



Department
for Education



Responsible
Technology
Adoption Unit

Data Ethics Workbook

**For local authorities developing data
analytics tools in children's social care**

April 2024

Contents

Summary	3
Ethics workbook	4
Explore phase	4
Develop phase	6
Implement phase	10

Summary

The ethics workbook collates key ethics questions that all developers and project teams should answer at each stage of the development cycle.

Your responses to the questions will become an assessment of how key ethical considerations are being addressed throughout the project.

Wherever possible, you should draw on evidence and research with end users in children's services and experts by experience. Note where their views have informed your decisions.

Who this publication is for

This workbook is for those who are developing or managing the development of a data analytics tool (whether in-house or through procurement).

This may include:

- data practitioners and developers
- information governance representatives
- project managers or ethics officers
- third party providers (where procuring tools or services)

How to use this publication

This publication is made up of a set of questions. We recommend that you:

- share and discuss your responses with an internal or external oversight group. The **governance and oversight explainers chapter** can help to ensure that you have the right level of challenge.
- cross-check with the **guidance for developing data analytics tools and explainers** where you would like support to respond to the questions.

Ethics workbook

Explore Phase (Stages 1-4 of the guidance for developing data analytics tools)

The first four stages of the development lifecycle covers the Exploratory, Problem Identification, Choosing a Data Analytics Solution, and Ethics Triage stages of the **guidance for developing data analytics tools**.

In the first four stages, you should have done the following:

- completed a data maturity self-assessment
- engaged with children's services teams to explore data literacy and their views on data analytics
- engaged with children's services teams to identify demands and pressures, and whether a data analytics tool could help to address those problems
- identified datasets required to develop a tool, the quality of those datasets, and how a tool could be incorporated into your existing systems architecture
- signed off on a business case, and started drafting impact assessments, including data protection
- established good data governance and appropriate internal or independent oversight and scrutiny

You should now work through the following steps and identify where you might need to do further work.

1. Describe the tool you will develop, including:

- the type of analytics it relies on
- the decision making process it supports
- who will use it and be affected by it

2. Outline the expected outcomes and benefits of the tool. Include details about:

- how you will measure impact and effectiveness

- how you will engage with and include end users and affected stakeholders across the design and development of the tool.

In particular, you should consider outcomes and benefits (and any potential adverse or undesirable impacts) of the tool for:

- children and families
- child and family practitioners (end users)

If you need help, refer to the

- **Exploratory stage in the guidance for developing data analytics tools** for a data maturity self-assessment.
- **Problem identification stage in the guidance for developing data analytics tools** for more information about how to co-diagnose a problem with end users and affected stakeholders.

3. Outline the resources, expertise and skills that are required to develop the data analytics tool.

You should include:

- rationale for engaging third party providers or developers, and the measures you've put in place to support effective working.

If you need help, refer to

- **choosing a data analytics solution stage in the guidance for developing data analytics tools**
- **Explainers chapter on Procurement** for information advice on procurement.

4. Identify specific risks in your data analytics tool. List the measures you have taken to spot and mitigate risks, concerns and unintended consequences during development.

You should describe:

- how you have and will meet legal requirements, such as adherence to the GDPR and Equality Act 2010
- processes you've got in place to support good governance, which should include:
 - risk management
 - mechanisms to set boundaries on the tool's purpose and intended use
 - oversight and scrutiny functions to provide advice and challenge.

If you need help, refer to

- **the ethics triage tool** to help to identify specific risks in your tool.
- **ethics triage stage in the guidance for developing data analytics tools** for more information on meeting legal requirements
- **Explainers chapter on governance and oversight** for advice on establishing appropriate risk management, governance, and scrutiny processes.

Develop phase (stages 5-8 of the guidance for developing data analytics tools)

Stages five to eight of the development lifecycle covers the Design, Development, Testing and Pre-deployment stages of the **guidance for developing data analytics tools**.

In these four stages, you should have done the following:

- taken baseline measurements of the status quo, for the purpose of evidencing outcomes and measuring effectiveness of the tool in later stages
- co-designed the tool's interface with end users of the tool so that it meets their needs
- built in appropriate privacy and security protections
- Incorporated processes to support explainability, transparency and scrutiny for affected stakeholders

- completed iterations of the prototype tool, engaging with end users, affected stakeholders and experts for feedback
- provided training for end users of the tool to be confident to use the tool as intended, and data practitioners to update and review the tool
- completed appropriate testing, including alpha (systems) and beta (user) testing
- considered the wider impacts of introducing a data analytics tool in children's social care, including considering and putting measures in place to mitigate any potential adverse impacts

5. Specify the datasets that you have selected for the development of the tool and provide the reasons for your choice. You should consider the following in justifying the rationale for choosing datasets:

- your user research, including views and concerns from users, affected stakeholders and experts
- the quality of the datasets:

If you need help, refer to

- **Explainers chapter on data quality** for more information on how to understand, improve and mitigate data quality challenges.

6. Consider how you have designed the tool so that it meets users' needs and is incorporated into existing workflows and processes

If you need help, refer to the

- **Design stage in the guidance for developing data analytics tools**

7. Assess which groups might be disproportionately impacted by the tool, and how are you mitigating the risk of bias

You should consider:

- datasets you've chosen for inclusion
- testing for bias
- oversight, scrutiny and expert views.
- Carrying out a Public Sector Equality Duty Assessment in order to prevent discrimination of those with protected characteristics as defined in s.149(7) of the Equality Act 2010

If you need help, refer to the

- **Explainers chapter on Mitigating Bias** for technical and organisational advice to help to address bias in the development and use of data analytics tools.

8. Assess what measures are in place to protect the privacy and safety of children and families' data

You should consider the following:

- measures that control and restrict access to children and families' data
- techniques that de-identify or anonymise data
- cyber-security measures

Provide justification where you have limited individual privacy (e.g. overriding safety concerns, lower accuracy).

If you need help, refer to the

- **Explainers chapter on data sharing** for advice on improving individual privacy and ensuring the security of your tool or system.

9. Assess how are you making sure that the development process and insights from a tool are explainable and open to scrutiny

You should consider:

- how an end user can understand how insights were reached and challenge or dispute the insights from a tool
- how affected stakeholders or other members of the public can ask questions or raise concerns
- how technical details from the tool are open to external scrutiny.

If you need help, refer to the

- **Development stage in the guidance for developing data analytics tools** for more information.

10. Detail the testing procedures you have implemented, how the results validate the tool's readiness for live deployment, and the measures you have taken to iterate and enhance the tool

You should consider different ways to measure effectiveness, for example:

- likelihood to improve outcomes for children and families
- accuracy, including on different demographic groups
- reliability

You should provide details of any unintended consequences that were identified in testing, and how you have addressed them.

If you need help, refer to the

- **Testing stage in the guidance for developing data analytics tools**
- **Testing and evaluation explainers chapter** for more information about the testing process.

Implement phase (stages 9-10 of the guidance for developing data analytics tools)

Stages nine and ten of the development lifecycle cover the deployment and monitoring and retirement stages of the **guidance for developing data analytics tools**.

In these stages, you should have done the following:

- revisited resourcing, governance and oversights ahead of deployment, to make sure that you have sufficient capacity to maintain and review the tool once live
- begun process and/ or impact evaluations
- shared details about the tool publicly, including with technical experts, affected stakeholders and the general public
- established set intervals to review and update the tool, making improvements and adjustments as necessary

11. Detail how and what have you communicated publicly about the tool.

You should provide details about communication and feedback from the following stakeholders:

- children's services teams within your local authority
- affected stakeholder groups, i.e. organisations who can represent children's views
- external technical experts and researchers.

If you need help, refer to the

- **Pre-Deployment Stage in the Guidance for developing data analytics tools** for information about communicating with the public.

12. Assess what testing and evaluation of the tool has been completed post-implementation

You should outline how you have made sure that the tool:

- leads to better outcomes for children and families
- improves existing decision-making process

- is accurate, secure, valid and reliable

You should document how and with whom you have shared the results from any evaluation and testing. For example, with technical experts, end users, affected stakeholder groups and the general public.

If you need help, refer to the

- **Pre-deployment stage in the guidance for developing data analytics tools** for information about communicating with the public.

13. Detail what processes and resources are in place to ensure that the tool remains effective, improves, and continues to demonstrate better service provision

In addition, you should describe any amendments and iterations that you have made on the tool, including details of and rationale for any expansions in scope.

You may consider:

- measures in place to review and test the tool
- how risks and concerns are being identified and addressed
- how you are engaging with end users for feedback, including understanding whether the tool is being used and remains useful
- what, if any, unintended consequences have been identified.

If you need help, refer to the

- **Deployment stage in the guidance for developing data analytics tools.**



Department
for Education



Responsible
Technology
Adoption Unit

© Crown copyright 2024

This publication is licensed under the terms of the Open Government Licence v3.0, except where otherwise stated. To view this licence, visit nationalarchives.gov.uk/doc/open-government-licence/version/3.

Where we have identified any third-party copyright information, you will need to obtain permission from the copyright holders concerned.

About this publication:

enquiries <https://www.gov.uk/contact-dfe>

download www.gov.uk/government/publications

Follow us on Twitter: [@educationgovuk](https://twitter.com/educationgovuk)

Connect with us on Facebook: facebook.com/educationgovuk