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Introduction

This third edition of *The Concordat to Support Research Integrity* ('the Concordat') represents continuing support for research integrity in the UK. Following on from editions published in 2012 and 2019, the Concordat sets the framework by which the UK research community, and those collaborating with them, can support the trustworthiness of UK research.

Responsible research practice responds to new developments, such as technological change, and to shifts in views and values among researchers, and in wider society. Where research is being conducted collaboratively, and particularly in interdisciplinary or international partnerships, there needs to be articulation of the standards and frameworks that apply to the work. While not exhaustive, the following list comprises relevant international documents that the research community should familiarise themselves with:

- Singapore Statement on Research Integrity (2010)
- Montreal Statement on Research Integrity in Cross-Boundary Research Collaborations (2013)
- Global Research Council Statement of Principles and Practices for Research Ethics, Integrity, and Culture in the Context of Rapid-Results Research (2022)
- European Code of Conduct for Research Integrity (2023)

These documents should be considered alongside the work of organisations engaged with supporting research and researchers. Their considerable experience in developing professional codes of conduct, ethical frameworks and guidelines that provide both general and discipline-specific guidance, contributes to a research environment which supports high integrity.

Opportunities and actions to embed research integrity should be inclusive and exercise humility to stay responsive and relevant. When concerns are raised, it is important that they are addressed early, and that pathways exist within organisations for them to be raised without detriment.

^{1.} Such as professional, statutory, and regulatory bodies; academies and learned societies; publishers; and advisory organisations

While the research community, employers, and funders are still the main intended audience of the Concordat, the principles and expectations are relevant to other parts of the sector, such as government bodies and publishers. Aligning expectations for research integrity across all parts of the research system will support endeavours to improve practice.

The focus in this refresh has been to decrease repetition and increase accessibility through the use of plain, clear language. The intention to support and improve integrity while also addressing the need to mitigate and manage research misconduct is emphasised through the responsibilities, and it is expected that funders will continue to state their expectation of adherence to the principles and responsibilities of the Concordat in their terms and conditions of funding. To ensure the Concordat remains fit for purpose, as expectations change and develop, it will be reviewed within five years.

Terms and Definitions

No single term exists that is inclusive of the wide breadth of roles involved in carrying out research. Throughout this document we have chosen to use 'the research community' to include all researchers and research-enabling staff.

Employers refers to employers of researchers; and **funders** are specifically funders of research. The term **organisation** is used to refer to all research conducting organisations and institutions.

A full list of **definitions** is provided at <u>Annex A</u>; and **responsibilities** for each group are summarised at Annex B.

Commitment 1: Maintaining the highest standards of research integrity - the principles

Responsible research practice is grounded in high standards of integrity in all aspects and fields of research, from ideation through to publication and public engagement. The UK recognises five key principles necessary to maintain the highest standards of research integrity.

These five principles are listed below with some examples of how they may be evidenced in research environments. The research community is expected to apply these principles as necessary and appropriately to their roles and responsibilities.



Figure 1: Infographic illustrating the five principles of The Concordat to Support Research Integrity.

- Honesty is crucial, from the presentation of research ideas and goals, through to
 authorship and financial contributions, and on to findings. Examples include honesty
 in: reporting research methods and procedures; gathering data and information;
 referencing work; representing and acknowledging the work of others; conveying
 interpretations; and making justifiable claims based on research findings.
- Rigour is demonstrated by behaviour that is in line with prevailing disciplinary norms
 and standards, including the use of appropriate methods. It may be evidenced
 through adherence to procedures, standards of practice and agreed protocols, as
 appropriate, and is expected when drawing interpretations and conclusions from
 research, including when communicating findings. The integrity of the research
 record should be protected through secure and rigorous approaches.
- Transparency and open communication provide the foundation for the actions
 taken when conducting or communicating about research. Examples may include:
 declaring potential competing interests; reporting research data collection methods;
 acknowledging the use of tools such as emerging technologies; analysing and
 interpreting data; and publishing or otherwise sharing findings. This may include
 appropriate open research practices. It permits humility in the process,
 acknowledging errors committed in good faith and ensuring honest mistakes are
 seen as productive elements of research.
- Care and respect are expected for everyone and everything involved in the
 research system, and for the protection of the integrity of the research record. They
 should be extended to everyone involved in the research process, all participants in
 research, and for the subjects, users and beneficiaries of research, including
 humans, animals, the environment and cultural objects. Those engaged with
 research must also show care and respect for the integrity of the research record.
- Accountability is expected of everyone individually and collectively to create a
 research environment in which diverse individuals and organisations are empowered
 and enabled to own the research process and be accountable for their contributions
 to the research record. This includes being accountable to participants involved in
 research, and a responsibility to hold individuals and organisations to account when
 behaviour falls short of the standards set by the Concordat.

The principles of research integrity apply to all aspects of research, including the preparation and submission of grant and project proposals, the use of technology and other tools, the provision of expert review of the work of others, and the publication and dissemination of findings. Together, these principles influence the environment in which research is conducted, and the values and behaviours of those involved in research, helping to safeguard and enhance responsible research practice.

Commitment 2: Maintaining the highest standards of research integrity - expectations and compliance

Research should be conducted according to appropriate ethical, legal, regulatory and professional frameworks, obligations, and standards. These expectations, and key matters for ethical scrutiny, may change over time. Examples of policies that are expected components of research governance that require regular review include those relating to the management of data, use of emerging technology, ethical review and approval, and risks relating to research. All parties are responsible for keeping their knowledge up to date, including for research conducted internationally, or with international partners.

In terms of commitments 1 and 2:

The research community is responsible for:

- understanding and maintaining the expected standards of integrity relevant to their research throughout the research cycle
- being open and transparent about their research methodologies and findings, and honest when errors are made
- complying with ethical, legal, regulatory and professional frameworks, obligations, and standards as required by statutory and regulatory authorities, and by employers, funders and other relevant stakeholders
- ensuring that all their research is subject to ongoing, active, and appropriate consideration of ethical issues
- maintaining trust in research, including by reporting any concerns of research misconduct

Employers are responsible for:

- maintaining a research environment that values research integrity and creates the conditions necessary for honest errors to be openly admitted without undue detriment
- developing transparent, robust, and fair research integrity related policies within an appropriate organisational governance structure

- demonstrating, through periodic review, that policies and procedures are in place to ensure that research is conducted in accordance with standards of best practice
- supporting the research community to understand and act according to expected ethical, legal, regulatory and professional frameworks, obligations, and standards

- publishing clear, proportionate, and relevant expectations of the research community and their employers consistent with the responsibilities in the Concordat, indicating specific codes of practice or other policies where compliance is required
- encouraging adoption of the Concordat by associating it with their funding terms and conditions
- taking research integrity into account in the development of policies and processes, reducing unnecessary burden on the research community and employers
- incorporating proportionate checks, where appropriate, in the application and award processes related to legal and ethical requirements
- only providing funding to organisations that can demonstrate that appropriate structures, policies, and processes are in place to support integrity in their research activities
- through engagement with stakeholders, exploring ways of streamlining their requirements to reduce duplication, inconsistency, and/or conflict

Commitment 3: Embedding a culture of research integrity

Creating the conditions, grounded in the principles of research integrity, for individuals and organisations to engage in research responsibly supports the maturing of a positive research culture and environment. Developing leadership skills and discipline expertise remain important as researchers' responsibilities evolve. Open research practices and promoting reproducibility in research, where appropriate, may also offer tangible opportunities to embed practices that support openness and transparency. Research integrity should therefore feature in continuing professional development at every career stage, and be considered when creating relevant governance, policy, and guidance. As culture is not static, embedding integrity is an ongoing process, across career lifecycles, and throughout the research process.

The research community is responsible for:

- keeping their knowledge up to date on research integrity principles and how their responsibilities may evolve at different stages of their career
- designing, conducting, and reporting research in ways that embed integrity and ethical practice throughout
- collaborating with others to build and maintain research environments that
 encourage research integrity, including seeking support from those in leadership and
 supervisory roles, as needed, to resolve issues
- adhering to and promoting standards of research integrity when working with partners

Employers are responsible for:

- adhering to the principles of the Concordat across all functions of the organisation that have a role in the research environment
- reflecting recognised best practice that supports a culture of integrity in their systems, processes, and practices
- reviewing actions taken to meet the commitments of the Concordat, and working to continuously improve
- providing and promoting training and development opportunities to the research community, and encouraging uptake
- adopting mechanisms to acknowledge, promote, and reward responsible research practice

- supporting the implementation of the Concordat; working together, where appropriate, on shared guidance, policies, and plans
- regularly evaluating their policies and processes to incentivise the creation of, and support for, positive research cultures and environments
- working in partnership with employers and the research community to embed a culture of integrity, leading by example in the design and delivery of their services, procedures, and processes

Commitment 4: Questionable research practices and potential research misconduct

Commitments 1 to 3 outline the responsibilities and expectations necessary to embed research integrity. Awareness and professional development opportunities are important to make sure members of the researcher community have a confident understanding of what encompasses good research practice. However, the quality of the research environment and robustness of the research record also depend on the effective management of questionable research practices when they occur. This requires a commitment to continuous reflection, learning, and improvement to support the research system to drive positive change.

It may be difficult to tell the difference between questionable research practices and research misconduct. This often needs to be determined through an investigation. Improving the understanding and management of questionable research practices, and the handling of allegations of research misconduct, are necessary to safeguard research. Allegations of research misconduct must be dealt with through effective and fair investigation. Annex A includes the Concordat's definitions of questionable research practices and research misconduct.

The research community is responsible for:

- honesty when reporting any concerns about potential breaches of integrity and declaring conflicts of interest
- supporting and participating in any investigation, its management and implementation of any recommendations, as required

Employers are responsible for:

- publishing policies related to questionable research practices and research misconduct that are accessible to the research community and that include a confidential reporting mechanism through a named point of contact
- maintaining fair and transparent processes, managing conflicts of interest, using external advisers where needed, and offering appeals processes
- preparing and, when necessary, providing training for those running investigations and serving as panellists

- ensuring investigations are completed in a timely manner, bearing in mind the need to support all parties involved
- documenting the process, acting on the outcomes, and, where concerns are upheld, ensuring appropriate action is taken, avoiding the use of non-disclosure agreements
- providing information to third parties as required under any formal agreements, such as with research funders or statutory bodies
- taking reasonable steps to protect all parties involved from undue pressure, victimisation, or unwarranted negative consequences

- publishing clear statements of what constitutes research misconduct, using the definition in the Concordat
- ensuring that recipients of funding are aware of requirements regarding the investigation and reporting of research misconduct, and that these are openly stated
- working with employers to manage funding appropriately, considering the impact on staff working on affected projects
- treating all allegations with confidentiality and abiding by data protection laws with respect to data management
- taking appropriate action when research misconduct is reported to them, which may include actions related to individuals, or review of the processes and systems of organisations, to help them identify and act on issues
- considering the impact on researchers and specialists involved in a research project affected by research misconduct

In the event of misconduct, funders may examine the systems and processes of research organisations to help identify and act on issues earlier. In serious cases funders may consider mandatory improvements and, if these improvements are not made, sanctions. Funders will consider the impact of such actions on other researchers and specialists involved in the specific project.

Commitment 5: Accountability and continuous improvement in research integrity

Upholding, rewarding, and continuously improving responsible research practice is a collective endeavour. Everyone involved in research can play their part by showing leadership and accountability in an open and transparent way. Regular review of ongoing progress against the principles and responsibilities of the Concordat enables stakeholders to assess, reflect on, and celebrate progress, at whatever stage they might be, and to identify where improvement is needed. Indicators of research integrity may be helpful to identify progress.

The research community is responsible for:

- upholding trust and confidence in research in the UK through the work they undertake, host, fund, partner or collaborate on, support, and disseminate
- finding opportunities to implement, reward, and share ideas, good practice, and learning experiences inside and outside their own organisation

Employers are responsible for:

- taking reasonable steps to ensure that any research carried out by a partner or subcontractor aligns with the principles set out in this Concordat
- publishing up to date information on their organisation's website including:
 - named senior role(s) responsible for oversight of research integrity
 - first point of contact(s) for research integrity matters
- publishing, on their organisation's website, an annual statement, approved by their own governing body, reporting progress on meeting the Concordat principles and commitments. This statement must include a summary table of the number and types of research misconduct allegations reported to the organisation and investigations undertaken. Organisations are encouraged, but not required, to use the Concordat Annual Statement template

Annual statements provide useful evidence and an opportunity to share good practice and progress. These statements may also be used to demonstrate the health of the UK research integrity landscape both at an organisational level, for example under funder assurance reviews or assessments of research excellence, or at a national level.

- setting clear responsibilities for peer reviewers, employers, funding applicants, and all those involved in funded research to encourage responsible research practices
- regularly reviewing and updating their policies, grant funding conditions, and processes to support responsible research practices so that they remain fit for purpose
- publishing up to date information on their website including:
 - named senior role responsible for oversight of research integrity
 - first point of contact for research integrity matters

Annex A: Definitions

Research integrity: research has integrity when it's carried out according to the principles of the Concordat, and in a way that is trustworthy, ethical, and responsible.

Research: is part of a process leading to new insights.

Questionable research practices (QRPs): QRPs refer to minor infractions or research practices, including avoidable errors, which fall short of the definition of intentional research misconduct. They may arise due to a lack of knowledge or attention to detail, negligence, or deliberate action, and may occur where there is no evident intention to deceive.

Research misconduct: research misconduct constitutes the behaviours and deliberate actions that fall short of the principles in Commitment 1 of the Concordat, occurring at any point in the research lifecycle. This includes behaviours associated with the ideation of research proposals, reviewing the work of others, and the reporting of research findings.

Research misconduct can take many forms, including:

- fabrication: making up results, other outputs (for example, artefacts) or aspects of research, including documentation and participant consent, and presenting and/or recording them as if they were real
- **falsification:** inappropriately manipulating and/or selecting research processes, materials, equipment, data, imagery and/or consents
- **plagiarism:** using other people's ideas, intellectual property or work (written or otherwise) without acknowledgement or permission
- **failure to meet:** legal, ethical and professional obligations, for example:
 - not observing legal, ethical, and other requirements for human research participants, animal subjects, or human organs or tissue used in research, or for the protection of the environment
 - breach of duty of care for humans involved in research whether deliberately, recklessly, or by gross negligence, including failure to obtain appropriate informed consent
 - misuse of personal data, including inappropriate disclosures of the identity of research participants and other breaches of confidentiality
 - improper conduct in peer review of research proposals, results, or manuscripts submitted for publication. This includes: failure to disclose conflicts of interest; inadequate disclosure of clearly limited competence; misappropriation of the content of material; and breach of confidentiality or abuse of material provided in confidence for the purposes of peer review

• misrepresentation of:

- data, including suppression of relevant results/data or knowingly, recklessly, or by gross negligence presenting a flawed interpretation of data
- involvement, including inappropriate claims to authorship or attribution of work and denial of authorship/attribution to persons who have made an appropriate contribution
- interests, including failure to declare competing interests of researchers or funders of a study
- qualifications, experience, and/or credentials
- publication history, through undisclosed duplication of publication, including undisclosed duplicate submission of manuscripts for publication
- improper dealing with allegations of misconduct: failing to address possible
 infringements, such as attempts to cover up misconduct and reprisals against
 whistle-blowers, or failing to adhere appropriately to agreed procedures in the
 investigation of alleged research misconduct accepted as a condition of funding.
 Improper dealing with allegations of misconduct includes the inappropriate censoring
 of parties through the use of legal instruments, such as non-disclosure agreements

Honest errors and differences in, for example, research methodology or interpretations, do not constitute research misconduct.

Annex B: Responsibilities

The research community is responsible for:

Commitments 1 and 2 **Commitment 3 Commitment 4 Commitment 5** understanding and maintaining the keeping their knowledge up to honesty when reporting any · upholding trust and date on research integrity concerns about potential expected standards of integrity confidence in research in relevant to their research throughout principles and how their breaches of integrity and the UK through the work the research cycle responsibilities may evolve at declaring conflicts of interest they undertake, host, fund, being open and transparent about different stages of their career supporting and participating partner or collaborate on, in any investigation, its their research methodologies, and · designing, conducting, and support, and disseminate honest when errors are made reporting research in ways management and finding opportunities to complying with ethical, legal, that embed integrity and implementation of any implement, reward, and regulatory and professional ethical practice throughout recommendations, as share ideas, good practice, frameworks, obligations and collaborating with others to required and learning experiences standards as required by statutory build and maintain research inside and outside their and regulatory authorities, and by environments that encourage own organisation employers, funders and other relevant research integrity, including stakeholders seeking support from those in · ensuring that all their research is leadership and supervisory subject to ongoing, active and roles, as needed, to resolve appropriate consideration of ethical issues · adhering to and promoting issues maintaining trust in research, standards of research including by reporting any concerns of integrity when working with research misconduct partners

Employers are responsible for:

Commitments 1 and 2 **Commitment 3 Commitment 4 Commitment 5** maintaining a research adhering to the principles publishing policies related to publish up to date information environment that values of the Concordat across all questionable research practices and on their organisation's research integrity and functions of the research misconduct that are website including: creates the conditions organisation that have a accessible to the research community named senior role(s) necessary for honest and that include a confidential reporting role in the research responsible for oversight errors to be openly environment mechanism through a named point of of research integrity admitted without undue reflecting recognised best contact first point(s) of contact for detriment practice that supports a maintaining fair and transparent research integrity matters developing transparent, culture of integrity in their processes, managing conflicts of robust, and fair research systems, processes, and interest, using external advisers where taking reasonable steps to integrity related policies practices needed, and offering appeals ensure that any research carried out by a partner or within an appropriate reviewing actions taken to processes organisational governance meet the commitments of preparing and, when necessary, subcontractor aligns with the the Concordat, and working principles set out in this structure providing training for those running demonstrating, through to continuously improve investigations and serving as panellists Concordat periodic review, that providing and promoting ensuring investigations are completed publishing, on their policies and procedures training and development in a timely manner, bearing in mind the organisation's website, an are in place to ensure that opportunities to the need to support all parties involved annual statement, approved research is conducted in research community, and documenting the process, acting on the by their own governing body. accordance with encouraging uptake outcomes, and, where concerns are reporting progress on meeting standards of best practice · adopting mechanisms to upheld, ensuring appropriate action is the Concordat principles and commitments. This statement supporting the research acknowledge, promote, taken, avoiding the use of noncommunity to understand and reward responsible must include a summary table disclosure agreements and act according to research practice providing information to third parties as of the number and types of expected ethical, legal, required under any formal agreements. allegations reported to the regulatory and such as with research funders or organisation and professional frameworks, statutory bodies investigations undertaken. obligations, and standards taking reasonable steps to protect all Organisations are parties involved from undue pressure, encouraged, but not required to, use the Concordat annual victimisation, or unwarranted negative consequences statement template

Funders are responsible for:

Commitments 1 and 2	Commitment 3	Commitment 4	Commitment 5
 publishing clear, proportionate, and relevant expectations of the research community and their employers consistent with the responsibilities in the Concordat, indicating specific codes of practice or other policies where compliance is required encouraging adoption of the Concordat by associating it with their funding terms and conditions taking research integrity into account in the development of policies and processes, reducing unnecessary burden on the research community and employers incorporating proportionate checks, where appropriate, in the application and award processes related to legal and ethical requirements only providing funding to organisations that can demonstrate that appropriate structures, policies, and processes are in place to support integrity in their research activities through engagement with stakeholders, exploring ways of streamlining their requirements to reduce duplication, inconsistency, and/or conflict 	 supporting the implementation of the Concordat; working together, where appropriate, on shared guidance, policies, and plans regularly evaluating their policies and processes to incentivise the creation of, and support for, positive research cultures and environments working in partnership with employers and the research community to embed a culture of integrity, leading by example in the design and delivery of their services, procedures, and processes 	 publishing clear statements of what constitutes research misconduct, using the definition in the Concordat ensuring that recipients of funding are aware of requirements regarding the investigation and reporting of research misconduct, and that these are openly stated working with employers to manage funding appropriately, considering the impact on staff working on affected projects treating all allegations with confidentiality and abiding by data protection laws with respect to data management taking appropriate action when research misconduct is reported to them 	setting clear responsibilities for peer reviewers, organisations, funding applicants and all those involved in funded research to encourage responsible research practices regularly reviewing and updating their policies, grant funding conditions, and processes to support responsible research practices so that they remain fit for purpose publishing up to date information on their website including:

