The UK data governance landscape

EXPLAINER

THE ROYAL SOCIETY

The UK data governance landscape
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Executive summary

Good data governance, and confidence in data governance, can enable many different positive outcomes for individuals, business and society – facilitating the use of data and the safe and rapid uptake of technologies derived from it. This explainer provides an overview of many of the key UK organisations and structures currently responsible for data governance and an overview of UK organisations that advise on data governance. It focuses on cross-sector or cross-domain organisations and activities, as well as describing the roles of organisations that specialise in aspects of data governance such as the Centre for Data Ethics and Innovation (CDEI) and the Ada Lovelace Institute.

This explainer also provides a brief introduction to how different kinds of governance and advisory organisations address significant areas in data governance, such as data ethics; data privacy and anonymisation; data-sharing and data interoperability; data protection and security; responsible innovation; as well as listing useful resources for further engagement with these areas. It also includes a spotlight on health data and data for healthcare as an example of how these important areas in data governance are addressed in a particular domain, and a spotlight on some of the areas of legislation that guide how data is governed in the UK. Finally, the explainer identifies emerging trends in data governance, such as citizen engagement and digital competition. The aim is that this explainer will be useful to anyone with an interest in how data is managed, used, and governed in the UK. This explainer is intended to be illustrative rather than exhaustive or comprehensive; details are correct as of 28 March 2020.

Introduction: Understanding data governance in the UK

Background: data management and use in the 21st century

The amount of data captured from the world around us has reached levels that were previously unimaginable. New technologies are capturing data in new ways: wearable devices quantify individuals' health; social media sites provide platforms to share details about day-to-day life; and companies across sectors rely on data about their daily business and activities to improve their products and processes.

As data collection activities continue to increase in speed, scale and variety, and the analytic techniques used to process these datasets become more sophisticated, individuals and communities are affected in new and unexpected ways. For some, data is the 'new oil'[1]: the fuel for new industries and rapid economic growth. Others see more parallels with carbon emissions[2]: individuals produce it, but the impacts are societal as well as individual. Data can also be seen as infrastructure[3]: of public benefit and requiring management.

The uses of data-enabled technologies promise benefits from improving healthcare and treatment discovery, to better management of critical infrastructure such as transport and energy. But to realise these benefits, societies must navigate significant choices and dilemmas; they must consider the different kinds of benefits from capturing, analysing and acting on different types of data, and how risks might be distributed.

To engender trust and confidence, to give entrepreneurs and decision-makers the confidence to act and to realise the potential of new applications in a way that reflects societal preferences, it is essential that data governance frameworks reflect the opportunities and challenges of data management and use today.

In June 2017, the British Academy and the Royal Society published *Data management and use: governance in the 21st century*[4], a major report on data governance in the UK. It argued that new uses of data create a series of pervasive tensions and so a one-size-fits-all approach to data governance across sectors, contexts, and categories of data would be inappropriate and ineffective. The report argued for an overarching principle that systems of data governance should promote human flourishing. It also highlighted the following functions necessary in a 21st century governance framework:

- Anticipate, monitor and evaluate;
- Build practices and set standards; and
- Clarify, enforce and remedy.

Since then, the number and range of organisations active in data management and data governance has developed significantly, including the creation of organisations with national data governance and advisory responsibilities, and the emergence of important and pressing debates around different aspects of data use.

Understanding data governance in the UK

The term 'data governance' encompasses a variety of actions and actors that together shape data management and use. In general, the spectrum of governance frameworks can range from 'soft' mechanisms (which might be more participatory and non-binding, such as a Code of Ethics) to 'hard' mechanisms (which might be more rigid, such as legislation or regulation).

Recent years have brought a range of policy developments in data governance: the establishment of new public sector bodies, adoption of new regulations, and development of new policy programmes, to name a few. This data governance explainer sketches out the current data governance landscape in the UK. It provides an overview of the key UK organisations responsible for shaping or implementing data governance, across central government, public sector bodies, regulators, and standards bodies. The explainer then provides an outline of many of the the key UK organisations that advise on data governance, across research and development, civil society, the National Academies, and professional associations (including membership bodies and learned societies). Finally, it provides an overview of some of the main topics in data governance that these bodies are addressing, accompanied by examples of resources, projects and publications in these areas. It also provides a spotlight on health data and data for healthcare as an example of a domain where these important areas in data governance converge and are managed in practice. It concludes with some emerging trends in data governance, such as citizen engagement and digital competition.

By mapping many of the leading actors and initiatives in the UK data governance landscape, this explainer aims to illustrate how stakeholders across government, industry and civil society are working to address questions about the governance of data and its use, in order to support informed public and policy debate about how data governance can enable the safe and rapid use of data in the UK. The explainer is not exhaustive or comprehensive: details are correct as of 28 May 2020.

Which organisations and structures are responsible for governing the use of data?

Data governance in central government

In central government, ministerial responsibilities for ensuring careful stewardship of the data governance landscape are shared across several central departments:

- **The Department for Digital, Culture, Media and Sport (DCMS)**
  The lead department for Government data strategy, policy, security, and digital identity, as well as leading on support for digital innovation and the creative sector. The Data Advisory Board (DAB) is the senior public sector board responsible for driving the better use of data in government. The Data Leaders Network supports the DAB by acting as a delivery arm and advisory council on data initiatives and strategy discussed by the Board. The secretariat for both sits within DCMS.
- **The Department for Business, Energy and Industrial Strategy (BEIS)**
  Responsible for policy leadership on science, research and innovation, and policies in support of business growth, competition, and innovation.
- **The Office for AI**
  A joint unit comprising civil servants from both DCMS and BEIS that develops policies to support progress in adoption of artificial intelligence (AI) technologies. This Office is responsible for delivery of the Government's AI Sector Deal, working with the AI Council – an expert advisory committee of leading AI researchers and policy experts – to further develop the UK's AI strategy.
- **Cabinet Office**
  Has responsibility for cyber security, and hosts the Geospatial Commission which is responsible for promoting the best use of geospatial data.
- **The Government Digital Service (GDS)**
  Sets and enforces standards for digital services, supports increased use of emerging technologies by the public sector and leads the Digital, Data and Technology function for government.
- **HM Treasury**
  Responsible for economic aspects of data governance, such as competition in digital markets.

Policy advice and detailed implementation strategies come from a range of bodies across Government and the public sector with different remits:

- **The Centre for Data Ethics and Innovation (CDEI)**
  An advisory body that investigates how the UK can develop governance regimes to support the use of data-enabled technologies while anticipating areas of risk or concern. This body looks at issues across sectors and uses of data, including a range of emerging technologies.
- **The National Cyber Security Centre (NCSC)**
  Works to ensure that government and industry better understand security risks and have the tools to create resilient and secure digital systems. It provides advice, guidance, and support, and helps manage cyber security incidents.

All departments and public sector bodies that produce official statistics are responsible for ensuring their compliance with ethical, legal and regulatory requirements around the handling and use of data, including the data governance stipulations in the Code of Practice for Statistics. The National Statistician, and the UK Statistics Authority (UKSA), are responsible for the development of policies and guidance to support the Government Statistical Service – the community of all civil servants working in the collection, production and communication of official statistics – in fulfilling its statistics production functions.

BOX 1

Spotlight: Organisations governing healthcare data

In healthcare, a diverse ecosystem of regulators, standards bodies, and statutory bodies interact to ensure quality and safety of health services, health care, and health technologies. Some organisations that are particularly active in the data and digital domain include:

- **NHSX**
  A government unit that brings together the Department of Health and Social Care (DHSC), NHS England and NHS Improvement. NHSX is responsible for setting policy in England and ensuring best practice in the use of data and digital technology to improve health and care outcomes. It also works to coordinate service provision and procurement across health bodies, and to help NHS staff develop digital capabilities.
- **NHS Digital** (formerly HSCIC: Health and Social Care Information Centre)
  The national information and technology partner to the health and care system.
- **The National Data Guardian (NDG)**
  Advises and challenges the health and care system to help ensure that citizens' confidential information is safeguarded securely and used properly.
- **The Office for Life Sciences (OLS)**
  A joint unit comprising civil servants from BEIS and DHSC, champions research, innovation and the use of technology to transform health and care services and is developing a policy framework for commercial access to the NHS data

Clarify, enforce and remedy: the role of regulators

In 2019 the National Audit Office produced a detailed overview[5] of data management and data governance structures within Government, which provides further information. As digital capability grows across Government, more departments might develop specific data governance functions.

Regulatory functions are discharged by bodies with technical expertise in specific domains:

- **The Competition and Markets Authority (CMA)**
  Responsible for strengthening the competitiveness of markets. Its activities include: investigating mergers, scrutinising how effectively markets are operating, and taking action against organisations or individuals involved in anti-competitive behaviour.
- **The Information Commissioner's Office (ICO)**
  Responsible for upholding information rights in the UK. Overseen by the Information Commissioner, its remit includes the Data Protection Act, Freedom of Information Act, General Data Protection Regulation, and Investigatory Powers Act, amongst others.
- **The Office for Statistics Regulation (OSR)**
  The regulatory arm of the UK Statistics Authority (UKSA). It assesses official statistics for compliance with the Code of Practice for Statistics, and reports on system-wide issues and on how statistics are used. The UKSA includes the Office of National Statistics (ONS) which produces official statistics.

For more information see Box 2, which outlines in chronological order some of the key legislation that guides data governance in the UK.

Build practices and set standards: the role of professional bodies

Extending beyond government policy and regulation, a range of standards bodies contribute to the governance landscape by defining codes of conduct for those working with data and technical standards for its use. The British Computer Society (BCS) is the chartered institute for IT, with a royal charter to set and maintain standards of professional competence, conduct and ethical practice within the IT industry, and to promote and advance the education and practice of computing for the benefit of the public. Standards bodies such as the The British Standards Institute (BSI) help define the technical and industrial standards to which those working with data should adhere. The BSI is the official UK National Standards Body, and it works with its equivalents across the world and the International Standards Organisation (ISO) to ensure widespread agreement and adoption of its standards, including information security standards. The Royal Statistical Society (RSS) helps shape the culture and behaviour of those working in data science and related professions. The RSS is the professional body for all statisticians and data analysts. As a charity, it advocates the key role of statistics and data in society, and it works to ensure that policy formulation and decision making are informed by evidence for the public good.

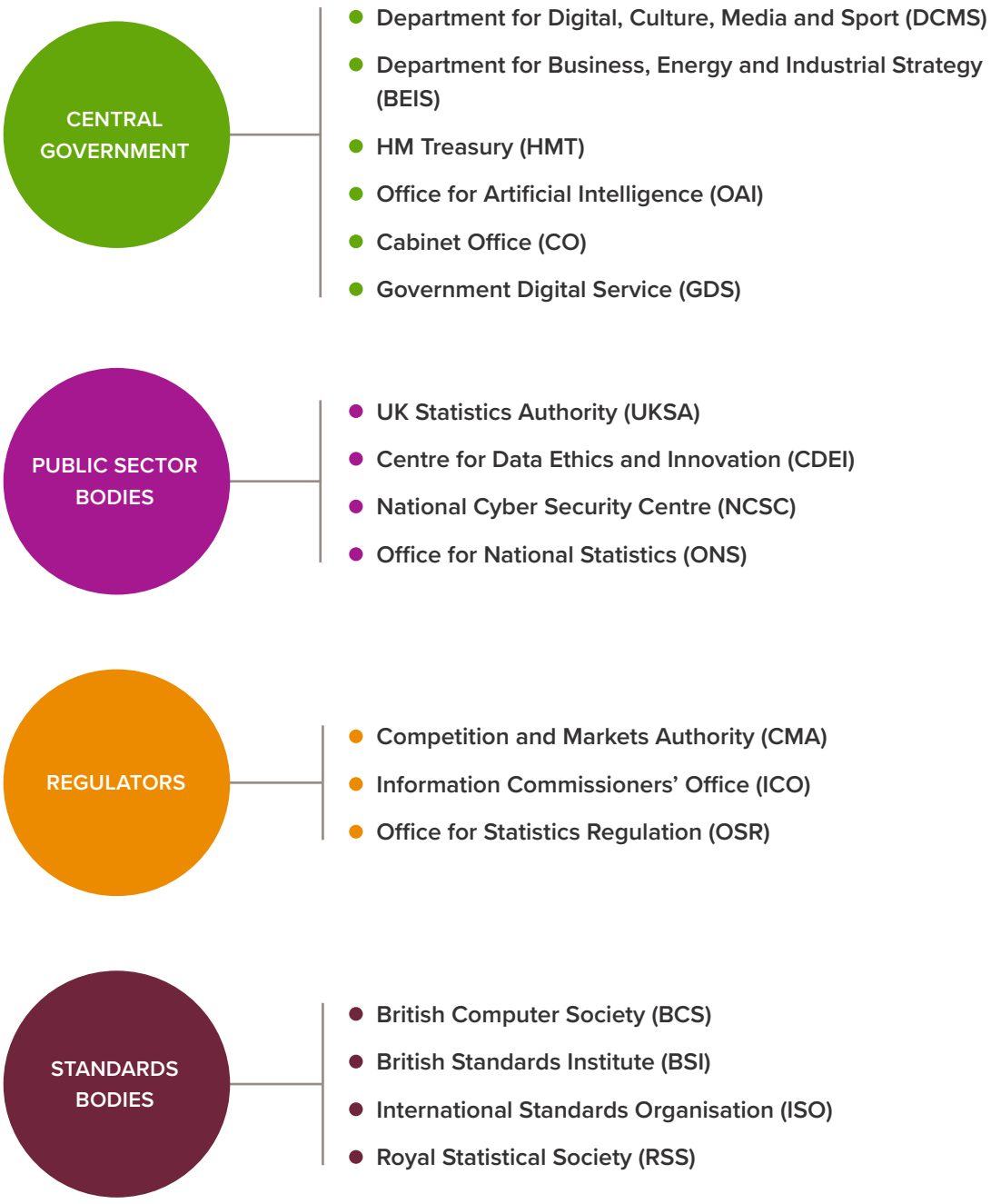
BOX 2

Spotlight: What is some of the key legislation guiding how we govern data?

- Data from patient records must comply with the Common Law Duty of Confidentiality[6], which means that when someone shares personal information in confidence it must not be disclosed without some form of legal authority or justification.
- The Investigatory Powers Act 2016[7] sets out the extent to which certain investigatory powers may be used to interfere with privacy, putting restrictions on powers to obtain communications data.
- The Digital Economy Act 2017[8] includes a range of measures in support of the UK being a world leader in the digital economy. As part of this, it provides a legal gateway for Office for National Statistics (ONS) to access data held by public authorities and commercial undertakings to support the production of official and National Statistics, including the census.
- The General Data Protection Legislation (GDPR)[9] is EU legislation that came into effect in May 2018, covering data protection and privacy, including the transfer of personal data outside the EU and EEA.
- The Data Protection Act 2018[10] controls how personal information is used by organisations, businesses or the government; it is the UK implementation of the General Data Protection Regulation (GDPR).
- The Freedom of Information Act 2000[11] provides public access to information held by public authorities by placing obligations on those authorities to provide that data, and gives the public rights to request that information.

FIGURE 1

Which organisations and structures are responsible for governing the use of data?



Which organisations advise on data governance?

Anticipate, monitor and evaluate: research, advocacy and advisory organisations

To support evidence-informed policy development and effective policy implementation, a range of organisations provide advice on the development of data-enabled technologies and use of data, areas of public interest or concern; the interaction of data use with fundamental rights; and the ways in which research can better inform policy-making.

Civil society

Civil society organisations work to provide a voice for the public in debates about data and technology policy and to investigate the ways in which shifting patterns of data collection and use might affect individuals and society. They include (but are not limited to):

- **The Ada Lovelace Institute**
  A Nuffield Foundation-supported research institute aiming to build an evidence base to support public and policy debate about the impact of data-enabled technologies on society. Established in 2018, it works with civil society partners to inform good practice and policy development surrounding the design and deployment of digital technologies.
- **Nesta**
  Focuses on innovation for social good. It carries out research and analysis to look at how innovation happens, and how innovation in data use can be designed in ways to support public services and beneficial social outcomes.
- **The Open Data Institute (ODI)**
  Advocates the innovative use of data to affect positive change across the globe. It works to build an open, trustworthy data ecosystem, where people can make better decisions using data and manage any harmful impacts

- **The Royal Society for the Encouragement of Arts Manufactures and Commerce (RSA)**
  A UK charity that carries out research, supports public dialogues, and builds networks of Fellows with the aim of finding practical solutions to social challenges.
- **The Wellcome Trust**
  A health research charity and funder. It directly funds thousands of scientists and researchers around the world across biomedical science, population health, medical innovation, humanities and social science, and public engagement. Its initiatives include Understanding Patient Data which works with patients, charities and healthcare professionals to champion responsible uses of data, and supports better conversations about the uses of health information. It has recently launched a major strategic programme on Data for Science and Health.
- **Which?**
  A consumer-focused organisation working with consumers to identify their biggest concerns and to develop effective, practical policy solutions.
- **Doteveryone**
  Active from 2015 – 2020, Doteveryone carried out research into how technology is changing society, convening discussion about the design of responsible technology and prototyping how these technologies might look. In May 2020 Doteveryone announced their closure with their portfolios being taken forward by The Ada Lovelace Institute and the Open Data Institute.

National academies and professional associations

Working alongside these, National Academies and professional associations coordinate research activities and act as a focal point for the views of research and technical communities.

The Academy of Medical Sciences, the British Academy, the Royal Academy of Engineering, and the Royal Society are fellowships of leading researchers and practitioners, which work to advance excellence in research and practice to benefit society. Membership bodies, trade associations, and learned societies, meanwhile, represent the views of their constituents in public and policy discussions. techUK, for example, brings together companies working with digital technology to develop policies, relationships, and markets that can help the UK's technology sector continue to grow.

Government

Within Government, the Government Office for Science (GO-Science) advises the Prime Minister and members of the Cabinet on how government policies and decisions can be informed by the best available scientific evidence and long-term thinking. Its network of Chief Scientific Advisers support the best use of evidence within government departments.

Research and development

Advice on data governance is also the subject of significant active research, including major programmes funded through UK Research and Innovation (UKRI), the public body that brings together the UK's core research councils and agencies, reporting to BEIS. This takes a leading role in the UK's research and innovation strategy. These research councils and agencies include: the Arts and Humanities Research Council (AHRC), the Biotechnology and Biological Sciences Research Council (BBSRC), the Economic and Social Research Council (ESRC), the Engineering and Physical Sciences Research Council (EPSRC), Innovate UK, the Medical Research Council (MRC), the Natural Environment Research Council (NERC), Research England, the Science and Technology Facilities Council (STFC), and Innovate UK.

Leading voices in research and development come from a range of organisations, including those listed below:

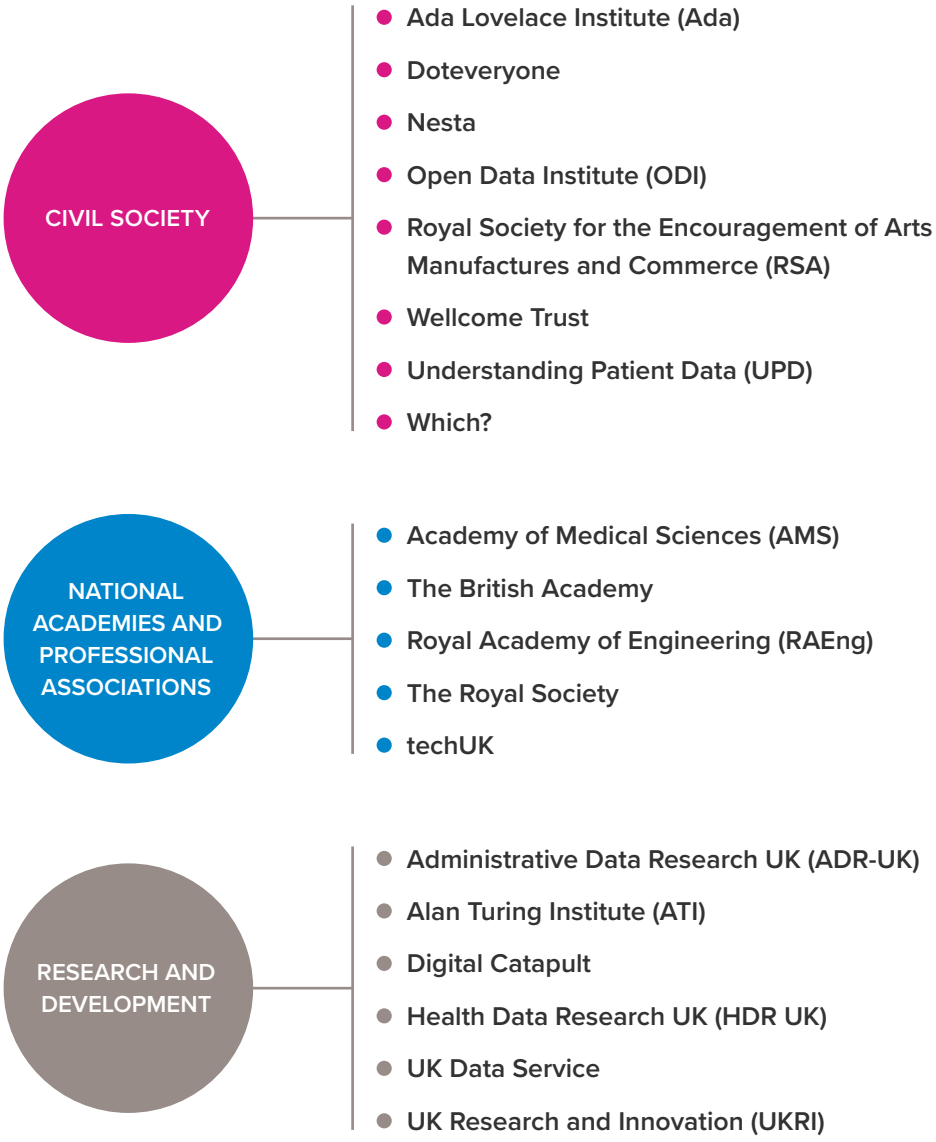
- **Administrative Data Research UK (ADR UK)**
  A partnership made up of three national partnerships (ADR Scotland, ADR Wales, and ADR NI), and the Office for National Statistics (ONS), linking together data held by different parts of government, and facilitating safe and secure access for accredited researchers. It ensures data provided by UK Government bodies is accessed by researchers in a safe and secure form with minimal risk to data holders or the public.
- **The Alan Turing Institute**
  The UK's national research institute for data science and AI, which supports its researchers to engage in public and policy debates about data use as part of its mission to drive advances in data-enabled technologies.
- **The Digital Catapult**
  The Digital Catalogue aims to drive early adoption, to help grow the UK economy. It focuses on support for start-ups and for businesses looking to scale-up, by providing access to compute power and business advice.

- **Health Data Research UK (HDR UK)**
  The UK's national institute for health data science. It is an independent, non-profit organisation supported by 10 funders and bringing together 22 research institutes across the UK, with a head office in central London.
- **The UK Data Service**
  Funded by the Economic and Social Research Council (ESRC) to meet the data needs of researchers, students and teachers from all sectors, including academia, central and local government, charities and foundations, independent research centres, think tanks, and business consultants and the commercial sector. Its collection includes major UK government-sponsored surveys, cross-national surveys, longitudinal studies, UK census data, business data, and qualitative data.

In addition to these bodies, many research advances come from individual research institutes or companies with research teams, and further research funding can come from civil society actors.

FIGURE 2

Which organisations advise on data governance?



What are some of the key areas in data governance?

New ways of using data and the interconnected nature of digital systems mean that governance frameworks and mechanisms designed for one purpose or application may have implications for the use of data in another. For example, transport data may inform health choices, or commercial data may be used to target public services. Finally, data lifecycles are increasingly complex, and may not follow independent and linear paths with clear governance points along the way. Instead, there might be interconnected and interdependent 'open networks of data' across the activities of data collection, data processing, data analysis, and the application of analysis. These interconnected and interdependent activities might also cross sectors or involve more than one category of data.

As a result, data governance often involves a range of organisations and actors, both shaping and advising on data governance, across sectors, and across generalist and specialist organisations. This section outlines some of the issues that affect and cut-across many different sectors, that were identified as significant by the organisations listed in this explainer.

Data ethics

The domain of data ethics looks to the ethical and societal aspects and impacts of data collection, data processing, data analysis and the application of that analysis. Ethical considerations might therefore range from examination of foundational concepts such as consent, fairness and accountability, and examination of the analytic methods themselves (such as particular algorithms), to examination of the broader impacts of data driven systems.

Some recent, current, or forthcoming activities and publications in this area include (in alphabetical order):

- *A guide to using artificial intelligence in the public sector*[12] (Government Digital Service and The Office for Artificial Intelligence).
- *AI auditing framework*[13] (ICO).
- *Data about us*[14] (ODI).
- *Data ethics canvas*[15] (ODI.
- *Data ethics framework*[16] (DCMS).
- *Data management and use: governance in the 21st century*[17] (Royal Society and British Academy.
- *Data ownership, rights and controls*[18] (Royal Society, British Academy and techUK).
- *Digital ethics in 2019*[19] (techUK).
- *Draft guidelines for AI procurement*[20] (Office for AI).
- *National statistician's data ethics advisory committee (NSDEC) framework*[21] (UK Statistics Authority).
- *Project ExplAIn*[22] (ICO and the Alan Turing Institute).
- *Rethinking data*[23] (Ada Lovelace Institute).

Data privacy and anonymisation

Data privacy is a branch of data security concerned with the proper handling of data – consent, notice, and regulatory obligations. More specifically, practical data privacy concerns often revolve around how data is legally collected or stored and whether or how data is shared with third parties. Data anonymisation is a tool that allows data to be shared, whilst preserving privacy. The process of anonymising data requires that identifiers are changed in some way such as being removed, substituted, distorted, generalised or aggregated.

Some recent, current, or forthcoming activities and publications in this area include (in alphabetical order):

- *Anonymisation code of practice*[24] (ICO).
- *Managing the risks of reidentification*[25] (ODI).
- *Privacy and data confidentiality methods: a National Statistician's Quality Review*[26] (NSQR).
- *Privacy enhancing technologies*[27] (the Royal Society).
- *The 'five safes' framework*[28] (ONS).

Data-sharing and data interoperability

The opportunities to create value from data might increase when data is shared or exchanged between individuals and/or organisations, or when different datasets are linked. Governance of data-sharing considers the management and use of linked or shared data, including the distribution of its benefits and recognition that 'sharing' might be interpreted as a normative term, with implied positive goals or ethical values, rather than a purely descriptive term. Alongside this, data interoperability considers the operational management of any data-sharing activity. For example, are processes for sharing data standardised, and if so how are these standards determined and activities monitored?

Some recent, current, or forthcoming activities and publications in this area include (in alphabetical order):

- *Data-sharing code of practice*[29] (ICO).
- *Data standards*[30] (ONS).
- *Data strategy and data management framework*[31] (ONS).
- *Data trusts*[32] (ODI, Office for AI and Innovate UK).
- *Towards trusted data sharing: guidance and case studies*[33] (Royal Academy of Engineering).

Data protection and security

Data protection and security cover the protection of data and digital systems from an intrusive cyberattack, and the security of data and digital systems for the prevention of unauthorised data transmission such as an accidental breach. Data protection and security can also cover data rights or controls around access to data.

Some recent, current, or forthcoming publications and activities in this area include (in alphabetical order):

- *Cyber safety and resilience: strengthening the digital systems that support the modern economy*[34] (Royal Academy of Engineering).
- *Encryption*[35] (ICO).
- *Guide to the GDPR*[36] (ICO).
- *Internet of things: realising the potential of a trusted smart world*[37] (Royal Academy of Engineering and PETRAS).
- *Progress and research in cybersecurity*[38] (the Royal Society).
- *Security outcomes*[39] (ICO).

Responsible innovation

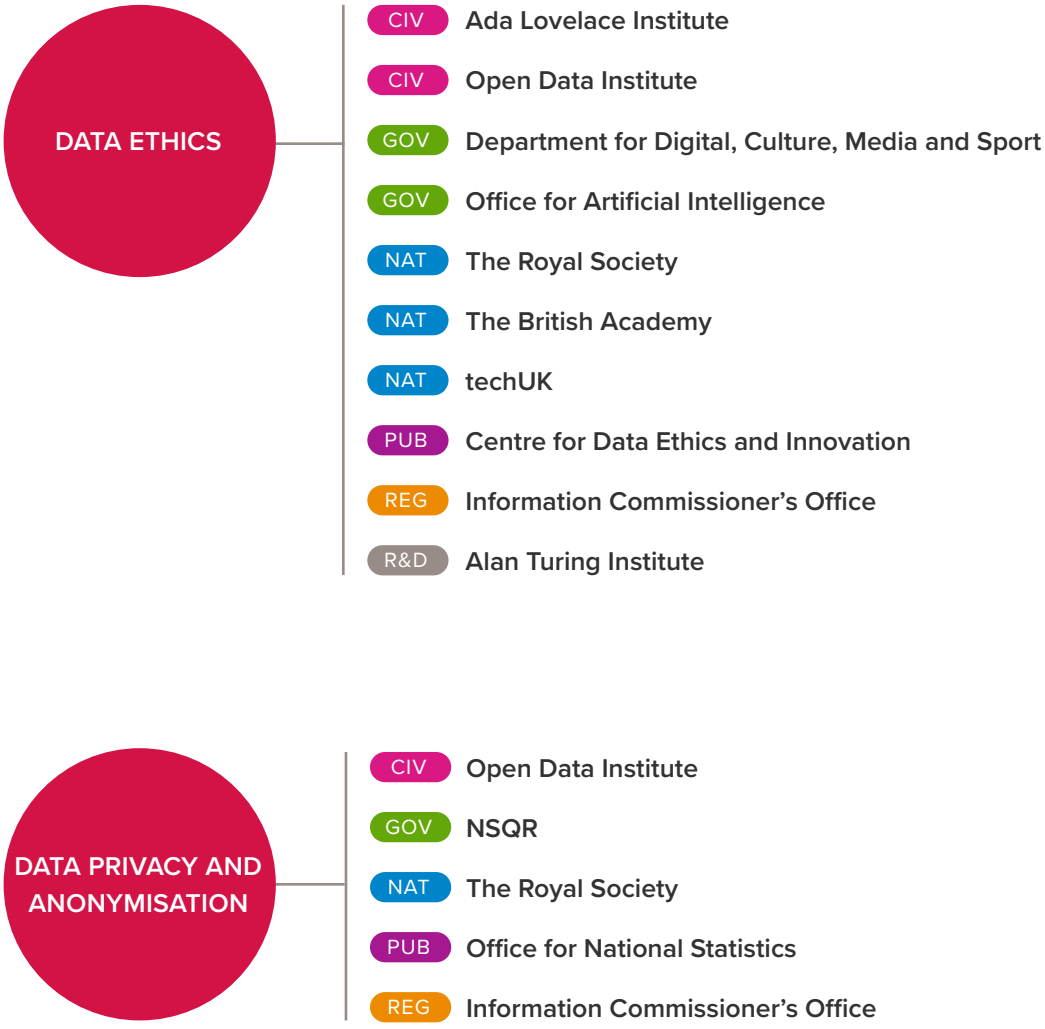
Responsible Innovation is an approach that seeks to promote creativity and opportunities for science and innovation that are socially desirable and undertaken in the public interest, and that take into account the effects and potential impacts on the environment and society of scientific research and technological development processes.

Some recent, current, or forthcoming publications and activities in this area include (in alphabetical order):

- *Administrative data methods*[40] (ONS).
- *Digital ethics summit*[41] (techUK).
- *Digital twins*[42] (ODI).
- *Predicting cause and effect of data strategies*[43] (ODI).
- *Regulators' business privacy innovation hub*[44] (ICO and UKRI).

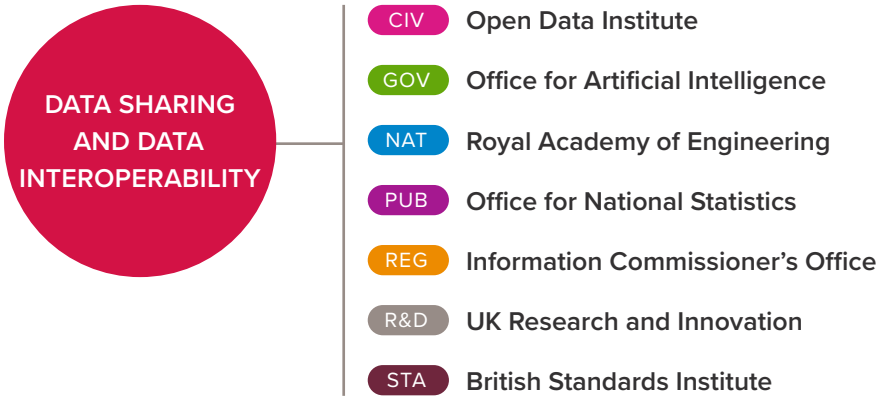
FIGURE 3

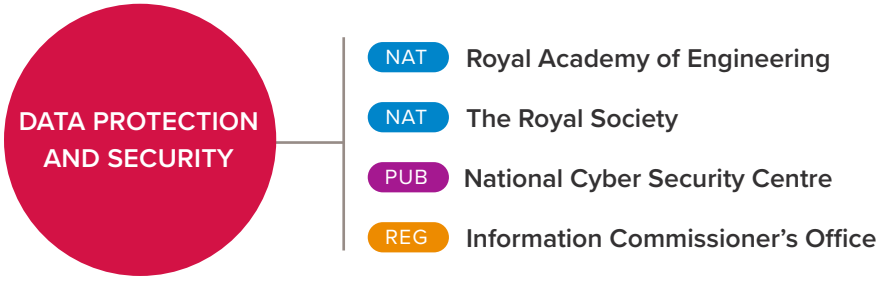
Who works on the key areas in data governance?

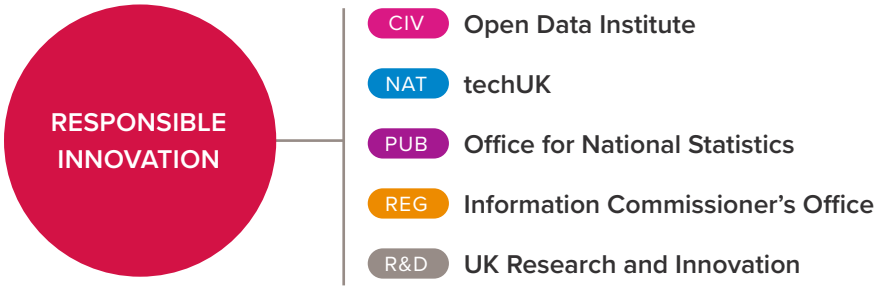


KEY

- CIV Civil society
- GOV Central government
- NAT National academies and professional associations
- PUB Public sector body
- REG Regulator
- R&D Research and development
- STA Standards bodies


DATA SHARING AND DATA INTEROPERABILITY
CIV Open Data Institute
GOV Office for Artificial Intelligence
NAT Royal Academy of Engineering
PUB Office for National Statistics
REG Information Commissioner's Office
R&D UK Research and Innovation
STA British Standards Institute


DATA PROTECTION AND SECURITY
NAT Royal Academy of Engineering
NAT The Royal Society
PUB National Cyber Security Centre
REG Information Commissioner's Office


RESPONSIBLE INNOVATION
CIV Open Data Institute
NAT techUK
PUB Office for National Statistics
REG Information Commissioner's Office
R&D UK Research and Innovation

BOX 3

Spotlight: Data for healthcare and health research

Data for healthcare and health research might include patient data, such as an individual's medical records with their GP and/or an NHS Trust. It might also include non-patient data, such as data collected by a private company from a piece of wearable technology like a fitness tracker; or data collected from publicly available datasets such as meteorological data of local weather patterns; or operational or administrative data for a medical or healthcare institution such as staffing or logistics. As a result, data governance considerations for data for healthcare and health research often include combinations of the key topics in data governance more broadly: data ethics, data privacy and anonymisation, data-sharing and interoperability, data protection and security, and responsible innovation.

Activities and publications about data for healthcare and health research include (in alphabetical order):

- *Bioethics briefing note: artificial intelligence (AI) in healthcare and research*[45] (Nuffield Council on Bioethics).
- *Big data: Guidance on data-driven organizations*[46] (BSI).
- *Big data: Guidance on data-intensive projects*[47] (BSI)
- *Citizen juries for fair data-sharing inthe NHS*[48] (Ada Lovelace Institute and Understanding Patient Data).
- *Code of conduct for data driven technology in health and care*[49] (DHSC).
- *Commercial access to health data*[50] (Ipsos MORI for Wellcome).
- *Creating the right framework to realise the benefits for patients and the NHS where data underpins innovation*[51] (DHSC).
- *Data-driven healthcare: regulation and regulators*[52] (Reform).
- *Data security centre*[53] (NHS).
- *Ethical, social, and political challenges of artificial intelligence in health*[54] (Future Advocacy and Wellcome).
- *Foundations of Fairness: Where Next for NHS health data partnerships?*[55] (Ada Lovelace Institute and Understanding Patient Data).
- *Future data-driven technologies and the implications for use of patient data*[56] (Ipsos MORI for the Academy of Medical Sciences).
- *Health data hubs*[57] (HDR-UK).
- *Our data-driven future in healthcare*[56] (Academy of Medical Sciences).
- *Public views of machine learning*[57] (Ipsos MORI for the Royal Society).
- *Interim report: Review into bias in algorithmic decision-making*[58] (Centre for Data Ethics and Innovation, 2019).
- *Review of data security, consent and opt-outs*[59] (National Data Guardian for Health and Care).
- *Securing cyber-resilience in health and care*[60] (DHSC).
- *Sharing anonymised patient-level data where there is mixed public and private benefit*[61] (NHS).
- *The future of healthcare: our vision for digital, data and technology in health and care*[62] (DHSC).
- *The one-way mirror: public attitudes to commercial access to health data*[63] (Ipsos MORI for Wellcome).

Resources that focus on data for healthcare and health research may also be relevant to key data governance areas as applied to other domains, sectors, or categories of data.

These projects and publications demonstrate the breadth of activity in data governance in the UK, and it is hoped that better understanding of this landscape can support informed decisions and assessments around data governance. Good data governance, and confidence in data governance, can enable many different positive outcomes for individuals, businesses and society – facilitating the use of data and the safe and rapid uptake of technologies derived from it in ways that reflect societal preferences.

A rapidly changing landscape

As digital technologies progress at pace, and new uses of data follow, the policy landscape surrounding data management and use is changing rapidly. New approaches to data governance are emerging, including frameworks for citizen engagement that support two-way interaction between citizens and governments or the private sector, giving citizens a stake in decision-making. Issues in data governance are the subject of major investigations such as digital competition (see, for example, the 2019 Furman Review of digital markets[63]); and, after Britain's exit from the EU on 31 January 2020, there might also be changes to the governance of data management and use in different sectors in the UK. New bodies – many focussed on individual technologies, such as AI, or on specific industry sectors – are being established, while existing institutions grapple with how best to focus their efforts across new and existing technologies, and areas of data use.

In this landscape, organisations often have overlapping remits or areas of interest: this data governance explainer has concentrated on those organisations with a significant interest in the governance of data, though it recognises that many further bodies have an interest in – for example – the use of AI, blockchain, cryptocurrencies, and a range of other digital technologies. To build a connected landscape, policy communities will need to work together to identify gaps or areas where connecting debates is necessary in order to support effective policy development and inclusive dialogues about the ways in which data is managed and used in the 21st century.

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