

NHS Business Services Authority

Working in the open: Statistics, data and code



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Purpose

Who we are

The NHS Business Services Authority (NHSBSA) is an Arm's Length Body (ALB) of the Department of Health and Social Care (DHSC), responsible for providing platforms and delivering services which support the priorities of the NHS, Government, and local health economies, and in doing so we manage around £39 billion of NHS spend annually. Because of the national and at scale nature of our services we produce and collate vast amounts of data.

Data is at the heart of what we do. We work to ensure the safety, security and accuracy of the data we capture, and we then apply our analytical skills to produce actionable insight and data products. We collaborate and innovate with partners and stakeholders to drive improvements in health outcomes, patient safety and taxpayer value.

We want to release Official Statistics, Open Data and Open Code that serve the public good, aiding understanding of today's issues and supporting better decision making at all levels of society while driving innovation and helping to realise efficiencies elsewhere. We have no agenda in any debate other than it is well informed, cherishing the values of honesty, integrity, objectivity, and impartiality in everything we do.

Strategy context

In 2019 we launched our first Publication Strategy, setting out our ambitions to utilise our unique expertise to deliver high quality statistics and transition from being a silent partner in the publishing of Official and National statistics to a producer, as well as expanding our open data offering.

This strategy – 'Working in the open: Statistics, data and code' – is an update and expansion of the NHSBSA Publication Strategy 2019 and will guide our next 3 years of work. It looks to build on the foundation that we have established in onboarding prescribing and medicines publications from NHS Digital and launching our [Open Data Portal](#), which will become the home of all our open data. It also complements the [NHSBSA strategy for 2022 – 25](#) where data is a key lever that will help us to achieve our strategic goals and ambitions, continuing 'to be a catalyst for better health'.

This strategy is also written at a time of digital transformation in the public sector, particularly for health. Several strategies and data policy developments have been released by the UK Government during 2022:

- [Better, Broader, Safer: using health data for research and analysis](#)
- [Data saves lives: reshaping health and social care with data](#)
- [A plan for digital health and social care](#)
- [Transforming for a digital future: 2022 to 2025 roadmap for digital and data](#)
- [Reproducible Analytical Pipelines \(RAP\) strategy](#)
- [Analysis Function Strategy for 2022 to 2025](#)

The public sector data landscape that we now operate in has changed drastically since 2019. The Coronavirus (COVID-19) pandemic and the response from the UK statistical system, has highlighted the crucial role that Official Statistics and Open Data play in managing the demands on services in the health and social care sector and understanding public health. This strategy also looks to capitalise on progress made and implement objectives of the Office for Statistics Regulation's (OSR) review of [lessons learned from the COVID-19 pandemic](#), making sure we are:

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



Scope

This strategy will focus on our data products that are in the open, these are our:

- Official Statistics
- Open Data hosted on our Open Data Portal
- Open Code hosted on our GitHub repositories

As an organisation the NHSBSA not only publishes data, code, and statistics in the open for use and reuse but also provides secure national platforms that allows clinicians, commissioners, and those with a legal right, access to primary care data and analyses. We will look to embrace open working in these areas that are currently 'closed'. Adopting open working here is a unique challenge due to the architecture of these tools and dashboards but not an insurmountable one. This falls outside of the scope of this strategy.

Where we are now

As we come to the end of our 2019 publication strategy it is important that we reflect on the progress that we have made as a new producer of Official Statistics and how we measure our success at being 'open by default'. Our 2019 strategy was split into 3 delivery phases:

- Phase 1 – Scoping and engagement
- Phase 2 – Execution
- Phase 3 – Expansion

We have completed and delivered [phases 1 and 2](#) despite facing challenges and at the time of writing are part way through phase 3. This is the start point for this strategy and where we will build from in the next 3 years.

Our achievements

Official Statistics

We:

- Successfully onboarded four prescribing and medicines publications from NHS Digital:
 - [Prescription Cost Analysis \(PCA\) – England](#) (National Statistics)
 - [General Pharmaceutical Services \(GPhS\) – England](#) (National Statistics)
 - [Prescribing Costs in Hospitals and the Community – England](#) (Experimental Statistics)
 - [Prescribing for Diabetes – England](#) (Experimental Statistics)and launched our first Official Statistic publication, [Medicines Used in Mental Health – England](#). We are now the recognised source of all prescribing and medicines statistics in England.
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- Launched [consultations for our PCA](#) and [Prescribing Costs in Hospitals and the Community](#) publications.
- Expanded and improved each of our publications to better meet user needs and give access to more granular data for reuse.

- Established key relationships with other statistical bodies in the health and social care sector such as NHS Digital, NHS England & Improvement, and the Department of Health and Social Care (DHSC) – ensuring our statisticians are professionally supported.
- Joined the English Health Statistics Steering Group (EHSSG) and Health Statistics Leadership Forum, helping to create coherence across the wider statistics landscape and establish stronger analytical leadership.

Open Data

We:

- Successfully launched our [Open Data Portal](#), which currently contains 6 prescribing and medicines related datasets.
- Launched a new ‘Experimental’ area within the Open Data Portal where we can publish new and innovative data sets.
- Completed a review of our data products with work to commence on migrating reports to our Open Data Portal in 2022/23.
- Consolidated, improved and expanded two prescribing data sets – NHS Digital’s Practice Level Prescribing and NHSBSA’s Practice Detailed Prescribing – to provide a single authoritative source of [English Prescribing Data \(EPD\)](#).
- Are used by the Bennett Institute for Applied Data Science to create [OpenPrescribing](#), a free tool to interrogate England’s prescribing data.
- Hosted the first publicly available source of [Secondary Care Medicines Data](#) on behalf of NHS England & Improvement.
- Joined the Open Data Institute.



Challenges we have faced

COVID-19

The demands for data and actionable insights have exploded throughout the UK statistical system to help with the national response to the COVID-19 pandemic and we are no different. We have risen to this challenge and have adapted our publications to help inform public debate in these areas. This desire for reporting has impacted our ability to drive our Open Data agenda since April 2020, but we have still delivered our main objectives thanks to the hard work of our people.

Recruitment

As an ALB we straddle the border between the NHS and the Civil Service. This has often posed challenges for how we integrate with the wider UK statistical system, including how we recruit skilled statisticians using [government frameworks](#) while not being a part of the Civil Service. We have worked closely with the Government Statistical Service (GSS) Recruitment team to make sure that our recruitment processes are aligned with that of Civil Service based statisticians and to seek advice on how we can anticipate future recruitment needs. Our recruitment challenges have

put pressures on our people to deliver our statistical workplans during periods of limited capacity.

These challenges have also created opportunities, we have been able to identify talent internally and provide openings for our people to learn and develop new skills in statistical roles. We have also been able to establish stronger ties with DHSC who have provided support throughout and will continue to provide further expertise as we look to address the causes of these issues.

User engagement

Identifying and engaging users of our Official Statistics and Open Data products has been a constant challenge during the last 3 years. Many of our users are 'silent', they can access our statistics and data easily and don't engage with us any further. This could be because our products already fully meet their needs, alternatively it could be because they are not aware of the various routes that can be used to give us feedback to help improve our products. We will look to address how we engage our users further as part of this strategy to allow us to put users at the heart of all that we do.

Culture

Changing an organisational culture is a massive undertaking. We appreciate that it is not something that can, or should, be done overnight. We have made steps forward embracing more open-source technologies, publishing more code, more data, and bringing more transparency to all that we do, however, we still have a long way to go. It is important for this culture change to succeed that we have buy-in at all levels of the organisation, from senior leadership to analysts and all in-between. We must also make sure that we engage stakeholders and our sponsors in other organisations to bring them along on our journey. Most importantly, we need to be clear with the public and our customers, to assure them that working in the open does not compromise their privacy or put their data at risk.

Where we are going

Official Statistics, Open Data and Open Code are essential public assets that provide a window on the work and performance of public bodies. After spending the last 3 years building a solid foundation for our statistical products and open data, we are now ready to expand into other areas and surface more data than ever before. However, it is not just the number of publications and data products that we output that will measure our success, our user communities and our people will be benchmarks as well.

Understanding our users

Over the last 3 years we have done a lot of work to identify, engage, and understand our users. We have identified some of our users as:

- Central and local government users
- NHS users
- Academia
- Journalists and the media
- Industry and private sector users

However, it has proven a challenge to engage and understand a large cross section of each of these user groups. We also understand that there are users who we are yet to identify. In light of this we will continue to use the [Office for National Statistics \(ONS\) user personas](#): expert analyst, information forager, inquiring citizen, technical user, and policy influencer to help shape our products.

We want to put users of our Official Statistics, Open Data and Open Code at the heart of all we do, understanding their needs, seeking their views, and supporting their use of our data and statistics. To help with this, and to overcome challenges we have faced, we will evolve our current user engagement strategy, seeking to build communities around our products. These communities will remove barriers for users wishing to give us feedback and allow us to identify previously 'silent' users. Building communities also allows our users to engage with each other to share knowledge, best practice, and showcase their use of our statistics and data, giving us a better understanding of the impact that our Official Statistics and Open Data has on the wider Health and Social Care landscape.

To facilitate these communities, we will publish a [roadmap](#) for our Open Data products. We will invite feedback on this roadmap to help us prioritise what matters most to

users. Users will also be able to make suggestions for new streams of work and products, allowing us to be proactive and responsive to emerging demands.

We appreciate that not all users will want to participate in a community, therefore we will adopt a layered approach to our user engagement, continuing to provide quicker and more informal ways of providing feedback alongside our efforts to build communities. Users will be able to provide feedback and engage with us in many ways, such as:

- Through Official Statistics and Open Data feedback surveys.
- Participating in consultations and dedicated user engagement events.
- Opening ‘issues’, ‘discussions’, and contributing to open-source code repositories on our [GitHub page](#).
- Contacting us by email or other methods using our dedicated channels.

As a producer of Official Statistics, we are also committed to the Government Statistical Service’s (GSS) [User Engagement Strategy for Statistics](#).

The English Health Statistics and NHS data landscapes are constantly evolving and rapidly changing. There are many organisations that produce health statistics and data, making it difficult for users to navigate the landscape and find what they want quickly or easily. We must make sure that our data and statistics are easy to find and that users know what data we hold, how we capture it, and how to access it.

In a fragmented landscape we must make sure that we reduce duplication across the system, working with our partners to create single authoritative sources of information and clearly signposting to other sources of related information to allow users to build a complete picture more easily.

We will continue to face challenges related to user engagement, there are no easy fixes to these issues. We must be proactive and adaptable to overcome them and seek innovative solutions. We have set out how we plan to tackle these problems but must be willing to change our approaches if they are met with little success.



Improving our existing publications, Open Data and Open Code

We will look to improve the publications, Open Data and Open Code that we already produce, engaging users to make sure that their needs are being met in terms of the volume of data and analyses that are made open, their quality, and the platforms that they use to access them. This includes communicating our plans for existing and new releases. In line with the UK Statistics Authority's (UKSA) [Code of Practice for Statistics](#) we maintain a [12-month release calendar](#) for our Official Statistics. We also maintain a [data release calendar](#) to inform users of the availability of our other data products.

As part of the continuous improvement of our publications we will look at our own ways of working, implementing [Reproducible Analytical Pipelines \(RAP\)](#) for our releases and other analytical projects. We will also commit to sharing the code that we use to produce our Official Statistics publications and other analytical projects in open-source repositories on our [GitHub](#), being transparent and inviting feedback on the methodologies that we use.

We want to be recognised as a leading voice and beacon of best practice within the statistical system and wider open data community. To achieve this, we will look to work towards National Statistics designation for more of our Official Statistics publications, inviting OSR to assess us and our outputs to make sure that they meet the highest standards as set out in the Code of Practice.

The platforms that we use to disseminate our Official Statistics and Open Data will also be improved, with a redesigned user journey for our Open Data Portal and other platform enhancements in the pipeline. We will continuously monitor usage of the portal to help us identify pain points for users and eliminate them, working with partners in the [CKAN](#) open-source community to help drive innovations that can be reused by others. We will continue to use a layered dissemination approach for our Official Statistics.

There is always a risk that our statistics and data are misinterpreted or misrepresented, this risk will increase as we release Official Statistics and Open Data in areas where we haven't previously. To guard against this, we must make sure that our statistics are clear and effectively tell the story of our data. This risk of misinterpretation is greater for our Open Data releases that can be consumed in isolation and downstream from us. We must make sure that we have prominent and easy to access documentation and use common definitions and terminology from across the health and social care sector and proactively respond to incorrect reporting of our Open Data and Official Statistics in the media.

Expanding our range of publications and open data

Our current statistical publications and open data products focus primarily on prescribing and medicines. However, this is just one part of the large portfolio of data that we generate and collate as an organisation. We will look to expand our subject areas to include more of the many services that we manage, including:

- Dental Services
- Ophthalmic Services
- Citizens Services
- and more

as we look to increase the transparency of the services that we provide to the NHS and the public. Where Official Statistics publications may not be suitable, we will instead provide open data releases to ensure that the public have a window on how we function on their behalf, being held to account on the issues that matter. Informing public debate in a timely manner is essential, we will also look to release more ad-hoc analyses with [voluntary application](#) of the UKSA Code of Practice for Statistics, to

make sure that all of our analytical outputs are high quality, useful for supporting decisions, and well respected.

Transparency and building trust

Part of being transparent and building trust with our users is being open and honest when we make mistakes and about the quality of our data. We will use the OSR [Quality Assurance of Administrative Data toolkit](#) to assess the quality of our data sets, even when they aren't used in Official Statistics, publishing the results for users to see and understand. This will be in addition to our regular data governance processes. We will also publish notices of correction for our Open Data products in line with our [Official Statistics publications](#), informing users when we have identified data quality incidents in our data sets, the actions taken to remedy them, and the steps put in place to prevent them from happening again.

Building capability and best practice

Our people are key to our success and the delivery of our strategic goals over the next 3 years. We will continue to promote continuous professional development (CPD) amongst our statisticians and analysts, providing opportunities to learn new skills and improve existing ones. We will also offer more of our people the opportunity to join the [Government Analysis Function](#) through membership of the [Government Statistician Group \(GSG\)](#). Doing this will make sure that more of our people have the right skills to deliver our Official Statistics portfolio and drive our Open Data work plan.

We will embrace modern open working methods such as Reproducible Analytical Pipelines, digitally transforming the way we do analysis. We are committed to delivering the Government Analysis Function RAP Strategy and will be developing a local strategic plan to deliver the goals of the strategy, making sure that our analysts have access to the right tools, are supported in developing the necessary skills, and remove cultural barriers to progress.

We will look to breakdown internal silos, building capability across the organisation through our Data and Analytics community promoting cross-team collaborations and offering development opportunities, such as acting-up and shadowing, to colleagues that want to pursue careers in statistics, data science, and data analysis. We will also use apprenticeships to help us succession plan for analytical roles and attract a wider and more diverse pool of candidates for data related roles.

We will work to [harmonise](#) our outputs across the English Health Statistics landscape and wider. We will also continue to be a part of the [English Health Statistics Steering Group \(EHSSG\)](#), the Health Statistics Leadership Forum, and the [Open Data Task And Finish Group](#), adopting and contributing towards shared standards. When we release our statistics and data, we want to make sure that they are coherent, using established terminology and common definitions where appropriate. To help with this we are also part of the [Primary and Dental Care, and Oral Health](#) English Health Statistics theme group, working with other Official Statistics and data producers in this area to align our outputs and make it easier for users to find what they need.

Skills are just one piece of the puzzle to make sure that our people can succeed, we must also create a culture that allows them to be adventurous and enables innovation rather than stifles it. Since the publishing of the [‘Open Data: unleashing the potential’](#) white paper, public bodies have adopted the policy of ‘Open by Default’. This has been reinforced by the [National Data Strategy](#). We will strive to be ‘radically open’, embracing emerging open-source technologies and publishing data in an open first manner.



Delivering the strategy

This strategy sets the direction for our Official Statistics, Open Data, and working in the open for the next 3 years and will transform our approach to publishing across the organisation. To help deliver parts of this strategy, Official Statistics and Open Data publications will be included in individual data strategies for each area of the organisation, Primary Care Services, Workforce Services, and Citizen Services.

This strategy sets out some actions and approaches that we will be taking to deliver it in parts. However, it will be supported by more detailed annual [Official Statistics workplans](#) and other dedicated work streams. We must also be proactive and adaptable in our approach, evolving parts of the strategy as the wider health and social care landscape changes and helping inform the latest public debate. We will be transparent about our progress and will communicate barriers and our plans to overcome them to our users. We will also publish updates to the strategy as and when needed.

Contact us

If you have any ideas or suggestions for how we can improve how we publish data, or would like to know more about this strategy you can get in touch with us at: nhsbsa.statistics@nhs.net

Please quote **'Working in the Open: Statistics, data and code'** in the subject line.