UK Government

Government Functional Standard

GovS 010: Analysis

Version 2.2

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Approved

This functional standard is part of a suite of management standards that promotes consistent and coherent ways of working across government, and provides a stable basis for assurance, risk management and capability improvement. Working as a suite, the Functional standards cross-refer to each other where needed.

The suite of standards, and associated guidance, can be found at **Functional Standards - GOV.UK.**

They contain both mandatory and advisory elements, described in consistent language (see the table below.

Term	Intention
shall	denotes a requirement: a mandatory element.
should	denotes a recommendation: an advisory element.
may	denotes approval.
might	denotes a possibility.
can	denotes both capability and possibility.
is/are	denotes a description.

The meaning of words is as defined in the Shorter Oxford English Dictionary, except where defined in the Glossary in Annex B.

It is assumed that legal and regulatory requirements are always met.

Version 2.1 replace version 2 GovS 003, now titled “People” instead of “Human Resources”, highlighting a shift towards inclusive and comprehensive management of the workforce across government. It reflects updates based on feedback, usage, and changes to other standards, particularly integrating diversity and inclusion in more areas.

Produced by the People Function

Contents

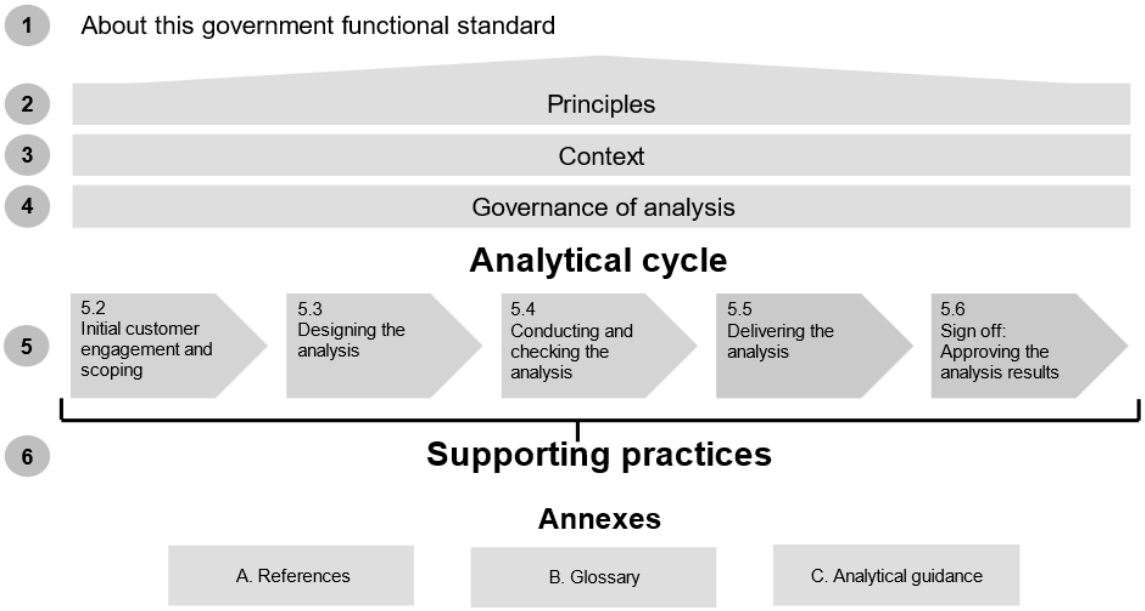

Figure 1: Structure and scope of this functional standard

1. About this government functional standard

1.1 Purpose of this standard

The purpose of this government functional standard is to set expectations for the planning and undertaking of analysis to support well informed decision making to deliver better outcomes and improve the lives of citizens.

This standard provides direction and guidance for:

- permanent secretaries, directors general and chief executive officers of arm's length bodies and suppliers, to ensure appropriate governance of analysis
- users and producers of government analysis, including non-analysts and external consultants to ensure quality and consistency of analysis across government organisations

1.2 Scope of this standard

This standard applies to all government analysis carried out by anyone within or on behalf of government, whether they are an analyst or not:

- in departments and arm's length bodies
- informing decisions on policies, project delivery and operational services and informing the public
- whether published externally or an integral part of internal decision making
- regardless of analytical methodology or technique used

Other public sector organisations might find this standard useful.

Note: an organisation, in the context of government functional standards, is the generic term used to describe a government department, arm's length body, or any other entity that is identified as being within scope of a functional standard.

1.3 Government standards references

The following standards are necessary for the use of this standard:

- GovS 002, Project delivery
- GovS 005, Digital
- GovS 007, Security
- GovS 008, Commercial
- GovS 011, Communication

A functional standard supports achievement of the outcomes sought by an organisation. It sets expectations for what needs to be done and why relating to the functional work within its scope, in order to achieve those organisational outcomes.

Note: for expectations relating to management of a function across government, and management of functional standards, please see GovS 001, Government functions.

2. Principles

Those engaged in analysis shall ensure:

1. Analysis is for the public good and is aligned to government policy and organisational objectives
2. Analysis uses appropriate inputs and methods to produce high quality results
3. Analysis supports effective decision-making through presenting outputs clearly
4. Ongoing quality assurance and continuous improvement is embedded in the way analysis is carried out
5. Public service codes of conduct and ethics and those of associated professions are upheld

3. Context

3.1 Introduction

This section provides essential background information for the use of this functional standard.

3.2 The role of analysis in government

Analysis is a collaborative activity supporting the development and delivery of policy, project delivery and operations.

The scale and timing of analysis work can vary, ranging from on-going advice on policy papers to major projects or phased programmes of work.

Ministers and other leaders rely on analysis to inform their decisions. Understanding the rationale for a decision enables the appropriate type and rigour of analysis to be undertaken. A variety of analytical approaches can be used to build the evidence to support decision-makers and different approaches can be used at different points in the development of the analysis results.

Analysis contributes to the government's established policy development and review cycle [4], which considers rationale, objectives, appraisal, monitoring, evaluation and feedback (known as the 'ROAMEF' cycle), as shown in Figure 2.

The role of analysts is to proactively apply their professional knowledge, skills and experience to addressing issues of public concern, and to ensure that the formulation of government policy is founded on sound analytical principles and procedures.

This means that analysts are partners to policy makers and other colleagues. Analysts are often commissioned to do work, as described in this document. They can also proactively suggest solutions to problems based on evidence, set out innovative approaches, and may provide

Figure 2: The Government's policy development and review cycle

3.3 How analysis is organised in government

Accountability for analysis ultimately rests with the respective Accounting Officer of each government organisation; however, they are supported by an assurance regime to make sure the advice given to decision makers is sound.

The responsibility for defining the subject specific standards and practices used by analysts is generally held by the appropriate government analysis profession (listed in Annex C).

3.4 Analytical practices

Government analysts use a range of analytical tools, as outlined in the guidance documents which are produced by the professions and outlined in this document. They include models and methods to produce consistent, trusted and transparent results.

Analytical models use information or data to provide insight into a question. Different types of models, for example analytical, simulation or forecasting, can help understand a problem as part of an analytical method.

Analytical and scientific methods can be used to understand possible solutions or to mitigate against adverse impacts. Analytical methods provide a defined process which, combined with the scientific method, provide a series of steps to identify a problem, test a hypothesis, implement a solution.

Analytical tools are models or methods that are used to produce calculations (especially repetitive or lengthy ones) in a consistent and efficient manner when following guidance and methods.

4. Governance

4.1 Governance and management framework

4.1.1 Overview

Governance comprises prioritising, authorising, directing, empowering and overseeing management, and assuring and reviewing performance.

The governance and management of analysis should be proportionate to the work and levels of uncertainty (see 6.5).

4.1.2 Governance and management of analysis across government

A senior officer (see 4.4.2) should be appointed to ensure there is a defined and established governance and management framework for analytical standards across government, which should include requirements together with associated guidance.

4.1.3 Governance and management of analysis in an organisation

Each organisation shall have a senior officer accountable for its analysis activities (see 4.4.4).

Each organisation should have a defined governance and management framework which complies with this functional standard, the cross-government governance and management framework (see 4.1.2) and the organisation's policies.

The governance of analysis within an organisation should be an integrated part of that organisation's overall governance.

4.2 Assurance of analysis

The purpose of assurance is to provide, through a systematic set of actions, confidence to senior leaders and stakeholders that work is controlled and supports safe and successful delivery of policy, strategy, and objectives.

Organisations should have a defined and established approach to assurance, which should be applied proportionately to the risk and value of the activity and integrated with the organisation's overall assurance framework. Typically, assurance should be on at least three separate and defined levels including:

- by, or on behalf of operational management: inputs and procedures used and testing undertaken by the analysts
- by, or on behalf of senior management, independent of operational management: analytical peer review by skilled and competent persons
- by independent bodies: analytical audits where appropriate (which may be undertaken by internal or external specialists)

The work of internal and external assurance providers should be planned to minimise disruption to other work, avoiding overlaps with other assurance activities and duplication of effort, whilst remaining rigorous and meeting the needs of stakeholders. Where assurance includes formal review activity, the customer for the review should be clearly identified.

Advice relating to assurance should be proportionate to the impact of the analysis and should include:

- challenging and testing the understanding of the problem
- challenging the requirements, boundaries, assumptions, and scope and assessing whether sufficient views have been considered

- ensuring the planned and actual level of quality checking of the analysis is appropriate for the decision being supported
- ensuring an audit trail is in place

The requirements of the Orange Book: management of risk – principles and concepts, should be met [2].

4.3 Decision Making

Decisions relating to analysis work should be made and approvals given in a timely manner, in accordance with the organisation's analysis governance and management framework. Government policy and professional codes of practice should be complied with. Decisions should be made by assessing options against defined criteria and in consultation with stakeholders, subject matter experts and specialists.

Decisions may relate to:

- approving data, models, and methods to be used
- approving the scope and design of analysis and other aspects of planning (see 5.2)
- approving the results and timing of the dissemination of outputs (see 5.6)
- terminating or suspending analysis work if deemed to be unfit for purpose

Decisions should:

- be holistic, taking account of the external context and uncertainty (see 6.5)
- be communicated to the relevant stakeholders

GovS 005, Digital shall be followed, with respect to where digital is used in decision making.

4.4 Roles and accountabilities

4.4.1 Overview

Roles and accountabilities shall be defined, in the relevant governance and management framework and assigned to people with appropriate seniority, skills and experience. This should include, but is not limited to, the activities, outputs, or outcomes they are responsible for, and the person they are accountable to.

4.4.2 Senior officer accountable for analysis across-government

The senior officer accountable for analysis across government is accountable to the Chief Operating Officer of the Civil Service for ensuring effective analytical practices and standards across government, including:

- overseeing the effective and efficient application of this functional standard across government
- ensuring appropriate standards of professionalism in analysis

The senior officer accountable for analysis across government should be supported by the heads of the analytical professions for providing specific guidance relating to their analytical discipline.

Note: This role is often done by the same person who leads the Analysis Function across government; for more detail, see GovS 001, Government Functions which sets common expectations for managing government functions and functional standards.

4.4.3 Accounting Officer

The permanent head of a government department is usually its Principal Accounting Officer.

An organisation's Accounting Officer is accountable (via a Principal Accounting Officer where appropriate) to Parliament and the public for the stewardship of public resources, ensuring they are used effectively and to high standards of probity.

The Principal Accounting Officer generally

appoints the most senior executive in the arm's length bodies within the department's ambit as an Accounting Officer.

4.4.4 Senior officer accountable for analysis in an organisation

The senior officer accountable for analysis in an organisation is accountable to the Accounting Officer (or equivalent in an arm's length body) for the quality and value of analysis produced in the organisation:

- ensuring the organisation's governance and management framework includes analysis work appropriately
- ensuring the organisation has the capability and capacity to conduct the analyses it needs
- providing leadership and direction for analysis within the organisation
- ensuring appropriate ownership of recommended practice models used in the organisation
- ensuring analysis is carried out appropriately and complies with this standard and the associated guidance
- ensuring the required benefits from analysis are realised, at an acceptable level of risk and cost
- engaging, at senior level, with those involved in analysis
- providing advice and guidance to senior officers and their teams

This role may be divided across several individuals provided the scope of each individual's accountabilities is defined and the full scope of what is required is covered.

Note: The senior officer accountable for analysis in a government department is often called the Chief Analyst. The Chief Statistician has specific accountability for statistics (see Annex C).

4.4.5 Analysis commissioner

The analysis commissioner is accountable to a named person for commissioning a specific piece of analysis and for the use and dissemination of the results. Working in consultation with the analytical assurer (see 4.4.6) and analyst (see 4.4.7), activities include:

- ensuring governance is proportionate and supports the analysis and its intended use
- ensuring the brief and context for the analysis are defined and clearly communicated and that the criticality of the analysis is understood by the analyst and the analytical assurer
- identifying key stakeholders so their views can be considered
- agreeing the use of specific data and assumptions
- ensuring appropriate dissemination and use of the results

For project delivery the commissioner may be a senior responsible owner or someone acting on their behalf.

4.4.6 Analytical assurer

The analytical assurer is accountable to the analysis commissioner for providing independent advice on a specific analysis assignment and in particular:

- confirming appropriate and sufficient analytical quality assurance has taken place
- confirming the use of the analysis' outputs is appropriate and that assumptions and risks are understood

4.4.7 Analyst

The analyst is accountable to the analysis commissioner for designing, conducting, and delivering the analysis and in particular:

- assisting the analysis commissioner in structuring the question(s) to ensure the right analysis is performed
- agreeing the scope, boundaries, and assumptions of the analysis with the analysis commissioner and key stakeholders
- ensuring stakeholder expectations are managed to keep them aligned with what can be delivered
- defining or choosing the models and methods to be used and, where appropriate, producing the plan and design documentation
- conducting the analysis in accordance with the agreed plan and design
- ensuring the results of the analysis are delivered and approved
- timely, clear, and insightful communication of results, with appropriate caveats and limitations communicated. GovS 011, Communication shall be followed, where a wide range of stakeholders are involved

For large, complicated, or multi-disciplinary analyses, an assigned analyst should act as a lead, supported by a team of specialist analysts.

5. The analytical cycle

5.1 Overview

The primary practices required for a commissioned analysis project are shown in Figure 3. Project commissioners can be policy professionals, analysts, or others. These activities should be supported by those in section 6 where appropriate and be applied proportionately. The types of analytical practices which can be used within these activities are highlighted in section 3.4. The activities may be iterative and incremental until an acceptable result has been achieved.

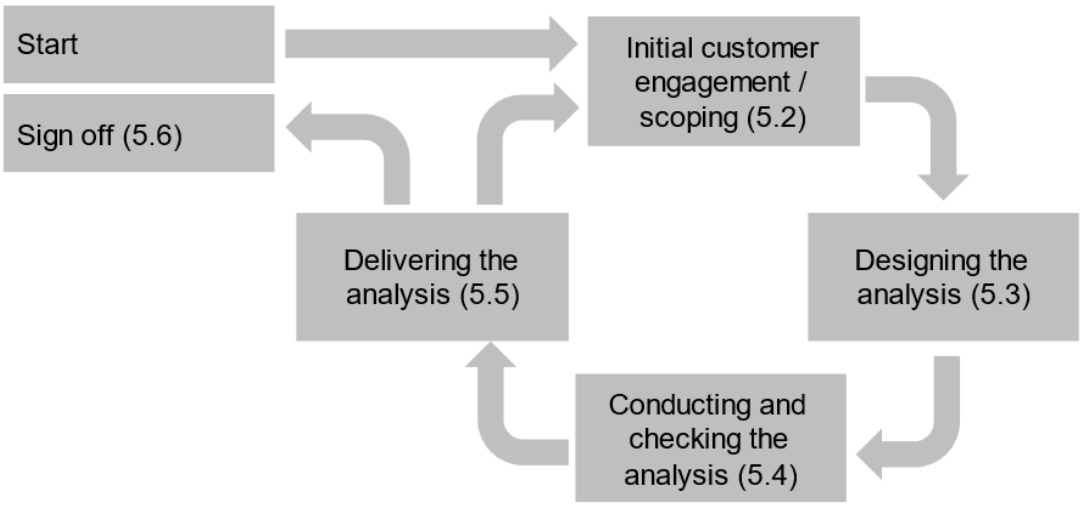

Figure 3: The analytical cycle

In addition to being commissioned to carry out projects, analysts can also proactively suggest solutions, set out innovative approaches and provide constructive challenge (see 3.2).

The stages of the analytical cycle are:

1. Initial customer engagement and scoping
2. Designing the analysis
3. Conducting and checking the analysis
4. Delivering the analysis
5. Sign-off: approving the analytical results

Detailed guidance on the analytical cycle and management of analysis, included in the Aqua Book [1] should be followed.

GovS 005, Digital, shall be followed with respect to where data is used or shared during the analytical cycle.

5.2 Initial customer engagement and scoping

Scoping ensures that an appropriate understanding of the problem is defined and that expectations are aligned with what can be delivered.

The analysis commissioner should work with the analyst to ensure the requirements and scope for the work are defined and clearly understood, including:

- recording the perceived purpose of the analysis and the levels of quality and certainty required to achieve it (see 6.5)
- exploring the requirements, boundaries, and scope with the stakeholders, seeking a wide range of perspectives

5.3 Designing the analysis

Effective design and planning ensures that the analysis undertaken is sufficient to answer the question posed, is proportionate, reflects known uncertainties (see 6.5) and represents value for money.

From the outset, the analyst should proactively ensure that the proposed design and plan meets the analysis commissioner's requirements. Analysts should work with appropriate subject matter experts to design the analysis. Learning from relevant earlier work should be incorporated (see 6.9).

Innovative approaches should be considered where the costs and risk of their use is proportionate to the complexity of the problem and the benefits they bring. Costs of analysis can be reduced through reuse of models and methods and the linking and sharing of data.

A design and plan, covering the analytical cycle should be developed where appropriate and communicated to those involved in its conduct or who have an interest in its results. This may include:

- analytical assurance activities (see 4.2)
- decision making (see 4.3)
- roles and accountabilities (see 4.4)
- the inputs, procedures, techniques, and tools to be used, and the expected outputs
- timescales, phasing, costs, and resources needed
- escalation routes to enable analysts and stakeholders to raise concerns

GovS 008, Commercial shall be followed with respect to the procurement and management of analytical products and services.

The designed approach should:

- be repeatable, producing the same results for the same inputs if others repeat the analysis
- consider uncertainty (see 6.5)
- consider the fitness-for-purpose of underlying data sources to address the analytical question
- be appropriately documented (see 6.7)

The plan may be incorporated within the management framework of the work the analysis supports.

The analytical assurer should, in consultation with relevant subject matter experts, check that the proposed design meets the commissioner's requirements.

The design should be approved by the analysis commissioner before work proceeds. GovS 002, Project Delivery, should be followed where analysis is extensive, involving a team over a protracted time scale, with respect to the management of the work as a programme or project.

5.4 Conducting and checking analysis

The analysis should be undertaken following the approved design and plan (see 5.3). The analyst should, in consultation with subject matter experts and the analysis commissioner:

- keep the commissioner informed of progress, agreeing assumptions, and raising issues or requests for direction
- provide the analytical assurer access to the work and information, as required
- ensure data is handled correctly
- address uncertainty (see 6.5)
- carry out validation and verification (see 6.6)
- maintain a record of the analysis as appropriate (see 6.7)
- identify lessons which are likely to benefit future analysis work, and models and methods (see 6.9)

The analysis commissioner, working with the analytical assurer, should monitor progress and be satisfied that the analysis is proceeding as planned and remains relevant and is likely to produce a result which can inform subsequent decisions.

When necessary, the analysis design and plan may be amended to account for emerging information or changing circumstances.

5.5 Delivering the analysis

The draft analysis results should be delivered to the analysis commissioner to ensure the results are sufficiently understood by the commissioner prior to approval. The results should include:

- an assurance statement including assumptions, uncertainty (see 6.5), limitations, and comments on the applicability and use of the results
- links to references, computer code and data; data should be kept in compliance with statutory and contractual requirements
- any other critical information, for example survey questions, sampling details, models used

5.6 Sign off: Approving the analysis results

A formal approval of the analysis results ensures that the analysis has been carried out in the right way, as outlined below.

The analysis commissioner should formally approve the results of the analysis for dissemination. They should:

- be satisfied that the analysis has been undertaken competently and the results are valid (see 6.6)
- provide open and transparent reasons relating to decisions made
- confirm, or otherwise, that the brief was fulfilled and, if appropriate, approve the analysis work as complete

The approval of results may be phased as work progresses.

The analysis commissioner should ensure appropriate and timely dissemination of the results of the analysis. The results should be presented in a clear, accessible, and transparent manner and include appropriate caveats to ensure the results are used

appropriately, bearing in mind the context, uncertainty (see 6.5) and constraints.
The results may be published in different formats for diverse audiences and to ensure accessibility requirements are met. The commissioner may encourage those using the results of the analysis in decision making to publish how the analysis has been used.
GovS 011, Communication shall be followed where the dissemination of results involves a wide group of stakeholders.

Dissemination of official statistics should follow the Code of Practice for Statistics [3].

6. Supporting practices

6.1 Overview

This section includes practices which supplement those in section 5 and which can be used throughout the analytical cycle. It sets expectations for how analysts should follow the principles in general and for particular aspects of analysis.

Detailed requirements and guidance on these topics are published separately, and should be followed:

- The Aqua Book provides detailed guidance on producing quality analysis for government (see sections 6.2 to 6.10) [1]
- The Orange Book provides guidance on the principles and concepts of risk (see 6.5) [2]
- The Code of Practice for Statistics determines the production, dissemination and use of official statistics and may be used for other data or analysis [3]
- The Green Book [4] and Magenta Book [5] set requirements and provide guidance on appraisal and evaluation (see 6.12)
- The Data Ethics Framework [6] provides guidance for organisations on how to use data appropriately and responsibly when planning, implementing, and evaluating a new policy or service

6.2 Public interest

Ensuring analysis in government is undertaken in the public interest, means that analytical expertise is being used in the most effective way. To help meet this aim, analysis should be:

- Carried out in the interests of the public and be aligned to government policy and organisational objectives
- Undertaken in partnership with those setting strategy, policy and delivery, and analysts provide challenge where appropriate
- Carried out by people providing proactive leadership in the understanding of policy and delivery problems and in innovation in identifying solutions
- Proportionate and provide value for money

GovS 008, Commercial shall be followed with respect to procurement and management if analytical products and services are used.

6.3 Inputs and methods

Using the correct methods and methodology means user needs are met and data is used appropriately. Analysts should ensure that it:

- Is designed to meet the needs of stakeholders, with users' needs sought, understood, and acted upon
- Uses data drawn from a wide range of sources, and is used appropriately, recognising its limitations
- Uses the most appropriate available analytical methods, with results triangulated where possible, while also recognising the limitations and uncertainty around the analysis

People involved in analysis should be proactive in identifying and implementing innovations in inputs and methods.

6.4 Supporting decision-making

The purpose of government analysis is to inform, guide and improve decision making, through data.

Analysis should support decision-making by:

- Providing timely insights through outputs to inform, address and/or challenge the relevant policy issue, question, or decision
- Presenting the analysis in a way that is suitable for the intended audience, with findings, and the limitations and uncertainty around them, communicated clearly, objectively, and impartially to users and stakeholders
- Having an impact on decisions

GovS 011, Communication shall be followed where the dissemination of results involves a wide group of stakeholders.

6.5 Uncertainty

The purpose of managing uncertainty is to ensure commissioners and decision makers are aware of the implications of their decisions.

Uncertainty should be addressed during the analytical cycle (see section 5) so that:

- the analysis can be proportionately designed, planned and conducted
- assumptions, options, and scenarios can be appropriately chosen

Sources of uncertainty should be identified, and their impacts considered. Uncertainty should be analysed at the level required to support decision-making and at a level of detail appropriate to the decision being made. Options for managing uncertainty should be developed and appropriate control and mitigation actions taken.

When disseminating results expressions of uncertainty should:

- be quantitative where possible and relevant
- be balanced, avoiding unwarranted confidence in a particular option

Note: guidance on uncertainty can be found in the Aqua Book [1]. See also the Orange Book [2].

6.6 Analytical verification and validation

The purpose of analytical verification and validation is to assure that the analysis has been conducted properly (verification) and that the right type of analysis has been used (validation).

Analytical verification and validation should be proportionate to the purpose and constraints of the analysis and conducted through the analytical cycle (see section 5)

Analysts should document verification and validation activities undertaken and the associated conclusion so that the utility and reliability of the analysis work can be assessed.

6.7 Documentation and record keeping

Record keeping and documentation ensures necessary information is reliable and available for future needs.

Record keeping and documentation should be proportionate to the analysis being undertaken and model being used and can include:

- specification and design documentation
- notes of any deviations from the plan
- a log of data and assumptions
- an outline of the verification and validation activities carried out (see 6.6)
- user/technical documentation
- customer report
- •essons learned (see 6.9)

Documentation, data, and other records (both physical and electronic) should be version controlled, securely stored as needed and retrievable if needed to support and evidence analyses.

Information and data should be:

- classified and securely managed in accordance with GovS 007, Security
- retained to meet statutory and contractual requirements and the requirements of the Data Ethics Framework [6]

6.8 Quality assurance

Proportionate quality assurance helps ensure that analysis is robust. To ensure good quality assurance, analysis should be:

- Undertaken by those with the appropriate skills, information, and tools
- Tailored to the complexity, risk and impact of the analysis being conducted
- Quality assured throughout the analytical life cycle, and the quality assurance process should be communicated clearly
- Peer reviewed by independent individuals or groups
- Undertaken by people proactively finding and implementing innovations to continuously improve the analysis process, sharing lessons learned
- Aligned to GovS 005, Digital, in respect to managing data quality and in respect to managing data assets

6.9 Collaborative working

Analysts should consider collaboration at the start of analysis, this will be of benefit by allowing access to skills and knowledge held by others outside of their immediate team, this may:

- Avoid duplication and wasted resources
- Avoid conflicting results
- Ensure a diverse range of professional skills and perspectives are included

6.10 Learning from experience

Learning from experience avoids repeating mistakes and helps spread improved practices to benefit current and future analyses.

At the start of the analysis, those involved and key stakeholders should identify and apply relevant lessons from previous experience when planning the work. Lessons should be captured throughout the analytical cycle (see section 5), evaluated and action taken to mitigate risk and facilitate continual improvement of the final outputs.

Senior officers accountable for analysis in organisations (see 4.4.4), and owners of recommended practice models and methods should update their knowledge sources and communicate learning as appropriate.

6.11 Analytical models

Models used in decision making should be robust and fit for purpose.

Each recommended practice model should have:

- a named officer accountable for it
- a statement of its intended use
- up to date user documentation
- guidance on quality assurance
- confirmation from the accountable officer that it is suitable for its intended use

If a model is defined as business critical, consideration should be given to the skills and knowledge required by those using and assuring it, and whether specialist induction or training is needed.

Note: further guidance on business-critical models is provided in the Aqua Book [1].

If a recommended practice model is used for a purpose other than that for which it was originally designed or the context of its use has changed, the senior accountable officer should approve such use.

6.12 Statistics

Producers of official statistics should apply the Code of Practice for Statistics [3].

The Code provides a framework for ensuring that statistics are trustworthy, high quality and of public value. It is maintained by the UK Statistics Authority and underpins the statutory framework for official statistics.

The Code sets the standards that producers of official statistics should commit to and is based on three pillars - Trustworthiness, Quality and Value.

Those producing data, statistics or analysis that is not official statistics may apply the Code to demonstrate a commitment to trustworthiness, quality and public value.

6.13 Appraisal and evaluation

Appraisal and evaluation support objective decision making. Appraisal assesses the costs, benefits, and risks of alternative ways to meet government objectives. Evaluation provides a systematic assessment of an intervention's design, implementation, and outcomes, and should be used to improve the quality of policy implementation.

The Green Book [4] and Magenta Book [5] should be followed by those carrying out appraisals and evaluations.

The Green Book [4] should be used to develop, design, and appraise alternative options for policies, programmes, and projects. This might include proposals that concern public spending, taxation, changes to regulations, and changes to the use of existing public assets and resources.

The Magenta Book [5] should be used to support the design of an evaluation, how results can be interpreted and presented, and what should be considered in this process.

Appraisal and evaluation should form part of the established policy development and review cycle (see Figure 3).

Proposals for policies, programmes and projects are required to include proportionate provision for monitoring and evaluation before, during and after implementation.

6.14 Personal data

It may be necessary to use personal data within analysis. Where personal data has been used this should be in accordance with the organisation's policies and prevailing legislation [7].

Where analysis that uses personal data is published, analysts may include within the publication, relevant information on when personal data has been used and the justification for its use, how guidance has been followed and the steps taken to protect data.

A. References

All references are correct at the time of publication; users should check for updated versions.

I.D.	Description: Government References
1	HM Treasury, The Aqua Book: guidance on producing quality analysis for government (2015)
2	HM Treasury, The Orange Book: Management of risk – Principles and Concepts (updated 2021)
3	UK Statistics Authority, Code of Practice for Statistics (updated 2022)
4	HM Treasury, The Green Book: Central government guidance on appraisal and evaluation (2022)
5	HM Treasury, The Magenta Book: Central government guidance on evaluation (2020)
6	Central Digital and Data Office, Data Ethics Framework (2020)
7	Information Commissioners Office, UK General Data Protection Regulation (2016) and the Data Protection Act (2018)

B. Glossary

See also the *common glossary of definitions* which includes a list of defined terms and phrases used across the suite of government standards. The glossary includes the term, definition, and which function owns the term and definition.

Term	Definiton
analytically qualified	Any person fulfilling a role having received both sufficient training and experience to properly undertake the tasks at hand. This may be demonstrated through relevant qualifications.
analytical method	A process, combined with the scientific method, to enable analysts to examine complex relationships between variables.
analytical model	A mathematical, simulation or forecasting model that uses equations to conceptualise characteristics and describe changes in a system.
analytical recommended practice model	A model that through experience and research has been critically proven to reliably lead to a desired result and has been adopted by an analytical community.
assurance	A general term for the confidence that can be derived from objective information over the successful conduct of activities, the efficient and effective design and operation of internal control, compliance with internal and external requirements, and the production of insightful and credible information to support decision making. Confidence diminishes when there are uncertainties around the integrity of information or of underlying processes.
assurance statement (analysis)	In the context of analysis, an assurance statement is a description of the analytical assurance efforts that have been performed to assure the analysis, making reference to known limitations and conditions associated with the analysis and the use of its outputs.
defined (way of working)	In the context of standards, ‘defined’ denotes a documented way of working which people are expected to use. This can apply to any aspect of a governance or management framework for example processes, codes of practice, methods, templates, tools and guides.
established (way of working)	In the context of standards, ‘established’ denotes a way of working that is implemented and used throughout the organisation. This can apply to any aspect of a governance or management framework for example processes, codes of practice, methods, templates, tools and guides.

Term	Definiton
governance	Governance defines relationships and the distribution of rights and responsibilities among those who work with and in the organisation. It determines the rules and procedures through which the organisational objectives are set and provides the means of attaining those objectives and monitoring performance. Importantly, it defines where accountability lies throughout the organisation.
governance and management framework	A governance and management framework sets out the authority limits, decision making roles and rules, degrees of autonomy, assurance needs, reporting structure, accountabilities and roles and the appropriate management practices and associated documentation needed to meet this standard.
plan	A plan sets out how objectives, outcomes and outputs are to be delivered within defined constraints, in accordance with the strategy.
project delivery	Collectively, portfolio, programme and project management are referred to in government as 'project delivery'.
risk	The effect of uncertainty on objectives. Risk is usually expressed in terms of causes, potential events, and their consequences: • a cause is an element which alone or in combination has the potential to give rise to risk • an event is an occurrence or change of a set of circumstances and can be something that is expected which does not happen or something that is not expected which does happen. Events can have multiple causes and consequences and can affect multiple objectives; • the consequences should the event happen- consequences are the outcome of an event affecting objectives, which can be certain or uncertain, can have positive or negative direct or indirect effects on objectives, can be expressed qualitatively or quantitatively, and can escalate through cascading and cumulative effects.
strategy	A strategy outlines longer term objectives, outcomes and outputs, and the means to achieve them, to inform future decisions and planning.
validation (analysis)	In the context of analysis, validation comprises activities that confirm that an analysis has been performed which fulfils the stated need.
verification (analysis)	In the context of analysis, verification comprises activities that confirm the analysis has been carried out correctly.

Analytical professions and their guidance

C. The analytical professions

The analytical professions are:

- Digital Data and Technology Profession (DDaT)
- Government Actuary's Department (GAD)
- Government Economic Service (GES)
- Government Geography Profession (GGP)
- Government Operational Research Service (GORS)
- Government Social Research (GSR)
- Government Statistician Group (GSG)

Each profession is responsible for maintaining the guidance most relevant to its work and any necessary models and methods.

Profession-specific guidance

Below are some key sources of guidance for specific professions.

Actuarial Guidance

The Financial Reporting Council sets technical standards for actuaries. In the UK actuaries work is produced in accordance with the Financial Reporting Council's Technical Actuarial Standards. The generic standard, TAS 100, applies to all work which meets the Financial Reporting Council's definition of technical actuarial work. Additional technical actuarial standards should be applied in specified areas of work, where the Financial Reporting Council has identified risks to the public interest.

Institute and Faculty of Actuaries, Standards and Guidance

Financial Reporting Council, Actuarial Standards

Government Economic Service (GES)

The GES Technical Framework 2022 sets out the high-level technical standards, knowledge and skills required to be a Government Economic Service Member.

Government Economics Service GES Technical Framework (2022)

Government Operational Research Service Code of Practice

The purpose of the GORS Code of Practice is to augment the Civil Service code by providing Operational Research analysts with guidance as to how they should operate, particularly when faced with difficult situations.

Government Operational Research Service, Code of Practice

Government Geography Profession Guidance

The Government Geography Profession signposts guidance relating to place.

Government Geography Profession, Best Practices and Guidance (2021)

Government Social Research Guidance

The purpose of the GSR guidance is to outline the expected standards and responsibilities of any individual who designs and conducts social and behavioural research for on behalf of government.

Government Social Research Profession, GSR Ethical Assurance for Social and Behavioural Research (updated 2021) Government Social Research: Publication protocol (updated 2022) The Government Social Research Code

Digital and Data Guidance

The Government Digital Service (GDS) describes where to find and use open government data and a more specific set of criteria to help government design, build and buy technology in the Technology Code of Practice. The UK Data Service, funded by the Economic Research Council, also provides access to other open data hubs worldwide. The Government Data Standards Authority provides general data standards.

Central Digital and Data Office, Technology Code of Practice (Updated 2025)

The Data Standards Authority, Guidance and resources for data projects

Government Statistics Guidance

The Code of Practice for Statistics [3] includes the quality principles that should be applied to the collection, preparation, analysis, and publication of statistics so that they fit their intended uses, are based on appropriate data and methods, and are not materially misleading.

It also states that Heads of Profession for Statistics and Chief Statisticians have sole authority for deciding on methods, standards, and procedures, and on the content and timing of the release of regular and ad hoc official statistics and are the principal adviser and accountable officer on statistical matters within a department.