



Policy Brief

Data-Driven Responses to COVID-19: Lessons Learned from the OMDDAC Project

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Summary of the research

Data-driven approaches to the COVID-19 pandemic range from entirely automated, AI-powered processing to “mundane” uses of digital information and statistics to inform decision-making. The pandemic has accelerated the consideration of a number of priorities in the data and technology space, and these are being reflected in the present data strategies of the UK Government. This final report is the culmination of a year’s research, comprising: i) interviews focused on the experiences of key stakeholders regarding pandemic data-driven policymaking, technology and public health, and policing and public safety; ii) original quantitative research in the form of public perception surveys; and iii) engagement with children and young people, being one of the underrepresented voices in the public debate on data and COVID-19.

The research of the Observatory for Monitoring Data-Driven Approaches to Covid-19 (OMDDAC) has looked at some of the most important legal, ethical, regulatory, and policy challenges that have arisen during the pandemic, presented in the context of the UK Government’s National Data Strategy, which has framed future data policy around the pillars of ‘*data foundations*’, ‘*data skills*’, ‘*data availability*’ and ‘*responsibility*’.

The findings highlight the **central importance of data quality and integrity, robust information governance mechanisms and public transparency for creating an environment where data analysis and sharing can be trusted and accepted in an emergency context.**

Key Findings

Data Foundations: in our interviews, stakeholders consistently highlighted significant challenges relating to data quality and operational capability. We found that a “thirst for information” across policing and government during the pandemic led to the creation of new data sets with **varying levels of data reliability**. Interviewees also talked of a **wide diversity in technical and operational capability** across the public sector.

To address this, OMDDAC recommends the establishment of a national public sector data standards framework, corrective actions to improve quality of existing data in the public sector, the use of qualitative data to support quantitative data, and that automated systems should be subject to meaningful human oversight. Finally, OMDDAC recommends that a consultation across the public sector regarding IT infrastructure is needed to improve appropriate and secure data sharing and analysis.



Data Skills: the pandemic exposed important skill gaps related to data-driven approaches. In particular, our findings identified a gap in the **data literacy capabilities of government leaders and decision-makers** at a central and local level. Concerns were expressed about a 'breakdown at the interface between analysing data and deciding what to do with it', calling into question whether decision-makers are **properly equipped to evaluate and utilise data-driven outputs, taking into account relevant limitations, assumptions, and uncertainties.**

In response to this, we recommend that public sector leaders, decision-makers and policymakers be required to undertake data literacy training and development, and that there is more active encouragement of interdisciplinary collaboration.

Data Availability: the pandemic saw unprecedented levels of medical- and non-medical data sharing as well as innovative ways of doing so. **The sharing, linkage, and re-purposing of datasets from a diverse range of sources has been a central tenet of the national pandemic response.** Our survey findings evidence, however, a disparity in public willingness to share data across different sectors and organisations. Sharing sensitive health data with bodies such as the police, for example, evoked some public concern.

In our report, we highlight that **it cannot be assumed that the public are comfortable sharing their data across all areas of the public sector;** our research has shown that participants were significantly less willing to share data with the police as compared with their local authority or public health body. In our survey findings, there was little difference between the willingness of the public to share data with their local police force as compared with a commercial company.

In response, we recommend that data acquisition, sharing and processing is subject to robust, end-to-end information governance requirements that are transparent to the public, with the Government and other public bodies being prepared to impose legally enforceable restrictions and limitations on themselves regarding the use of certain data. The report also recommends increasing public trust by being transparent about data sharing, avoiding assumptions on whether the public are comfortable with data sharing, avoiding a one-size-fits-all approach to data sharing, and providing options for how much detail is shared.

Responsibility: Our research identified two key issues which are vital for the responsible use of data: **transparency** and **public engagement.** Stakeholders highlighted a need for greater transparency firstly with regard to the fundamental capabilities of data **to ensure that the outcomes of statistical modelling are not presented, or perceived as, 'the truth'.** In addition, our research highlights a need for greater levels of transparency and public engagement with regard to the ways in which data is used.

OMDDAC's findings evidence that **a new public conversation is needed post-pandemic** to ensure that the public are better informed, educated, and consulted regarding the use of their data. It is also imperative that **children and young people – who have been described as the 'hidden victims' of COVID-19 – are included in these conversations.** The young people who participated in OMDDAC's research felt that their views had not been considered enough during the pandemic; the final report incorporates their suggestions of ways the Government could inform and engage more effectively with their demographic.



OMDDAC's research has demonstrated the complexity of issues involved in the use of data for decision-making as well as the sharing of individual's data, particularly across multiple public sector authorities. The central importance of **data quality** and **integrity, robust information governance mechanisms** and **public transparency for creating an environment where data analysis and sharing can be trusted and accepted in an emergency context** is clearly apparent from our findings.

In conclusion, therefore, we recommend the **appointment of an independent oversight body during emergency situations** to ensure that use and sharing of data by central government and public bodies for operational and public policy purposes serve the public good. It should also ensure that data use and sharing are supported by appropriate public transparency about data sources and methods of analysis, that data analysis is conducted with quality and integrity, and that data sharing is overseen by independent governance – as well as being subject to appropriate controls, conditions, and time-limitations.

Policy recommendations

Data Foundations:

- the establishment of a national public sector data standards framework to address inconsistencies and enable better interoperability of public sector data;
- that corrective action be taken to address quality issues with data across the public sector;
- the collection and incorporation of qualitative data in support of quantitative data, for informing sound decision making;
- that where AI and automated decision-making tools are employed to feed into decisions affecting individuals, they should continue to be subject to meaningful human oversight mechanisms; and
- that there is consultation across the public sector to determine the ICT infrastructure and resource requirement to facilitate appropriate and secure data sharing and analysis.

Data Skills:

- that decision-makers and policymakers in the public sector be required to undertake data literacy training and development; and
- that there is more active encouragement of interdisciplinary collaboration between specialists in the methodology (including epidemiologists, data scientists and mathematicians) and domain specialists (including behavioural scientists as well as, critically, law and governance specialists).

Data Availability:

- that data acquisition, sharing and processing is subject to robust, 'end-to-end' information governance requirements that are made transparent to the public, with clear restrictions and limitations set out in law and regulation; and
- the design of data-sharing initiatives aims to maximise public acceptability by:
 - being transparent about what data is being shared and with whom;
 - avoiding assumptions about whether the public is comfortable with their data being



- shared across all sections of the public sector;
- avoiding a 'one-size-fits-all' approach to data sharing; and
- providing options for how much detail is shared.

Responsibility:

- that future policy decisions informed by data modelling are accompanied by explanatory statements, which are published in a format accessible to the public and detail the relevant limitations, assumptions, and uncertainties. The form and content of the explanatory statements should be decided in consultation with multiple sections of the public, including children and young people;
- the public should be informed in a transparent and accessible manner about which organisations have access to their data;
- where Memoranda of Understanding are agreed between enforcement bodies and health agencies for the sharing of sensitive health data, the terms and conditions must be made as transparent to the public as possible;
- the Government Office for Science should initiate a new public conversation to consult with, inform and educate the public regarding the use of data; and
- public consultations must be inclusive of all members of the public, including under-represented groups and children and young people, employing multiple strategies of engagement.

Appropriate Oversight:

An appropriate oversight body should be appointed during emergency situations to ensure that:

- use and sharing of data by central government and public bodies for operational and public policy purposes serve the public good;
- data use and sharing are supported by appropriate public transparency about data sources and methods of analysis;
- data analysis is conducted with quality and integrity; and
- data sharing is overseen by independent governance and is subject to appropriate controls, conditions, and time-limitations.

Further information

Full project report and practitioner guidelines available to view and download at: www.omddac.org.uk

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