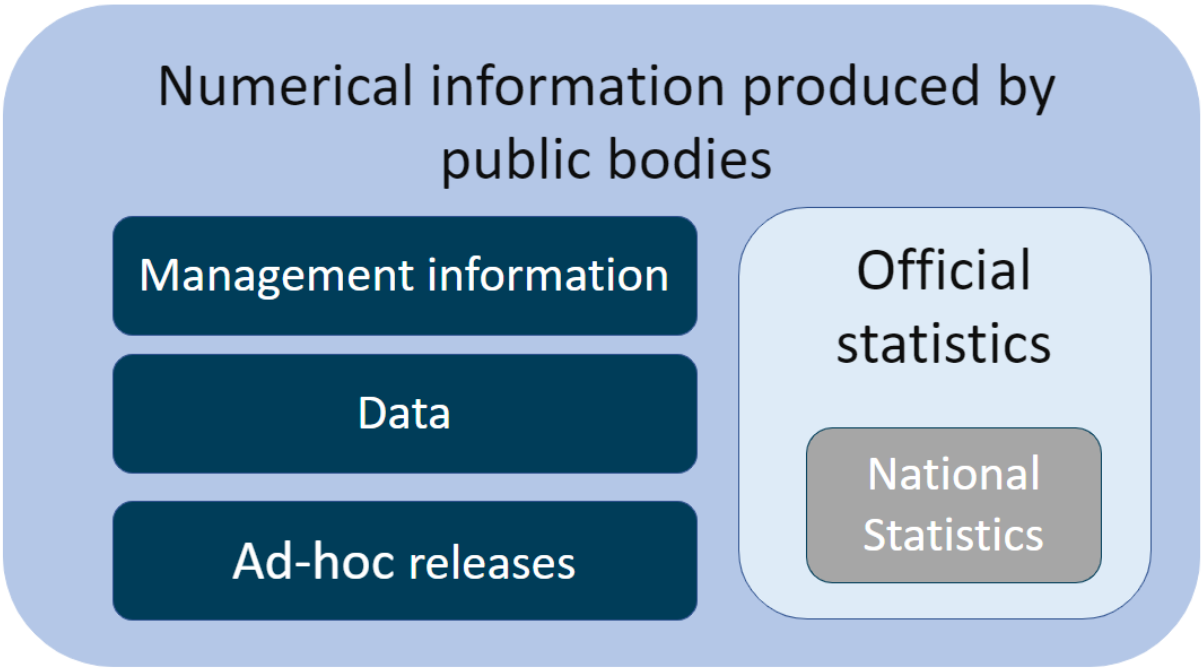
3. The UK statistical system

The UK statistical system comprises different types of statistics and data covering all aspects of society from births to deaths, from tax to income and from farming to shipping data.

Official statistics are produced by a wide range of public sector bodies, including government departments, the devolved administrations, arm's length bodies and the Office for National Statistics (ONS). When statistics produced by these public bodies are assessed by OSR as meeting the standards set out in the Code they are designated as National Statistics. A database of National Statistics, which we update regularly, is available on our website.

As shown in figure 1 below, there are a range of data and statistics produced and published by public bodies. This includes official statistics (of which National Statistics are a sub-set), aggregated numerical information (typically drawn from government's administrative systems) published as "management information", data and other ad-hoc statistical and data releases.

Figure 1: The range of data and statistics produced by public bodies



The boundary between official statistics and other types of data and numerical information produced by public bodies is largely arbitrary to most members of the public. In line with our ambition to build public trust in evidence we have increasingly commented on the full range of numerical information used publicly by public bodies.

3.1 Pressures on the system in 2020/21

The past year has presented society with many challenges. The pandemic has forced many people to change how and where they work. Those working in the statistical system have faced these challenges too. Like others, they have had to balance the needs of childcare and home schooling with work, and to manage the separation from

loved ones that lockdown brought. This has often been done while facing increased demands.

The statistical system has had greater demands placed on it to provide the up-to-date data and statistics needed to inform decisions around the pandemic. We have seen the volumes of casework increase by a couple of hundred in the past year (from 109 in 2019/20 to 323 in 2020/21), perhaps providing some evidence of the increasing interest in and demands placed on the statistical system. Alongside this there has also been a need to continue with business-as-usual data and statistics. For example, data and statistics to understand the impact of the UK exiting the EU has also put pressure on the system at specific points.

4. State of the statistical system

Here we set out our view on the current state of government statistics, with the future of the statistical system in mind. We highlight examples of producers doing things well which we would like to see continue in the future, and the improvements we would like to see to ensure statistics and data better serve society's needs. We have organised our reflections under the following five key themes:

- Responsive and proactive
- Timely
- Collaborative
- Clear and insightful
- Transparent and trustworthy

4.1 Responsive and proactive

For statistics to serve the public good, they should support society's needs for information.

Since the start of the pandemic, producers across the UK have been responsive, and proactive in producing data and statistics to support policy and to provide wider information to the public. New data collections have been established at pace, existing collections have been amended, added to or paused to focus on higher priorities, and data sources have been linked together in new ways to provide additional insight. These have covered both topics related directly to the virus itself, as well as those looking at the wider impacts of the pandemic.

Many outputs have been developed to provide new insights to help understand the pandemic and its implications. One high profile example is the coronavirus (COVID-19) infection survey, carried out by the ONS in conjunction with partners.

Case Study 1: Coronavirus (COVID-19) Infection Survey

The ONS launched the Coronavirus (COVID-19) Infection Survey in swift response to the pandemic, just weeks after the first UK lockdown in March 2020. Over the following months, ONS increased the study from a survey of around 28,000 people in England, to over 150,000 people from across the UK by October 2020. It is the largest and only representative survey of COVID-19 infections in the community and follows up participants for up to 16 months. The survey provides high-quality estimates of the percentage of people testing positive for coronavirus and antibodies against coronavirus. As such, these statistics provide vital insights into the pandemic for a wide range of users, including government decision-makers, scientists, the media and the public that are essential for understanding the spread of the virus, including the new variants.

Of particular note was the speed at which resources were reprioritised within ONS to allow staff to work on the survey, and the strong working relationships established between ONS analysts, the analytical teams across the devolved nations, the survey contractor IQVIA, and the academic partners at the Universities of Oxford and Manchester. ONS both responded to user needs (e.g. through responding to user requests) and proactively anticipated what would be of interest in the future and should be included in the survey (e.g. cases of long covid or statistics on antibodies and vaccinations).

Other examples of new data sources that have been established quickly in response to the pandemic include statistics on the Coronavirus Job Retention Scheme and the Self-Employment Income Support Scheme, both published by HM Revenue and Customs (HMRC).

We have also seen examples of producers amending existing data sources and using them in innovative ways. One such example is the Department for Transport's (DfT) statistics on Transport use during the coronavirus (COVID-19) pandemic.

Case study 2: Transport use during the coronavirus (COVID-19) pandemic

During the early weeks of the Covid-19 pandemic, the Department for Transport rapidly developed statistics about Transport use during the coronavirus (COVID-19) pandemic. The Department brought together and adapted a wide range of existing National Statistics data sources and operational data to produce near-to real-time statistics, including identifying a new data source for statistics on bus use outside of London, and developing much more timely data on car use.

The statistics were regularly used by No10 press conferences (example in slide 2) to show the change in transport trends across Great Britain and gave an indication of compliance with social distancing rules.

The Department was proactive in producing timely data to meet user needs. It initially produced daily data to meet regular requests for data, moving to weekly data when daily data were no longer required. Ahead of schools returning in September it returned to providing daily data, in anticipation of heightened interest and increased travel.

There have also been many examples of smarter working to enable the production of new data and continuation of existing data given the constraints that have existed. This has included the use of new methods of data collection to replace key face-to-face surveys that have had to pause. Perhaps the most notable example of adapting to allow work to continue is that of the Census in England, Wales and Northern Ireland, which still went ahead this year despite the pressures and constraints of the pandemic.

Within the OSR, we have also been responsive to the needs of the statistical system during the pandemic and have granted exemptions to the release times of outputs. It is really important that there is equality of access to statistics and that some do not get to see statistics before others. Consequently, we expect all producers of statistics to release their statistics at the same time (09:30) on the day that they say the statistics are ready for release. However, due to Covid-19 we granted exemptions to the release times of some outputs – for example, to allow some COVID-19 related statistics to be released as soon as prepared and quality assured, with release times of noon and 2pm. This enables them to feed more promptly into decision-making in a transparent way.

As we emerge from the pandemic it will be important to consider how to sustain this responsive approach while at the same time being mindful of the additional strain this has inevitably placed on many individuals. Departments have acknowledged that much of the additional work has taken place without any corresponding increase in resources. In some areas we have heard of staff working long hours including weekends, and being unable to take leave. This is unsustainable in the long run. Although the demand for additional data is likely to slow down or even stop in some areas, it will be important to reflect on what steps can be taken to maintain responsive and proactive approach going forwards.

Another key question is around the gaps in data as a result of different limitations and data needs during the pandemic. For example, while the Census will offer rich insight into the populations of England, Wales and Northern Ireland in March 2021, it will be hard to disentangle which aspects relate to the pandemic and which relate to more long-term changes to society. As an example of this, the Census question on travel to work asks those working at the time to answer reflecting current circumstances. Those on Furlough were asked to answer based on how they used to travel to their main place of work.

In some areas it will be difficult to tease out separately the impacts that changes to methods versus changes to behaviour have on estimates. For example, the International Passenger Survey (IPS) was suspended between March and December 2020 due to the pandemic. No IPS data were collected for the period when the survey was not operational, and estimates were instead based on administrative sources and modelling. At the same time, international travel itself was clearly very limited. ONS is very clear in its Overseas travel and tourism: 2020 release that the results are indicative and should be interpreted with caution.

Looking to the future

The UK statistical system should maintain the responsive and proactive approach we have seen, and look to do this in a sustainable way. Improvements to data infrastructure, processes, and systems could help to maintain this responsiveness and agility in a sustainable way. It is now important to question what elements of the new

approaches should remain, which should change, and how data infrastructures can be set up to support a more agile approach.

For example, when and how best should data collection return to face to face household surveys? Should legacy surveys like the Annual Business Survey continue or should there be a move to new platforms or administrative data? How can the new data sources that have now come on stream be exploited even more? Is there a case for synthetic data to enhance existing data to help phase out large and expensive surveys? Can new survey platforms be used to answer short-term questions to help manage the impacts of the pandemic? Does the 9.30am release time stated in the Code meets today's needs?

In OSR we have been looking at how to make improvements more sustainable - for example, championing the use of the Reproducible Analytical Pipeline (RAP) as a means of achieving more efficient and sustainable processes. We consider that RAP principles support all three principles of the Code of Practice for Statistics. We recently published our report detailing the findings of our RAP review. This report details our recommendations to enhance the trustworthiness, quality and value of official statistics through increased use of RAP principles, and to see RAP become the default approach to statistics. We are also carrying out a review into the 9.30 release time to ensure that the approach maintains confidence in the integrity of the official statistics and in their independence, while best serving the public good.

The UK statistical system should develop its capability to horizon-scan to identify existing and future data gaps and consider how these gaps should be addressed. For example, what data and statistics are needed related to the Government's Build Back Better plan and Levelling Up agenda? What data gaps now exist because of changes to data collection through the pandemic and how best to respond to these gaps? This will help to both fully understand the consequences of the pandemic and to answer society's future key questions.

4.2 Timely

People want to make timely decisions and need data and statistics to inform their decision-making. However, analysts must balance the need for more timely data against the need for accurate, coherent and comparable data.

The need for as close to real-time as possible data has been a hallmark of the past year. The pandemic has led to a demand for very timely data to ensure any decisions, for example about lockdown restrictions or relaxations, are based on the most up-to-date evidence. The response of the statistical system has been impressive. New data sets have been brought online to meet this need and existing data sets have been used and shared in new ways to enable this to happen. Examples include the Transport use during the pandemic statistics mentioned previously (case study 2), the Department for Education's data on attendance in education and early years settings during the coronavirus (COVID-19) outbreak, and the experimental data provided in Economic activity and social change in the UK, real-time indicators.

Case Study 3: Economic activity and social change in the UK, real-time indicators

The ONS published the first of its weekly Economic activity and social change in the UK, real-time indicators (previously called Coronavirus and the latest indicators for the UK economy and society) publications in April 2020, one month after the UK first went into lockdown and has continued to do so ever since. The publication contains a series of economic and social indicators (for example, card spend, road traffic and footfall), which come from a variety of different data sources. These assist policymakers with understanding the impact of the pandemic and gauging the level of overall economic activity.

As outlined to users, the statistics are considered as experimental indicators in line with OSR's COVID-19 guidance for statistical producers. These new indicators reflect the trade-off between their prompt availability versus the corresponding impact on accuracy, a balance that users told us they appreciated to ensure they had readily available information for decision-making.

However, timely data can be associated with more uncertainty and less accuracy and can potentially be misleading. The need for more timely data must therefore be balanced against the need for accurate, coherent and comparable data timeliness, and in the context of user need. For example, if the link between COVID-19 infections, hospitalisations and deaths stabilises, we may only need to understand the infections data on a near real-time basis and get a strong indication of the other rates from this. And, as with all data and statistics, communicating any uncertainty and the limitations of data is crucial. In our Rapid Review of Coronavirus, the UK economy and society, faster indicators we noted the value added to decision-makers and society of these more timely economic statistics, particularly in the context of the pandemic. We also noted the importance of the methodological information to help explain any potential bias, strengths and limitations which arise from the use of these more timely and innovative data sets. There is value in early indicators which are more timely, but understanding their limitations and the value of a final, high quality statistical time series is important too.

Looking to the future

The UK statistical system should maintain this innovative and impressive approach to more timely data and statistics. These new, more timely statistics should continue to be improved upon and developed to improve their trustworthiness, quality and value. Over the coming year, we will also be carrying out an Insight project on how producers describe uncertainty in the statistics they publish. The statistical system is never standing still, and it will need to continue to evolve as it has over the past year.

4.3 Collaborative

Data sharing and data linking serves the public good by providing greater insight and helping to tell richer stories. One of the OSR's ambitions is that in 2025, the statistical system will be based around linked data sets. Sharing and linked datasets, and using them for research and evaluation, will no longer be the exception. It will be the norm.

Over the past year, collaboration and data sharing across the statistical and wider analytical system has been a great strength. Collaboration involves working jointly and

is one of the cross-cutting themes of the Code of Practice. The pandemic has highlighted the need to work together to really serve the public good – for example, the need for health data producers to share data to understand the impact of the pandemic on public health and the operations of the NHS. In the wider statistical system, sharing data has helped the public and decision-makers understand the real-time impact of the pandemic on areas such as employment and the economy.

Case Study 4: Earnings and employment from Pay As You Earn Real Time Information

During the pandemic, ONS and HMRC accelerated their plans to develop Pay as You Earn (PAYE) Real Time Information (RTI) estimates of employment and earnings. The Earnings and employment from PAYE RTI is now a joint monthly experimental release that draws from HMRC's PAYE RTI system which covers all payrolled employees and therefore allows for more detailed estimates of employees than a sample based approach, as well as information on pay, sector, age and geographic location.

Rather than waiting until the development work has been completed, the statistics are being published now to involve potential users in their development. An RTI Labour Market Statistics Steering Group was set up to provide feedback and input into the continuing development of the statistics. This group includes a range of internal and external users.

At the start of the pandemic all face to face interviewing for the Labour Force Survey (LFS) was suspended, switching to telephone only interviewing. Over time it became clear that these changes had introduced a change to the non-response bias to the survey. The PAYE RTI estimates became an important source of information for understanding the impact of the pandemic on the labour market across the UK.

The proactive collaboration and data sharing between ONS and HMRC has continued beyond the initial publication of these statistics. In March 2021, following a decrease in foreign-born workers appearing in the LFS data, ONS published analysis using the HMRC PAYE RTI data, to investigate the validity of changes in the LFS data. It found much smaller changes in the number of non-UK nationals in the RTI data compared with LFS data. In July 2021, the LFS will be reweighted making use of information from the payroll tax system to provide population weights.

Collaboration, data sharing and data linkage across these shared datasets can really provide insight. For example, during the pandemic linking data from the census with mortality data helped to improve public understanding of the differential impacts of COVID-19 on various population groups (see case study 5). By increasing data sharing and data linkage, the ONS has set a good precedent for other producers and for future work to consider what work can be done to provide greater insight for statistics users.

Case study 5: COVID-19 related deaths by ethnic group for England and Wales

The Office for National Statistics (ONS) published COVID-19 related deaths by ethnic group for England and Wales in May 2020. By linking 2011 Census data to mortality records on deaths registrations, ONS was able to analyse deaths by self-reported ethnicity and take account of demographic, social and geographic characteristics also associated with the risk of infection and death, thus providing greater insight into the impacts of the pandemic on different ethnic groups.

In October 2020 extended its analyses to include measures of comorbidity retrieved from hospital measures during the past three years. For this updated publication ONS used a unique dataset that linked Census 2011 records, death registrations in England and Wales, and Hospital Episode Statistics (HES). It built on knowledge gained from previous research to investigate the possibility that the distribution of certain pre-existing health conditions across ethnic groups might account for the disparities in COVID-19 mortality between ethnic groups that were originally observed, even after adjusting for geographic, demographic and socioeconomic factors.

In an additional update in May 2021, ONS compared deaths in different ethnic groups between the first and second waves of the pandemic. By linking 2011 Census data to the General Practice Extraction Service Data for Pandemic Planning and Research, ONS was able to assess the extent to which the increased risk of COVID-19 mortality in some ethnic groups is explained by differences in the prevalence of certain pre-existing health conditions, which are known to increase the risk of dying from COVID-19.

However, this improved collaboration and data sharing has not been without its challenges. For example, public health, social care and hospital administrative systems are often not connected to one another, which makes it time-consuming to collate the data and can result in duplication of work or data gaps. The urgency of a pandemic has shown what is possible but overcoming these barriers may be more challenging in future without this shared sense of purpose. We will be publishing a report on the lessons learnt from the pandemic for health and social care statistics which will cover these issues in more detail.

Looking to the future

Updating the IT infrastructure and data governance to make it possible to share information in an even more efficient way will be important. In our report Unlocking the value of data through onward sharing we provide guidance for statistical producers on how to share data and provide access to data in line with the Code of Practice. Our report gives specific examples of how other producers have approached data sharing and provides links to networks to help with this. In the coming year we will be reviewing the impact of data linkage on the statistical system to understand progress since our report in 2019.

Ultimately, we believe that sharing and linking data and research in a secure and ethical way can really add value and deliver public good and that the future statistical system should build on the momentum of the last year. The past year is a great example of what can be achieved and why data sharing and linkage is so important.

The UK statistical system must also seek to collaborate beyond statistical and analytical boundaries, working with digital and data colleagues, to maximise the value of analytical datasets.

4.4 Clear and insightful

Statistics and data should be presented clearly, explained meaningfully and provide authoritative insights that serve the public good.

The profile of statistics and data has arguably never been higher. Discussions in the family virtual call or in the queue for the now-open coffee shop often cover the local COVID-19 case numbers. The now weekly No. 10 coronavirus press briefings present data and statistics on the COVID-19 pandemic in England and the UK (where available). There are also similar briefings for the devolved administrations.

One example where the UK statistical system has responded positively to this demand and interest is through the coronavirus (COVID-19) UK dashboard, developed and maintained by Public Health England. This dashboard enables all types of users to access data and statistics to help compare trends across the UK or enable individual members of the public to understand the situation in their local area.

Case Study 6: The coronavirus (COVID-19) UK dashboard

The coronavirus (COVID-19) UK dashboard is the official UK government website for epidemiological data and insights on coronavirus (COVID-19). The dashboard was developed at the start of the pandemic to bring together information on the virus into one place to make it more accessible. Initially it presented information for the UK as a whole and for the four UK countries individually. Over time it has developed so that data are now available at local levels.

The dashboard is one of strongest examples of open data and statistics being used by a huge number of individuals from a wide range of backgrounds – it is designed for the public but is used by leaders across government and the healthcare sector alike. To this end it aims to present information in a clear and coherent manner so that it can be understood by the broadest range of users possible. It is constantly evolving to continue to better meet users' needs and the team carry out in depth user research and surveys to improve and develop the dashboard.

As the dashboard has developed, so has the metadata to accompany it and it is now very comprehensive. Public Health England has also produced a simple summary for the UK which presents the main information in a concise manner. The dashboard now presents a great breadth of information from several sources across all four administrations of the UK. The dashboard application programming interface (API) is widely used and an exemplar for the provision of open data across government.

We have also seen other examples of the statistical system proactively responding to address user needs for both new data and enhanced insight during the pandemic. For example, as mentioned earlier, HMRC analysts have actively sought to answer society's key questions about economic changes in a timely way through the preparation, production, and publication of new statistics on its Coronavirus Job Retention Scheme (CJRS) and its Self-Employment Income Support Scheme (SEISS).

And the ONS has adapted its Opinion and Lifestyles Survey (OPN) to provide new insights on the social aspects of the pandemic, through its Coronavirus and the Social Impacts on Great Britain publication.

Case Study 7: Social insights from the Opinions and Lifestyles Survey

The ONS has adapted its Opinion and Lifestyles Survey (OPN) to provide new insights on the social aspects of the pandemic, through its Coronavirus and the Social Impacts on Great Britain publications. The OPN previously operated as a monthly telephone and online survey of British households, providing timely and relevant insights to its users. During the pandemic, it became an important source of information for understanding the social impact of the pandemic.

From 20 March 2020, some of the OPN's survey questions were changed to reflect changing circumstances and priorities. Since then, estimates measuring the impact of the pandemic on people, households and communities in Great Britain have been published on a regular basis.

With a user group of a wide range of government departments, academics and charities providing input into the questions asked, the survey has been used to rapidly and flexibly provide information on areas of user interest, such as people's:

- compliance with government measures to stop the spread of COVID-19
- experiences of home-schooling and working from home
- well-being and attitudes towards vaccination as the pandemic has progressed.

We have also seen the increasing use of blogs to explain to users how the pandemic has affected data collection, changes to methodologies and help provide an overview of the information available about the pandemic. For example, ONS blogged about the impact of the pandemic on the Labour Force Survey and measuring the labour market. The Scottish Government has blogged about analysis and data around COVID-19 available for Scotland.

With the increasing interest in data and statistics we have also seen the increasing profile of statisticians. The National Statistician has regularly appeared on news programmes, for example on the Andrew Marr show in June 2020. Experts, including analysts, have been given authority to provide transparent and independent insights to increase public confidence in official evidence. Statisticians from ONS have directly communicated their statistics and responded to questions about them through a variety of media channels. One journalist we spoke with commented positively on Twitter engagement by ONS statisticians over the past year and how it made it easier to check things to ensure the journalist referred to the statistics accurately.

While direct contact with the media is an approach that should be more widely supported by government organisations, statisticians have also found other ways to support wider communication, for example through blogs, speaking at conferences, and making use of social media.

Case Study 8: Northern Ireland Statistics and Research Agency (NISRA) COVID-19 press briefings

NISRA statisticians introduced press briefings to explain their statistics on weekly deaths due to COVID-19.

The NISRA Vital Statistics Unit identified the need to work across teams to ensure their messaging was reaching the press. The statistics team embedded two members of the Press Office within the statistical production team for the weekly death statistics. In collaboration with the Press Office, a statistical press notice was developed alongside the statistics. The Press Office organised a closed, virtual, media briefing which gave NISRA statisticians a vital opportunity to talk through the statistics and associated definitions in a controlled environment. The first briefing was attended by around 35 members of the media.

These were very successful events and had a notable impact on improving the media's understanding and subsequent accuracy in reporting. It has also enabled a closer working relationship to develop between NISRA statisticians and journalists and for members of the press to understand and appreciate the complexities of the statistical production process. Due to the success of these events the approach has been embedded by the Vital Statistics Unit as a more 'business as usual' part of the statistical dissemination process, with the most recent event in with the most recent event in December 2020 covering the release of the Covid-19 related deaths and pre-existing conditions in Northern Ireland report.

Case Study 9: Welsh Government Chief Statistician's blog

The Welsh Government Chief Statistician's blog is a regular platform for the Chief Statistician for Wales to speak out on statistical matters. The Chief Statistician uses the channel to champion the work of Welsh statisticians, provide clarity on planned developments, and provide guidance on the correct interpretation of a range of statistics about Wales. This open communication approach keeps users and the wider public informed on the latest statistical developments.

However, while progress has been made, data and statistics are not always presented in enough granularity to truly aid analysis and understanding of a societal issue. For example, it took longer than it should have for vaccine data to include ethnicity breakdown, and some age breakdowns. Additionally, as we noted in our Review of statistical leadership, government departments may benefit from supporting statisticians and other analysts to more routinely engage directly with the media, for example through speaking directly to journalists or through press briefings for key statistics. This would promote better understanding among journalists which in turn would lead to better reporting and enhance public confidence in the statistics and decisions which draw on these.

Looking to the future

The UK statistical system should continue to improve its communication and presentation of statistics and data, adding real insight. It has been positive to see an increased profile of statisticians in the media and more direct engagement with the media and we would like to see this supported in the future. Statisticians and analysts

across government should have greater freedom to engage openly about data and statistics and their limitations, both within and outside government. There have been good examples of adding insight and we would like to see this good practice shared widely. Over the next year, we will reiterate our expectations of producers to provide more granular data, including data broken down by key characteristics and geographies. It is important that statistics reflect society and that people can see themselves in the statistics available.

4.5 Transparent and trustworthy

For statistics to serve the public good they must be trustworthy. This includes statistics being used and published in an open and transparent way.

Governments have worked with increased volumes of data, and more widespread and fast paced sharing of management information. There has also been increased scrutiny and a greater thirst for timely information from the media and the public.

Producers across all four nations have shown a clear commitment to transparency through their efforts to put information in the public domain. In addition to experimental and official statistics, they have also published the most up-to-date operational and management information, and have often voluntarily applied the Code of Practice for Statistics to these outputs. We welcome the voluntary application of the Code to such management information and would generally encourage producers to look to designate this data as official statistics. We recognise that voluntary application can in some cases be a phase on the way to data and statistics becoming official statistics.

Perhaps the most high-profile example of voluntary application is the development of the COVID-19 UK dashboard (see case study 6 above). The information contained within this dashboard is drawn predominantly from the most up-to-date operational and management information, which have been published in line with the principles of the Code. Another example is the NHS Test and Trace release for England, published by the Department for Health and Social Care (DHSC).

Case Study 10: NHS test and trace statistics

The Department of Health and Social Care (DHSC) publishes weekly statistics about the coronavirus (COVID-19) NHS test and trace programme in England. DHSC has also published a description about how the pillars of the Code have been applied in a proportionate way and there is great value and reassurance in having a clear statement of DHSC's commitment to meeting Code standards.

As an example of its commitment to voluntary application of the Code standards, DHSC has published a detailed methodology document. In it, DHSC notes that users should apply caution in their interpretation because the system and understanding of the data is still developing.

The pace of development of the programme and associated management information has been unprecedented. It is clear that providing these timely statistics is the result of a huge amount of work by individuals across a range of teams and organisations. In a letter following OSR's rapid review of the statistics, we welcomed the publication of these important data in an orderly release and DHSC's clear desire to constantly make improvements to the information available.

Producers have also engaged pro-actively and positively with OSR, and have been open to both formal and informal advice and guidance. They have been open with us about challenges to publication and have sought our help to overcome them.

However, inevitably the increased volume of and demand for data has placed a greater burden on producers and led to selected figures being quoted publicly where the underlying data are not in the public domain. We have intervened publicly and privately to support transparency on a number of occasions, typically highlighting the importance of figures quoted publicly in parliament or to the media being supported by a clear and accessible publication which outlines caveats and any quality concerns. Where this is not the case there is potential to confuse the public and undermine confidence in the statistics.

In May 2020, we published a statement outlining our expectation around equality of access. In November 2020 we published a statement and blog outlining the vital role of transparency during the pandemic and what governments should do to ensure this transparency. We have also made a number of other public and private interventions on a range of topics from Universal Credit to COVID-19 local area data. Other examples of our interventions can be seen on our COVID-19 webpage.

Looking to the future

Our expectations in relation to transparency and trustworthiness have been set out in a number of our published documents, including the Code of Practice for Statistics, our report on Ensuring statistical models command public confidence and our Review of statistical leadership.

We have seen efforts to put information in the public domain and producers voluntarily applying the Code of Practice for Statistics to their outputs. However, inevitably the increased volume of and demand for data has placed a greater burden on producers and led to selected figures being quoted publicly when the underlying data are not in the public domain.

To ensure that statistics and data serve the public good, we will continue to champion the need for transparency in statistics and data to improve their trustworthiness, quality and value. We have published a statement setting out our expectations for how the statistical system ensures transparency and the role of Heads of Profession for Statistics. We will continue to intervene as necessary and in a proportionate way, in line with our interventions policy, to help overcome barriers to publishing information. We will continue to advocate and promote the voluntary application of the Code pillars for sources of analysis and data that are not official statistics.

5. Conclusion

Looking to the future, we believe that the people and organisations within the UK statistical system should harness the momentum of the last year. The UK statistical system should seek to become more:

- Responsive and proactive in its delivery of statistics, horizon-scanning to identify and fill future and/or existing data gaps. It should consider how best to use better infrastructure and RAP to improve the efficiency and sustainability of its processes.
- Timely in its delivery of data and statistics, balancing the need for timeliness with accuracy and reliability, coherence and comparability, considering user need.
- Collaborative, with data sharing and data linkage the norm and with data sharing and data linkage taking place in a secure and ethical way to really add value and deliver the public good.
- Clear and insightful in its communication and presentation of statistics and data, with statisticians and analysts directly involved in the communication of statistics and data to the public.
- Transparent and trustworthy in its communication of data and statistics. Transparency is the default, with the pillars of Trustworthiness, Quality and Value embedded across all statistics and data.

We hope that the examples set out in this report will help to provide positive case studies and drive improvement across the UK statistical system to help with this.

Later this year, we will be publishing more detailed lessons learnt from the pandemic for Health and Social Care statistics and a review of data on Children and Young People during the COVID-19 pandemic. These reports will provide further insight to help inform future developments in these areas.

Annex A: Summary of progress since last year

In last year's State of the statistical system report, we highlighted eight key areas where improvements could be made across the system. A summary of progress made against each of these areas is set out in this Annex.

Statistical leadership

We have seen positive examples of strong statistical leadership from within and outside the statistics profession during the pandemic. As we have highlighted in this report, the profile of statistics and data has never been higher. We are encouraged to see statisticians and data analysts taking an increased role in communicating statistics and data widely, both through their own statistical outputs and through increased engagement with the media. Statistical leadership remains an ongoing area of focus. Our Review of statistical leadership, published in February this year, sets out the findings from our review of statistical leadership and looks at how statistical leadership can be strengthened across government.

Voluntary application of the Code beyond official statistics

As highlighted throughout this report, the distinction between official statistics and data has become increasingly blurred over the last year. The section on transparency and trustworthiness notes that we have seen a marked increase in the number of producers publishing administrative data and management information, and applying the principles of the Code to these data. This includes both the coronavirus dashboards and other regular outputs that have been developed in response to the pandemic more broadly. In addition to this we have seen an increase in the number of organisations using Voluntary Application of the Code for releases in areas outside of COVID-19. In October 2020 we announced our first winners for the Voluntary Application of the Code Award, and this award will be presented again in 2021. We also provide details of organisations voluntarily applying the Code to specific outputs on our Code of Practice for Statistics website. We hope that the progress made in this area will continue as the pressures of the pandemic start to ease.

Quality assurance of administrative data

Overall progress here has been mixed. Through our wider regulatory activities, such as assessments and compliance checks, we have identified that an increasing number of producers are using our Quality Assurance for Administrative Data (QAAD) toolkit to assure themselves of the quality of their data. However, a significant proportion still are not, and this remains a priority area that we have continued to ask producers to address in several our assessment reports this year. Throughout the course of the year, statisticians and analysts have continued to improve their communication around the quality of data relating to the pandemic and its wider effects. This is a trend we would like to see continue more broadly across data and statistics in topics outside of the pandemic.

Communicating uncertainty

As we have highlighted in this report, the shift by many producers to more timely data and statistics in response to the pandemic has been commendable. However,

communicating any uncertainty and limitations associated with more timely data is vital. Overall, statisticians and data analysts have done a good job of explaining key statistical concepts related to uncertainty in ways that are easy for members of the public to digest. More broadly, however, progress here has been somewhat limited and there remains an ongoing need for producers to communicate aspects of uncertainty through their wider publications. This is an area where we are continuing to push for developments through our wider regulatory activities.

Adopting new tools, methods, and data sources

This is another area where we have seen real progress, largely in response to the need to provide new data quickly in response to the coronavirus pandemic. Much of the progress here is summarised under the section on responsive and proactive. As noted in this section, it will be important as we emerge from the pandemic for producers to reflect on how things have changed in the past year and identify where outputs should return to how they were and where the new approaches are more suitable. We also hope producers will reflect on the lessons they have learnt during the pandemic to enable them to be more innovative in their approach to new tools, methods and data sources going forwards.

Telling fuller stories with data

As highlighted in the section on collaboration, data sharing and data linkage, there has been some progress here but there remains more to be done. Producers have worked hard to share and link data, and to provide as comprehensive a picture as possible, to help us understand the effects of the pandemic. However, to fully exploit the opportunities that are available to producers, this collaboration and data sharing needs to continue and increase. More systems need to be connected to one another, particularly in the health and social care sectors, and access to data needs to continue to improve. This is an area where we will continue to monitor progress and push for improvements as necessary.

Providing authoritative insight

Again, this is an area where we have seen some progress. As outlined in the clear and insightful section, we have seen several examples of producers developing their outputs throughout the course of the pandemic so that the data tells a comprehensive story. The profile of statisticians has increased hugely through the pandemic. The increased presence of statisticians on television and in social media is a welcome development in helping to provide insight in a way that is accessible to as broad a range of users as possible. It is important now that producers expand this thinking to outputs that go beyond the pandemic and its wider impacts and ensure that they are providing the necessary insight to as wide a range of data as possible.

User engagement

Progress in this area has understandably been challenging. On the one hand producers have told us that they've received more communications from users in the form of requests for COVID-related data than they've ever received in the past. On the other hand, it is likely that those users who have proactively engaged with producers represent a small and possibly non-representative sub-section of the wider user base, and many producers simply have not had the time to consider how to engage with users more broadly. Despite this, we have seen evidence that producers are considering how best to meet the needs of a wide range of users through their

enhanced presentation and communication of data. We encourage producers to continue with this thinking as we emerge from the pandemic and to recommence a broad and proactive approach to user engagement as soon as is practicably possible.

In February 2021, the UK User Engagement Strategy for statistics was published. We support the strategy's aim to build a more meaningful and sustained dialogue between producers, users and potential users of statistics and other relevant stakeholders. We look forward to further progress on user engagement as the elements of the strategy's plan are implemented.