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Committee

Research integrity

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to the report*

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Science and Technology Committee

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Summary

Research is fundamental to the process of pushing back the frontiers of human knowledge and understanding. Research helps cure diseases, tackle climate change, and understand the world around us. The UK has an enviable reputation for high-quality research, and researchers are among the most trusted groups of people in the eyes of the public. It is recognised that the vast majority of research undertaken in the UK is of high quality and high integrity.

Nevertheless, error, questionable practices, and outright fraud are possible in any human endeavour, and research integrity must be taken seriously and tackled head-on. The 2012 Concordat to Support Research Integrity provided a set of high-level commitments in this vein, but, six years on, while all the most research intensive-universities are complying with key recommendations of the Concordat, around a quarter of universities overall are not fulfilling the basic Concordat recommendation of producing an annual report on research integrity.

Compliance with the Concordat has technically been a prerequisite for receiving funding from UK research councils and higher education funding councils since 2013, but non-compliance has not led to any hard consequences. This reflects the fact that the Concordat has only high-level commitments and recommendations, meaning that ‘compliance’ is difficult to assess in practice. More broadly, there has been a lack of coordinated leadership to drive the implementation of its recommendations in universities, such as transparency in declaring the number of misconduct investigations carried out each year. The Concordat should be tightened so that compliance can be more easily assessed, with a timetabled route-map to securing 100% compliance. We welcome Universities UK’s plans to convene a meeting of the Concordat signatories to discuss the issues raised in our report and look forward to seeing further action in this area.

The current lack of consistent transparency means that it is impossible to assess the scale of the research integrity issue, leading to accusations that parts of the sector are policing themselves in a secretive way in order to maintain its reputation or, worse, a perception that investigations are not conducted properly in order to avoid embarrassment. Meanwhile, there is a risk that a future high-profile scandal could expose any weaknesses in this arrangement. Fraud appears to be rare, but the number of institutions reporting no investigations each year does not tally with other available information—the self-reported pressures on researchers to compromise on standards, an increase in the rate of journal articles being retracted, and a growth in image manipulation in articles. Part of the cause may be a lack of understanding of the principles of statistics among researchers, and greater emphasis should be placed on statistical rigour. The sector needs to see increased transparency and reporting of problems as a positive sign that issues are being identified and dealt with accordingly, rather than as a threat.

We see a gap in the UK research integrity system for a new committee to provide a means of independently verifying whether a research institution has followed appropriate processes in investigating misconduct, following similar models in Canada and Australia. The primary responsibility to investigate misconduct should remain with the employer, but there is also a need to improve confidence in the existing system of self-regulation and to adjust for the potential conflict of interest of ‘self-policing’. More

broadly, the new committee should be responsible for championing research integrity in the sector, driving the future implementation of a tightened Research Integrity Concordat, and pursuing issues we identify in this report. The new committee will need to be established by and work closely with UK Research and Innovation, and produce an annual report on the state of research integrity in the UK. This is an opportunity for the research community to get ahead of this issue; without such a body being established, there is a risk that the demand for statutory regulation will grow in response to any future scandals, despite a consensus against such regulation within the community.

Meanwhile, there are other steps that can be taken to support research integrity rather than simply responding to problems. We are encouraged to hear that research integrity will form part of the ‘environment’ judgements for the next Research Excellence Framework, and that there are moves towards appropriate publishing of datasets, and better reporting of research methods. Meanwhile, UKRI needs to understand how the pressures and incentives within the research funding system affect research behaviour and consider where counterbalances are needed to ensure a healthy research culture. Training is key to ensuring that the right research culture is imbued by each new generation of researchers and their supervisors, and to ensuring that errors such as common misuses of statistics are avoided. In order to increase the effectiveness of research, increased emphasis should be put on the need to publish ‘negative’ research findings, especially in the field of medicine.

Employers, funders and publishers of research need to be able to share information to support investigations of misconduct, and it is encouraging that protocols are being developed to help employers to manage cases which cross institutional boundaries.

1 Introduction

1. Research is fundamental to the process of pushing back the frontiers of human knowledge and understanding. Research helps cure diseases, tackle climate change, and understand the world around us. Research will help the UK to tackle the grand challenges of society—an ageing population, how to take care of the Earth’s ecosystem, and how to make the most of ‘big data’, to name just a few. The Prime Minister has recently described scientific research as “a noble pursuit and a public good”.¹

2. Problems with the integrity of research—when research is anything less than “rigorous, accurate, honest and transparent”²—can arise from errors, poor research design, or even outright fraud. All of these problems have the potential to tarnish the reputation of research, and erroneous deductions and conclusions can have dramatic consequences, particularly in the context of medical research. Meanwhile, increasing sums of public money are being invested in research and development, and the Government has committed to increasing public and private spending on research and development to 2.4% of GDP by 2027, with total public investment reaching £12.5bn in 2021/22.³

3. In 2011 a previous Science and Technology Committee held an inquiry into ‘Peer review in scientific publications’, which explored research integrity in the context of the publishing process.⁴ The Committee concluded that the general oversight of research integrity in the UK was “unsatisfactory”, and recommended that an external regulator for research integrity should be established.⁵

4. This recommendation was not taken up by the Government.⁶ Instead, in 2012 Universities UK (UUK) coordinated the establishment of a ‘Concordat to Support Research Integrity’,⁷ to articulate “a set of common expectations and commitments in a comprehensive and coherent national policy framework” and provide “a clear stimulus for concerted action”.⁸ UUK reported in 2016 on progress in implementing the Concordat over the preceding four years.⁹

Our inquiry

5. In January 2017 our predecessor Committee launched a follow-up inquiry into research integrity, to coincide with the publication of a briefing on this topic from the Parliamentary Office of Science and Technology (POST).¹⁰ The Committee called for written submissions on the issues identified in the POST briefing, including:

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- 1 [“PM speech on science and modern Industrial Strategy: 21 May 2018”](#), gov.uk (accessed 22 May 2018)
 - 2 Nuffield Council on Bioethics ([RIN0089](#)) para 7
 - 3 [“Record boost to R&D and new transport fund to help build economy fit for the future”](#), Gov.uk, 20 November 2017
 - 4 Science and Technology Committee, Eighth Report of Session 2010–12, [Peer review in scientific publications](#), HC 856
 - 5 Science and Technology Committee, Eighth Report of Session 2010–12, [Peer review in scientific publications](#), HC 856, paras 262 & 271
 - 6 Science and Technology Committee, Tenth Special Report of Session 2010–12, [Peer review in scientific publications: Government and Research Councils UK responses to the Committee’s Eighth Report of Session 2010–12](#), HC 1535
 - 7 Universities UK, [The Concordat to Support Research Integrity](#) (July 2012)
 - 8 Universities UK ([RIN0057](#)) para 9
 - 9 Universities UK, [The Concordat to Support Research Integrity: A Progress Report](#) (November 2016)
 - 10 [Integrity in Research](#), [POSTnote 544](#), Parliamentary Office of Science and Technology, January 2017

- The extent of the research integrity problem;
- Causes and drivers of recent trends;
- The effectiveness of controls/regulation (formal and informal), and what further measures if any are needed;
- What matters should be for the research/academic community to deal with, and which for Government.

That inquiry was ended prematurely by the dissolution of Parliament for the General Election in 2017. We decided to continue this inquiry in the new Parliament, drawing on the 82 submissions to our predecessors and a further 48 accepted and published by us.¹¹ We held six oral evidence sessions, hearing from 27 witnesses. We are grateful for all these contributions to our work.

6. We did not seek to investigate specific allegations of research misconduct or to re-open old cases. We and our predecessor Committee rejected several written submissions on that basis. However, a small number of cases are referred to in our report where they illustrate current issues relating to research integrity.

The Science Minister's reluctance to give oral evidence

7. We invited a Government Minister to provide oral evidence to our inquiry, and initially arranged to take evidence from Jo Johnson MP, the then Minister for Universities, Science, Research and Innovation, on 6 February 2018. Following the Government reshuffle in January, we agreed with the new Minister's office (Sam Gyimah MP) to defer this session until 6 March, to accommodate the new Minister's existing diary commitments. At the new Minister's request, we agreed that Sir Mark Walport (Chief Executive, UK Research and Innovation) should accompany him that day. A few days before the session, the Minister told us that he would not now be attending, since it would be "a better use of Committee Members' time" to direct our questions to Sir Mark instead.¹² His letter could have been interpreted to suggest that he did not see a role for the Government in this area, since "the terms and conditions applied to researchers [are] the responsibility of the funders, employers and researchers themselves and I do not believe that this is best furthered by direct intervention from Government".¹³ After our session with Sir Mark, the Minister gave evidence for our separate inquiry into Brexit, science and innovation, and we took this opportunity to ask him to reflect on his decision not to attend to discuss research integrity. He claimed that his non-attendance was merely "a suggestion, not a refusal",¹⁴ and subsequently he gave evidence to our inquiry two months later, on 8 May.

8. The Science Minister's initial reluctance to give evidence to our inquiry was disappointing, not least as it risked sending the message that the Government does not take this issue seriously. Nevertheless, we welcome the fact that that the Minister was subsequently willing to appear and are grateful for his responses to our questions.

11 Written submissions to our predecessor's inquiry (i.e. those received before the General Election) are labelled with 'RIN' numbers; submissions received in the current Parliament are labelled with the 'RES' prefix.

12 [Letter from Sam Gyimah MP to Rt Hon Norman Lamb MP](#), February 2018

13 [Letter from Sam Gyimah MP to Rt Hon Norman Lamb MP](#), February 2018

14 [Oral evidence taken on 6 March 2018](#), HC 705, Q1

9. The Government rightly invests considerable sums of public money in research, and investment in research and development as a proportion of GDP is set to grow further in the coming years. The Government needs to be confident that all possible steps are being taken to ensure that this money is not wasted through problems with research integrity, and that the research that it buys is as reliable as possible. While the Government should not seek to interfere directly in research matters or compromise the independence of universities, it should nevertheless maintain an active interest in supporting research integrity and ensuring that all elements of self-regulation are functioning well in order to get the best value possible from public investment.

2 Understanding and measuring 'research integrity'

Definitions

10. The Concordat to Support Research Integrity¹⁵ lists the core elements of research integrity as:

- Honesty in all aspects of research, including in the presentation of research goals, intentions and findings; in reporting on research methods and procedures; in gathering data; in using and acknowledging the work of other researchers; and in conveying valid interpretations and making justifiable claims based on research findings;
- Rigour, in line with prevailing disciplinary norms and standards: in performing research and using appropriate methods; in adhering to an agreed protocol where appropriate; in drawing interpretations and conclusions from the research; and in communicating the results;
- Transparency and open communication in declaring conflicts of interest; in the reporting of research data collection methods; in the analysis and interpretation of data; in making research findings widely available, which includes sharing negative results as appropriate; and in presenting the work to other researchers and to the general public; and
- Care and respect for all participants in and subjects of research, including humans, animals, the environment and cultural objects.

11. Our inquiry focused on understanding and categorising the problem of research or researchers falling short of these expectations—that is, where there is a *lack* of research integrity. Within this, the written evidence we received encouraged us to distinguish between:

- Research misconduct, often defined by “falsification, fabrication and plagiarism” (FFP), which includes making up data or results, manipulating research materials, equipment, or processes, or changing or omitting data or results;¹⁶
- “Questionable Research Practices” (QRPs), a much wider group of misdemeanours, poor research design and other unhealthy practices—some of which may be deployed in ignorance of the potential consequences for the integrity of the research rather than attempt to mislead (see Box 1); and
- Errors such as miscalculation or mismeasurement which may compromise the research record.

12. We were also encouraged to distinguish between the integrity of researchers and the integrity of the research itself.¹⁷ Indeed, while there have been high-profile examples of

15 Universities UK, [The Concordat to Support Research Integrity](#) (July 2012), p11

16 Office of Research Integrity, ['Definition of Research Misconduct'](#), (accessed 10 May 2018)

17 [Q2](#) [Professor Dorothy Bishop]

deliberate fraud, there are also examples of researchers correcting their own honest errors in order to protect the integrity of the published research base. Professors Lewandowsky and Bishop told us that “errors are unavoidable in any human endeavour”, and that while “in the past, discovery of an error in a scientist’s work was regarded as a source of shame”, it is now recognised that “the sign of a good scientist is one who promptly recognises errors and corrects the public record; this is increasingly seen as a sign of integrity that actually can enhance a person’s reputation”.¹⁸

Box 1: Questionable Research Practices

Questionable Research Practices (QRPs) include design, analytic, or reporting practices that could be employed with the purpose of presenting biased evidence in favour of an assertion. Examples include selectively reporting hypotheses with a preference for those that are statistically significant, and “cherry picking” data. Other typical QRPs might include rounding down a ‘p value’ (a measure of statistical significance) in order to report a significant result. These practices can occur with or without an intent to deceive; for instance, deliberately excluding an outlier from an analysis could change the conclusions, but this could be done for sound methodological reasons and be reported transparently, or could be employed for the express purpose of turning non-significant result into a significant one.

We were pointed specifically to the practices of ‘p-hacking’ and ‘HARKing’ as examples of QRPs. P-hacking refers to the practice of running multiple tests, looking for a statistic that surpasses the threshold for statistical significance, and reporting only this. The problem is that by running multiple analyses, a researcher will increase the likelihood of finding a statistically significant result by chance alone. For example, if a researcher was studying the relationship between a gene and a set of 20 different personality questionnaires (all filled in by multiple participants) and did not adjust their significance threshold to take into account the fact that they are running so many tests, it would be expected that at least one of the personality questionnaires would have a statistically significant relationship to the gene at the 0.05 level, even if in reality there is no relationship. The likelihood that none of the variables will reach the 0.05 level of significance is $(1-0.05)^N$, where N is the number of measures. So with 10 measures, there is a 40% chance that at least one measure will be ‘significant’; with 20 measures this rises to 64%. There are various ways of correcting for this issue of multiple comparisons.

P-hacking is often coupled with HARKing, i.e. hypothesising after the results are known—here, the researcher invents a plausible-sounding explanation for the result that was obtained, after the data have been inspected.¹⁹

Sources: Banks et al, “[Editorial: Evidence on Questionable Research Practices: The Good, the Bad and the Ugly](#)”, *Journal of Business Psychology*, 20116; Academy of Medical Sciences, [Reproducibility and reliability of biomedical research: improving research practice](#) (October 2015), p20

18 Professor Stephan Lewandowsky and Professor Dorothy Bishop (RIN0046) para 20

19 Academy of Medical Sciences, [Reproducibility and reliability of biomedical research: improving research practice](#) (October 2015), p20

13. A further threat to the integrity of research is ‘publication bias’—the tendency for positive results to be published over negative or inconclusive findings, and therefore for some research outcomes to go unpublished altogether. Dr Ben Goldacre argued that this distortion of the published evidence base was a more significant issue than academic misconduct:

Fraud is not the most important issue. The culture of incomplete and inaccurate reporting of research has greater impact on patients and society [...] [Clinical] Trials are large expensive research projects used to generate knowledge that is then used, in clinical practice, to make vitally important decisions; and yet trials are commonly left unreported, or misrepresented. This is a waste of money, and distorts the evidence underpinning medical practice.²⁰

Indeed, the Concordat to Support Research Integrity (see Chapter 3) notes that “refusing to publish negative research findings” is “harmful to the reputation and quality of UK research, and to the research record”.²¹ Publication bias arises particularly in relation to clinical trials, and the drivers of non-publication of results can include commercial interests and the relative value placed on “flashy breakthrough-type results”²² over other outcomes (see Chapter 4). Our predecessor Committee examined the issue of clinical trials transparency in 2013²³ and, given the significance of this topic as a public health issue, we will publish a separate report on clinical trials transparency and medical research later this year, drawing on the evidence we received during this inquiry.

Trends in problems with research integrity

14. Universities UK told us that “data and evidence on the scope and prevalence of research misconduct is limited”, and urged caution in attempting to assess the extent of the research integrity ‘problem’. Similarly, Professor Bishop said that “we have a very poor idea of how much [misconduct] is actually going on” and that “it is all very indirect evidence”.²⁴ The available data comes from five sources, which are discussed below:

- surveys of researchers (i.e. self-reporting or describing the behaviour of others);
- data on journal article retractions;
- academic studies in the field of ‘meta-research’, such as of image retractions;
- studies of issues with ‘reproducibility’; and
- annual research integrity statements from research institutions, where available.

Survey data

15. The written evidence we received frequently cited a 2009 meta-analysis of international surveys as an insight into the prevalence of research misconduct. This analysis found that globally about 2% of scientists had falsified data at least once in their career, with around a

20 Dr Ben Goldacre ([RIN0073](#))

21 Universities UK, [The Concordat to Support Research Integrity](#) (July 2012), p17

22 [Q15](#) [Professor Dame Ottoline Leyser]

23 Science and Technology Committee, Third Report of Session 2013–14, [Clinical trials](#), HC 104

24 [Q26](#)

third admitting to other questionable research practices.²⁵ The main survey-based insight into UK research integrity comes from work by the Nuffield Council on Bioethics in 2014. UK researchers were asked about the temptations or pressures to compromise research integrity and standards, rather than the extent to which these occurred. Nevertheless, 58% of respondents reported that they were aware of scientists feeling tempted to compromise on research integrity, with 26% themselves feeling tempted or under pressure.²⁶

16. Earlier this year, a survey conducted by the journal *Nature* found that, of the 2,632 ‘non-PI’ researchers responding (i.e. those who are not the ‘principal investigator’ for a research project), just 43% felt that their research group ‘never’ or ‘rarely’ condones research practices that ‘cut corners’, such as valuing speed over quality, or fundability over accuracy.²⁷ The survey also identified a small subgroup of 376 non-PI researchers (one in seven) who were consistently negative about their lab culture, 70% of whom said that in the previous 12 months they had ‘often’ or ‘occasionally’ felt pressured to produce a particular result.²⁸

Retractions

17. Problems with research can lead to a journal article being retracted (see Chapter 5), and the rate at which articles are retracted is increasing. A 2012 study of journal retractions around the world found that the number of retractions per year had increased by a factor of 19 between 2001 and 2010. Even after adjusting for the growth in the published literature during the period, there had been an 11-fold increase in the retraction rate.²⁹

18. We received many submissions which discussed how to interpret the increase in retractions. Retraction Watch, an American website documenting retractions and corrections, told us that the rise in retractions reflected several factors, including “a greater willingness of journals to withdraw problematic papers; a growing reliance on software tools to detect plagiarism; and more attention to manipulated or otherwise inappropriate images”.³⁰ Similarly, a 2013 academic study of retractions concluded that:

The rising number of retractions is most likely to be caused by a growing propensity to retract flawed and fraudulent papers, and there is little evidence of an increase in the prevalence of misconduct. Statistics on retractions and findings of misconduct are best used to make inferences about weaknesses in the system of scientific self-correction.³¹

19. Some of our witnesses suggested that an increase in journal article retractions should be seen as a positive indicator of increased detection of problems,³² and noted that the reasons for retracting a paper included honest error.³³ As Dr Elizabeth Moylan, representing the Committee on Publication Ethics, put it:

25 Fanelli, D., “How many scientists fabricate and falsify research? A systematic review and meta-analysis of survey data”, *PLoS One*, 29 May 2009

26 Nuffield Council on Bioethics, *The Culture of Scientific Research in the UK* (December 2014)

27 Richard Van Noorden, “Some hard numbers on science’s leadership problem”, *Nature*, 557, 294–296 (2018)

28 Richard Van Noorden, “Some hard numbers on science’s leadership problem”, *Nature*, 557, 294–296 (2018)

29 Grienesen, M.L. and Zhang, M. “A Comprehensive Survey of Retracted Articles from the Scholarly Literature”, *PLoS One*, October 2012

30 Retraction Watch and The Center For Scientific Integrity (RIN0075)

31 Fanelli, D., “Why Growing Retractions are (Mostly) a Good Sign”, *PLoS Medicine*, 2013

32 Qq50–52 [Dr Wager]

33 Universities UK (RIN0057) para 25

If something has gone wrong with the experiment, or, oops, the sampling was wrong and not quite what somebody anticipated, the publisher has a duty of care to make that correction or retraction as they see fit. It is not necessarily all bad. The way research operates is inherently messy; mistakes happen. We have to be comfortable with that. We are all human. How we fix it and make that transparent is the key.³⁴

20. Nevertheless, Retraction Watch noted that “we cannot rule out the possibility that scientists are more willing to commit misconduct”. Dr Ivan Oransky, co-founder of Retraction Watch, told us that around half of retractions were due to misconduct, and that there had been around 400 journal article retractions in the UK since 1977.³⁵ He told us that the retraction rate was “doubling every few years”, but that this was also the case globally.³⁶ Retraction Watch calculated that in the UK there were 0.75 retractions per billion US dollars spent on research, compared with 0.44/\$bn globally.³⁷ This suggests that retractions are a rare event in the context of research spending. The higher UK rate could reflect a lower cost of research programmes or a higher number of papers per grant rather than a higher propensity for retractions.

Meta-research and image manipulation

21. A 2016 study of ‘image manipulation’ in journal articles in the fields of microbiology and immunology, cancer biology, and general biology revealed an increasing trend in this practice. Researchers reviewed over 20,000 biomedical research papers published in 40 scientific journals from 1995 to 2014 and found that “3.8% of published papers contained problematic figures, with at least half [of those] exhibiting features suggestive of deliberate manipulation”. The study also found that “the prevalence of papers with problematic images has risen markedly during the past decade”.³⁸

22. We asked Damian Pattinson, of Research Square, about what this might mean in the context of research integrity. He explained that altering an image was a common practice, which could be done for legitimate reasons, but that this needed to be made clear in the research paper:

Authors tend to touch up images fairly frequently. It is very rarely deliberate misconduct, but the rate at which figures are tweaked a little bit to make them look nicer is remarkably high. [...] The vast majority of it is just adjusting the contrast a bit to try to make something a bit clearer. [...] If you are looking at a field of cells and the pieces you are interested in are at the far sides of the picture, you might try to condense the middle, for example. It is not deliberately misleading, but [...] if you have chopped out the middle, for example, you do not know whether that middle had something they wanted to hide, or whether it was just a blank space they wanted to cover up. [...] As

34 [Q257](#)

35 [Q280](#)

36 [Q280](#)

37 [Q280](#)

38 Bik EM, Casadevall A, Fang FC., “[The prevalence of inappropriate image duplication in biomedical research publications](#)”, *mBio* (2016)

long as you say what you have done in any kind of manipulation you have performed, it is reasonable. General practice now is that you either make it clear with a line or you state in your legend exactly what has happened.³⁹

Reproducibility and replication

23. The ability to recreate research findings could provide some indication of the reliability of the research. A submission from the medical journal the BMJ outlined the difference between ‘replication’ and ‘reproducibility’ in this context:

Replication—where multiple investigators aim to yield the same findings using independent data, analytical methods, laboratories, and instruments—does remain the gold standard in laboratory and other non-human research [...] Reproducibility means that independent investigators do not try to rerun a whole study, but they subject the original data to their own analyses and interpretations. This can verify the published findings but can also—crucially—extend and add to them through new research, hence making the most of the money and effort that researchers, clinicians, patients, funders, and the public put into the original study.⁴⁰

The journal also explained that the extent to which replication was possible varied by discipline and research methods:

In clinical and public health research, replication is often impossible and the best we can hope for is that research is reproducible. [...] In principle, replication is also desirable in epidemiological studies (such as large population-based observational studies) particularly when they affect health policy or regulators’ decisions about drugs and other treatments. But the long term, complex, and extensive nature of such research means that replication would all too often require many years and considerable new funding. For studies with patients and populations reproducibility is a much more attainable and affordable standard.⁴¹

24. According to a 2016 survey conducted by the journal *Nature*, more than 70% of researchers have tried and failed to reproduce another scientist’s experiments, and 52% of researchers believe that there is “a significant reproducibility crisis”.⁴² On the other hand, “less than 31% think that failure to reproduce published results means that the result is probably wrong, and most say that they still trust the published literature”.⁴³

25. Our witnesses had a range of views on how to interpret the reproducibility ‘crisis’ in the context of research integrity. Professor Lewandowsky and Professor Bishop explained that “irreproducible research may reflect a lack of integrity of researchers, for example through manipulation or invention of data to achieve a particular result, or cherry-picking of results or literature analyses to hide unwanted or uninteresting results”, but

39 [Qq145–147](#)

40 [BMJ \(RIN0081\)](#)

41 [BMJ \(RIN0081\)](#)

42 [Monya Baker, “1,500 scientists lift the lid on reproducibility”, *Nature*, 2016](#)

43 [Monya Baker, “1,500 scientists lift the lid on reproducibility”, *Nature*, 2016](#)

that irreproducible results may also be produced by honest researchers “because they are poorly trained or are using methods that they do not fully understand”.⁴⁴ Catriona Fennell, representing the Publishers Association, advised that

It is important to make a distinction between reproducibility to some extent and research integrity; it would be damaging if there was a perception that, because your work could not be replicated, you did something unethical. That could be the case for a very small percentage, but normally it is not. It could be for another reason outside your control; it could be an antibody that was not as stable as you would like. Some of it could be very much improved with education and more focus on transparent methodology.⁴⁵

We return to the issue of reproducibility in Chapter 4, in the context of ensuring research methods are adequately described in order to assist researchers looking to reproduce the same results.

Information from annual university narrative statements

26. One of the recommendations of the Concordat to Support Research Integrity is that employers of researchers should produce an annual statement on the number of misconduct investigations, although not all universities comply with this (see Chapter 3). We reviewed the available statements for 2015/16, along with other information provided in response to our survey of UUK members, and found that 51 universities undertook no investigations that year.⁴⁶ This figure may reflect in part the fact that universities vary in size and in the volume of research activity they undertake. Reflecting what we were told about journal article retractions, Sheffield Hallam University suggested that “risers in allegations and cases of research misconduct are healthy signs of research communities that appreciate the importance of research integrity and that are beginning to police themselves”, and that “given human fallibility, universities and other research institutions where there are consistent nil returns are of more concern”.⁴⁷ A lack of published information makes it difficult to assess exactly how many UUK members consistently report ‘nil returns’ over several years, although 20 universities told us that they had not undertaken any investigations since the Concordat was signed.

27. Dr Elizabeth Wager estimated that “most research institutions should expect at least one investigation every year, and those with many thousands of researchers should expect to perform several. Lack of investigations should not inspire confidence, but may indicate that institutions prefer not to address issues properly and would rather ignore them”.⁴⁸ Indeed, Dr Peter Wilmshurst, who himself has acted as a whistleblower in several cases, argued that “Universities and journals are [...] as likely to admit the full magnitude of research misconduct as church leaders are to confess the extent of child abuse by priests”.⁴⁹ Similarly, James Parry, the Chief Executive of the UK Research Integrity Office (see Chapter 4), warned that:

44 Professor Stephan Lewandowsky and Professor Dorothy Bishop ([RIN0046](#)) paras 13–14

45 [Q263](#)

46 See Annex 1, and ([RES0059](#))

47 Sheffield Hallam University ([RIN0036](#)) para 1

48 Dr Elizabeth Wager ([RIN0014](#)) para 2.3

49 Dr Peter Wilmshurst ([RIN0091](#)) para 6

If an institution reported year after year that it never had any allegations, I would be somewhat sceptical about whether that figure was accurate. [...] If the number is zero consistently, you may need to look at your practices and overall research culture.⁵⁰

Dr Patrick Vallance, the Government's Chief Scientific Adviser, agreed:

Would I be concerned if universities over a long period reported zero [investigations]? I think it would be odd. It is unusual to have nothing at all.⁵¹

28. The available data on misconduct investigations suggest that serious research misconduct is rare, but it is impossible to be certain without better data. There is a mismatch between the number of investigations and the scale of reported temptations to compromise on research standards, the 'reproducibility crisis' in some disciplines, the growth in journal article retraction rates, and trends in image manipulation. We hope that most researchers will never succumb to the temptations to compromise on research standards, and some of these trends may be the product of increased detection and correction of honest errors. Nevertheless, it is worrying that there seem to be so few formal research misconduct investigations conducted by universities. Increases in the number of investigations should be seen as a healthy sign of more active self-regulation. Further work is needed to determine the scale of the problem.

50 [Q396](#)

51 [Q635](#)

3 The Concordat to Support Research Integrity

Background

29. The Concordat to Support Research Integrity was developed by Universities UK (UUK) in 2012. The objective of the Concordat approach was to “work within existing systems and structure, and to provide a clear stimulus for concerted action” by articulating “a set of common expectations and commitments in a comprehensive and coherent national policy framework”.⁵² The Government’s response to our predecessor’s report in 2011 stated that, through the Concordat, “the Government will expect employers of researchers to deal with research integrity in an open and transparent manner”.⁵³

30. The Concordat sets out five high-level commitments to research integrity:

- (1) We are committed to maintaining the highest standards of rigour and integrity in all aspects of research.
- (2) We are committed to ensuring that research is conducted according to appropriate ethical, legal and professional frameworks, obligations and standards.
- (3) We are committed to supporting a research environment that is underpinned by a culture of integrity and based on good governance, best practice and support for the development of researchers.
- (4) We are committed to using transparent, robust and fair processes to deal with allegations of research misconduct should they arise.
- (5) We are committed to working together to strengthen the integrity of research and to reviewing progress regularly and openly.

Within each of these there are various recommendations on how to meet those high-level commitments. The Concordat has eight formal signatories, including the research councils and funding councils, the Wellcome Trust, and UUK.

31. Almost all written submissions we received were positive about the Concordat as a concept. UUK advocated this approach over greater regulation, to avoid “presenting research integrity as an issue of compliance, rather than embedded through the lifecycle of research production and dissemination, and a cultural norm”.⁵⁴ They also told us that the high-level nature of the Concordat ensured that the diversity of the sector was recognised, and that institutions could “implement its provisions in a manner appropriate to their specific context and strategic focus”.⁵⁵

52 Universities UK ([RIN0057](#)) para 9

53 Science and Technology Committee, Tenth Special Report of Session 2010–12, [Peer review in scientific publications: Government and Research Councils UK responses to the Committee’s Eighth Report of Session 2010–12](#), HC 1535

54 Universities UK ([RIN0057](#)) para 16

55 Universities UK ([RIN0057](#)) paras 11–12

Progress in implementing the Concordat

32. UUK published a Progress Report on the implementation of the Concordat in 2016.⁵⁶ They told us that “significant progress” had been made through the Concordat “in delivering greater coordination between the critical partners in supporting research integrity”.⁵⁷ However, the Progress Report also suggested that there was still some way to go in ensuring that all UUK members fulfil its recommendations.

33. We wrote to all 136 UUK members in November 2017 to seek up-to-date figures on compliance. We asked them to confirm whether they fulfil three of the more specific recommendations of the Concordat:

- Identify “a senior member of staff to oversee research integrity and to act as first point of contact for anyone wanting more information on matters of research integrity”;
- Provide “a named point of contact or recognise an appropriate third party to act as confidential liaison for whistleblowers or any other person wishing to raise concerns about the integrity of research being conducted under their auspices”; and
- Publish a short annual statement on research integrity, incorporating:
 - “a summary of actions and activities that have been undertaken to support and strengthen understanding and application of research integrity issues (for example postgraduate and researcher training, or process reviews)”
 - “a high-level statement on any formal investigations of research misconduct that have been undertaken”.

The results of our survey are presented in Annex A, with the full individual responses available online.⁵⁸ We were pleased to find that, in virtually all cases, universities could point to an individual with responsibility for research integrity and a whistleblowing contact. We did not attempt to assess whether this information was also easily available online for others to access, but we hope that our decision to publish the information we received will prompt UUK members to check that this is the case.

34. However, there was significant variation on the publication of an annual statement:

- 58% of Universities UK members published an annual narrative statement on research integrity, and were able to provide us with a link to either a 2015/16 statement or 2016/17 statement, or both.
- A further 17% indicated an intention to publish their first annual statement shortly. Indeed, several cited our survey as a prompt to do so, including Bangor University, University of Greenwich, and others.
- 25% did not currently publish an annual statement and did not indicate an intention to do so in the future.

56 Universities UK, *The Concordat to Support Research Integrity: A Progress Report* (November 2016)

57 Universities UK ([RIN0057](#))

58 Collated responses from UUK members regarding Concordat compliance ([RES0059](#))

Of those UUK members that did not publish an annual statement, the majority told us that this was because there had been no investigations to report since the Concordat was signed—although many other universities did publish explicit nil returns.

35. A handful of institutions cited concerns about confidentiality as being a barrier to them publishing an annual narrative report, or suggested that doing so would cause image problems for the university. For example:

- The University of South Wales told us that it does not publish information on instances of research misconduct, since “there are confidentiality issues embedded within such a disclosure that should be protected.”⁵⁹
- The University of Bedfordshire claimed that it “adheres to the principles of the Concordat”, but that to publish information it would “need to consider the legitimate interests of a range of parties” and “bear in mind that in such cases the preservation of individual and contractual confidential [sic] would be among our considerations”.⁶⁰
- Middlesex University told us that it does not routinely report investigations publicly because public disclosure is not appropriate in all cases, and “certainly not for cases where a formal investigation may have been instigated but where the individual concerned was completely exonerated”. The University claimed that it was “fully signed up to the Concordat”, but that it had “chosen not to separate research integrity, and research ethics in general, for special treatment”, since “to single out research integrity/ethics could, we believe, run the risk of it being perceived as being more important than other equally significant matters (e.g. misconduct in relation to our equality and diversity agenda).”⁶¹
- Birkbeck University told us that it was “more challenging to implement” the annual statement than other aspects of the Concordat. The University explained that “This is in part due to our small size—i.e. we rarely receive either formal or informal allegations of research misconduct, and so would be reporting on at most one (or, very occasionally, two) case(s) per year based on current levels. This obviously presents us with challenges both in terms of protecting the identities of those involved and with how to represent the information in a way that doesn’t over-inflate the scale of the problem.”⁶²

36. The significance of universities failing to produce an annual report on research integrity was emphasised several times during our inquiry. Dr Elizabeth Wager told us that “secrecy surrounding investigations perpetuates the myth that major institutions are somehow immune from misconduct”, and that “annual accounts of the number of investigations and their outcomes will increase transparency and therefore trust in our institutions”.⁶³ Research Councils UK (now defunct following the formal creation of UK Research and Innovation in April 2018) told us that there was “strong awareness” of the Concordat among “senior leaders, research managers and administrators responsible for

59 Collated responses from UUK members regarding Concordat compliance ([RES0059](#))

60 Collated responses from UUK members regarding Concordat compliance ([RES0059](#))

61 Collated responses from UUK members regarding Concordat compliance ([RES0059](#))

62 Collated responses from UUK members regarding Concordat compliance ([RES0059](#))

63 Dr Elizabeth Wager ([RIN0014](#)) para 3.4

implementation at institutions”.⁶⁴ Nevertheless, the Vice-Chancellor at Regent’s University London replied that “ I must admit that I had not heard of the Concordat and it had not been brought to my attention. This may be because Regent’s did not gain University title until 2013 and was not admitted to Universities UK membership until 2014”.⁶⁵

37. We asked Sir Ian Diamond, representing UUK, whether progress with implementing the Concordat had been rapid enough under UUK’s leadership. He told us:

I am very clear that there is a really rapid change in awareness and importance. Is it fast enough and are we there yet? No.⁶⁶

However, he also told us that Universities UK itself does not have a role in requiring universities to comply,⁶⁷ and that “universities are autonomous institutions”.⁶⁸ When we put it to him that leadership was required to drive implementation, he told us that UUK was showing leadership and was “asking people to do things”.⁶⁹ UUK subsequently wrote to us to set out the steps it was now taking in response to the issues raised by the inquiry, including plans to convene a Research Integrity Forum meeting in 2018 where issues relating to the Concordat can be discussed with the eight signatories.⁷⁰

38. We asked Sir Mark Walport whether seeking 100% compliance with the Concordat was a reasonable aim. He argued that institutions that carry out the majority of publicly-funded research were already complying, and that those that publish annual statements account for over 80% of public funding for research:⁷¹

It is important to recognise that some institutions have a very small amount of research activity. The really important issue is to make sure that those institutions that are doing significant amounts of research are reporting. All the evidence is that they are. [...] There is room for improvement; I do not think anyone argues with that.⁷²

We were encouraged by the Science Minister’s more robust response on the question of current compliance levels:

I do not think [compliance] is good enough, and UKRI should be using its lever of funding to get more institutions to comply. We should be aiming for 100% where it is public funding, and I take that extremely seriously. My personal expectation of every vice-chancellor is that there should be 100% compliance [...] it is not enough for any university in receipt of public funding just to have a web page.⁷³

39. Most universities take their research integrity responsibilities seriously, but progress in implementing the Concordat to Support Research Integrity across the whole sector is disappointing. Six years on from the signing of the Concordat, the

64 Research Councils UK ([RIN0038](#))

65 Collated responses from UUK members regarding Concordat compliance ([RES0059](#))

66 [Q63](#)

67 [Q100](#)

68 [Q98](#)

69 [Q99](#)

70 Universities UK ([RES0020](#))

71 [Q545](#)

72 [Q547](#)

73 [Qq618–619](#)

sector as a whole still falls some way short of full compliance in terms of publishing an annual statement, which risks giving the impression of pockets of complacency. We were surprised by the reasons that some universities gave for not publishing an annual statement on research integrity as recommended by the Concordat. The majority of universities have successfully balanced transparency against confidentiality in producing an annual statement, but a few are lagging behind and see transparency as a threat to their public image. Publishing an annual statement is a positive opportunity for an institution to set out the steps that it is taking to safeguard research standards, as well as to report on the number of investigations. We were encouraged that our letter to all Universities UK members prompted some of them to take steps to improve their compliance with the Concordat. More leadership is required to drive the implementation of the Concordat across the whole of the research sector, and we return to this issue in Chapter 6. We welcome Universities UK's plans to convene a Research Integrity Forum meeting to consider our recommendations relating to the Concordat and look forward to seeing the results of their work.

Monitoring and incentivising compliance

40. In 2013, compliance with the Concordat became a prerequisite for receiving research funds from the higher education funding councils⁷⁴ and UK research councils. Witnesses cited this as an important contributor to the success of the Concordat.⁷⁵

41. Research councils and funding councils have operated separate processes for monitoring Concordat compliance. The Higher Education Funding Council for England (HEFCE, now superseded by Research England) described how compliance had improved among the institutions in England that it funds, from 25% of institutions reporting in 2013/14 that they were still 'working towards' compliance with the Concordat, decreasing to 1.6% by 2015/16. This claimed low level of non-compliance does not tally with our work on assessing annual reporting rates, and perhaps reflects the somewhat vague nature of tracking "compliance with Concordat" when it contains only recommendations rather than explicit measurable requirements. RCUK did not appear to be able to provide equivalent information for the wider group of UK institutions it funds. Dr Tony Peatfield of RCUK explained that the research councils' monitoring process was through 'dipsticking' a selection of institutions each year, and so could not provide comprehensive compliance figures.⁷⁶

42. According to UUK, the research and funding council requirements mean that "institutions can face sanctions should they be shown to be failing to meet the commitments, providing a robust mechanism to ensure its adoption and implementation". However, evidence from the Higher Education Funding Council for England (HEFCE, now replaced by Research England) and Research Councils UK revealed that such sanctions have never been deployed, despite the shortcomings in compliance we identified. HEFCE told us that:

In last year's funding return we had two institutions [in England] that were not compliant [...] we favour carrots, rather than sticks. That triggered a process with those institutions that involved very close contact with them, the requirement to develop an action plan and following up that action

74 HEFCE, 'Compliance with the Concordat to support research integrity', Circular Letter 21/2013

75 Universities UK ([RIN0057](#))

76 [Q440](#)

plan. I am pleased to say that in this year's return both those institutions are now compliant. This year we have two different institutions that are not compliant.⁷⁷

Dr Peatfield told us that, where cases of non-compliance are identified, the research councils also “much prefer carrots to sticks” and “tend to try to work with the institutions”.⁷⁸ The research councils have also not prevented any organisations from applying for funding. Dr Peatfield explained that imposing sanctions after funding has been provided is ineffective for project-based funding since “often by the time that a case [of misconduct] is proven the research grant will have ended, so withdrawing that funding is not feasible”.⁷⁹ Dr Steven Hill, representing HEFCE, noted that the creation of UK Research and Innovation in April this year—bringing together the seven research councils with Research England and Innovate UK—created some opportunities for better alignment of research council and funding council assurance processes in the future.⁸⁰

43. Compliance with the Concordat has technically been a condition of receiving funding from research councils and higher education funding councils since 2013, but meaningful sanctions have never been deployed. The Concordat contains mainly high-level statements rather than explicit measurable requirements, and comprehensive information on ‘compliance’ is not collected by the funders. We recommend that the signatories update and strengthen the Concordat by making the requirements and expectations clearer, and produce a route map and timetable for reaching 100% compliance with the strengthened version within the next year. UKRI should collect and publish details of universities that are not compliant. In particular, the Concordat should be strengthened in relation to training on research integrity (discussed in Chapter 4), processes for responding to allegations of misconduct (see Chapter 5), commitments to clinical trials transparency (which we will return to in a dedicated report) and publication of ‘negative’ research results.

Research integrity in Government departments

44. The Science Minister told us that “the standards for research funded and undertaken by Government departments is the responsibility of departmental Chief Scientific Advisors, with oversight provided by the Government Chief Scientific Advisor [GCSA]”.⁸¹ We wrote to each of the Government’s departmental Chief Scientific Advisors (CSAs) in December 2017 to ask about responsibility for research integrity within their department and the processes followed when issues are identified in relation to research work undertaken or commissioned by the departments.⁸² We were pleased to hear that Dr Patrick Vallance, the new GCSA, expected all departments to have a CSA,⁸³ and that the Department for Digital, Culture, Media and Sport was appointing a CSA.⁸⁴

77 [Q450](#)

78 [Q450](#)

79 [Q450](#)

80 [Q442](#)

81 [Letter from Sam Gyimah MP to Rt Hon Norman Lamb MP](#), February 2018

82 Individual responses from the CSAs are published as ([RES0048](#))

83 [Q640](#)

84 Collated responses from Government Chief Scientific Advisors regarding research integrity ([RES0048](#))

45. Dr Vallance's view was that "Departments should sign up to the Concordat, that the chief scientific advisers in the Departments should lead that process and that we should aim for a somewhat more consistent approach to how we think about research integrity".⁸⁵ We were pleased to learn that he had written to all CSAs on this point, prompted by our inquiry.⁸⁶

46. We endorse the Government Chief Scientific Adviser's call for Government departments to sign up to the Concordat on Research Integrity to ensure consistency of approaches to research governance. If the Concordat is suitably strengthened, as we recommend above, this will be a useful step forward. We look forward to receiving further details of actions taken by the departments in response to his initiative in the Government's response to this report.

85 [Q637](#)

86 [Q642](#)

4 Supporting and promoting the integrity of research

UKRIO's role in supporting research integrity

47. The UK Research Integrity Office (UKRIO, established in 2006) is an advisory body for the research sector on matters relating to research integrity. It does not investigate misconduct, but instead offers “support to the public, researchers and organisations to further good practice in academic, scientific and medical research”, and welcomes enquiries on “any issues relating to the conduct of research, whether promoting good research practice, seeking help with a particular research project or investigating cases of alleged fraud and misconduct”.⁸⁷ UKRIO’s aim is to “provide practical and proportionate advice, which the public and the research community may find useful”.⁸⁸

48. UKRIO is funded by institutional subscriptions, of £2,600 per year.⁸⁹ The UKRIO website lists 80 such subscribers, of which 65 are Universities UK members. It therefore appears that at least 71 universities—i.e. the majority of the 136 UUK members—are *not* UKRIO subscribers.⁹⁰ Other subscribers listed include universities outside the UK (including Belgium) and various UK academies and institutes such as the Royal Society and the British Academy.

49. James Parry (CEO, UKRIO) argued that the organisation’s reliance on funding from universities themselves (the majority of subscribers) did not represent a conflict of interest, since “pretty much everyone pays a flat-rate subscription, we are not beholden to any one institution. If a university says, ‘We don’t like the way you are handling this particular case,’ we can simply say, ‘That is all very well and good. We are happy for you to unsubscribe’”.⁹¹

50. It is surprising that most UK universities are not subscribers to the UK Research Integrity Office. The result is that the profile and impact of UKRIO might be highest with the institutions which already choose to participate, rather than the ones that might need the most help. The default assumption for all universities should be that they are subscribers to UKRIO, unless they can explain why they do not need to use UKRIO’s advisory services. We recommend that the Government and Universities UK write jointly to all universities to encourage them to engage with UKRIO and consider subscribing to its services.

Creating a suitable ‘research culture’

51. Many of the submissions we received argued that there was a need to consider the incentives and pressures acting on researchers, and to investigate how ‘research culture’ could be changed to better support research integrity. Professor Marcus Munafò argued that:

87 UKRIO, [Position statement: Statutory regulation of research integrity](#) (November 2016), para 5

88 UKRIO, [Position statement: Statutory regulation of research integrity](#) (November 2016), para 7

89 [Q364](#)

90 UKRIO, [‘List of UKRIO Subscribers’](#), (accessed 6 June 2018)

91 [Q367](#)

Research integrity is the wrong focus, or at least only represents a small part of a much larger problem. That problem is the wider incentive structures that exist across science (or at least some scientific disciplines). [...] Rather than focus on the rare cases of outright scientific fraud, we should address the more insidious systemic problems that impact on the wider scientific endeavour.

52. A 2014 report on the ‘culture’ of research produced by the Nuffield Council on Bioethics⁹² pointed to a broad set of factors as contributors to problems with research integrity:

- High levels of competition when applying for jobs, promotion, funding;
- Short-term funding leading to a decrease in the time available to plan research, ambitious timescales;
- Assessment of research—pressure to publish in high-impact journals, and ‘publish or perish’; and
- Career progression and workload—a culture of short-termism and high-stress.

Professor Dame Ottoline Leyser, representing the Nuffield Council on Bioethics, complained that research is “hyper-competitive and the rules for winning the competition are the wrong rules”.⁹³ She argued that this meant that “at some level we have lost sight of what science actually is”:

Science is a method. It is a way of building models of the world that have both explanatory and predictive power. It is not about the ultimate quest for “Truth”. It is not about correct and incorrect; it is a progressive method for proposing, testing and rejecting or refining models of the world [...] It moves forward extensively by being wrong [...] The way things have gone in the research system, we have developed a culture where people are rewarded for being “right” and being “exciting” in some way. Those things have nothing to do with science.⁹⁴

53. We were also told that the competitive research environment is off-putting for some people. Professor Bishop suggested that “sometimes the people we most want to keep in science, and who want to do the careful stuff, get so demoralised that they leave, and we are left with the people who think, ‘Oh well, I’ll tweak it because my boss says I should tweak it’”.⁹⁵ Professor Lewandowsky and Professor Bishop argued that “most scientists start out motivated by pursuit of knowledge, but they can become demoralized if they see rewards going to those who adopt dubious practices to get ahead”.⁹⁶ They called for institutions and funders to adopt “criteria that reward researchers for reproducible research rather than showy research, with a focus on quality rather than quantity”.⁹⁷

92 Nuffield Council on Bioethics, [The Culture of Scientific Research in the UK](#) (December 2014)

93 [Q15](#)

94 [Q6](#)

95 [Q34](#)

96 Professor Stephan Lewandowsky and Professor Dorothy Bishop ([RIN0046](#)) para 19

97 Professor Stephan Lewandowsky and Professor Dorothy Bishop ([RIN0046](#)) para 19

54. The Royal Society suggested that a range of incentives within the system can work against research integrity:

labs that take extra time to verify their data might have fewer publications to show their funders, those scientists who decide against splitting their data to get multiple publications have fewer publications to enter into the [Research Excellence Framework]. There is no single aspect of the culture of research that could be changed to fix this, it is the cumulative effect of lots of different mechanisms and pressures.⁹⁸

They argued that “systems of publishing, assessment and dissemination of work should be adjusted in order to incentivise ‘good behaviour’”.⁹⁹ The Society is currently holding a series of workshops on research culture, creating what they describe as a “national and self-sustaining conversation” about how to embed a culture of research that maintains research excellence.¹⁰⁰

55. We received some evidence that the pressures on researchers vary according to the way in which the institution is funded. The Director of the MRC Laboratory of Molecular Biology—a research council-funded institute rather than a university—told us that a healthy research culture “may be easier to achieve” in a research institute than in some university environments:

Freed from other responsibilities, the emphasis of our scientists is on their research output, and this determines their reputation and reward. With relatively secure funding, we take a long-term view, and a track record of persistently getting discoveries right is highly valued. Emphasis on the short term and on numbers of publications per se is not helpful. Core funding (of the entire institute) is decided by reviews every five years, and collective success is important as well as individual achievement. This creates peer pressure for everyone to do well, and colleagues do not hesitate to be critical of work perceived as shoddy. Funding of larger entities, in addition to grants to single groups, can help to create this culture. The ability to provide core resources to bridge gaps (e.g. between externally-funded grants) relieves some of the short-term pressure to publish, and allows the emphasis to be on quality even if it takes longer. Universities, and their funding mechanisms, should ideally do the same.¹⁰¹

56. One factor that is frequently cited as a determinant of institutional and researcher behaviour is the Research Excellence Framework (REF)—the periodic review of the quality of research undertaken which is used to determine the ‘quality-related’ funding that institutions receive from higher education funding councils.¹⁰² Professors Lewandowsky and Bishop argued that the influence of the REF presented an opportunity for tackling perverse incentives on researchers.¹⁰³ They suggested that the ‘environment’ section of the REF should “include information on responsible public communication of science,

98 The Royal Society ([RIN0049](#)) para 5

99 The Royal Society ([RIN0049](#)) para 7

100 The Royal Society ([RES0014](#))

101 Director, MRC Laboratory of Molecular Biology ([RIN0095](#)) paras 3.1–3.4

102 For further information on QR funding and the dual support system see *Higher Education Funding in England*, Commons Briefing Paper [CBP 7973](#), January 2018

103 Professor Stephan Lewandowsky and Professor Dorothy Bishop ([RIN0046](#)) para 19

to discourage press offices from overhyping research”. HEFCE told us that the 2014 REF exercise did include some assessment of research integrity as part of the assessment of the research environment, albeit only for medical and life sciences and social sciences.¹⁰⁴ We were encouraged to hear that in the 2021 REF process, all assessment panels will be required to consider how research integrity and misconduct issues can be covered in the research environment section.¹⁰⁵

57. Creating a healthy ‘research culture’ is just as important as tackling lapses in research integrity, and would help ensure that a career in research is attractive to those who value rigour, accuracy, honest and transparency. We endorse Research England’s plans to require the REF 2021 assessors to consider how research integrity issues can be taken into account. We hope that this will underline the importance of research integrity to a healthy research environment, and counterbalance some of the pressures to compromise on integrity. For this to be successful it must be implemented in a way that encourages universities to be more transparent about research integrity and investigations, rather than an additional incentive to avoid drawing attention to lapses in integrity.

58. There is a need to understand more fully the effects of the current funding system on researcher and institutional behaviour, and consider how unwanted effects can be minimised. We recommend that UKRI commission research to understand the effects of incentives in the research system on researcher behaviour and assess where adjustments or counterbalances may be needed to support research integrity.

Training

59. Sheffield Hallam University highlighted the importance of training to its approach to research integrity:

Educational initiatives are key both for academics, researchers, doctoral students, relevant support staff and students on taught courses. Ensuring that research ethics and integrity are mandatory core elements of all the taught research methods curricula ensures that future generations of researchers are properly informed and that due attention to these issues is given in all research undertaken on taught courses.¹⁰⁶

They told us that training on ethics and integrity is mandatory for doctoral students at the university and is included in the research supervisor training programme. They explained that:

The aim is to assure research integrity by making staff aware that there is a collective responsibility to report any apparent breaches as negative publicity related to research misconduct by any research in the university will impact on all researchers’ work. Thus it becomes research misconduct to collude with and/or fail to report any apparent breaches of policy and procedures.¹⁰⁷

104 [Q471](#) [Dr Hill]

105 [Q472](#) [Dr Hill]

106 Sheffield Hallam University ([RIN0036](#)) para 3

107 Sheffield Hallam University ([RIN0036](#)) para 3

60. The risks of failing to ensure that training in research design was provided to research supervisors was made clear by Dr Alyson Fox from the Wellcome Trust:

The basic fundamentals of designing an experiment and research programme are really hard. Traditionally, but not exclusively, a young researcher coming into a lab to start a PhD, or their first postdoc, is taught by the person above them, so it is generally not even the [Principal Investigator]—the lab head; it is the postdoc or senior postdoc. In bad cases, essentially it is the blind leading the blind.¹⁰⁸

A similar point was made by James Parry, UKRIO’s Chief Executive:

The question is, are we teaching researchers what they need to know, or are they picking things up as they go along? If it is the latter, are they picking up good habits or bad?¹⁰⁹

61. Provision of training is referred to in the Concordat to Support Research Integrity, albeit only in general terms. Signatories commit to “supporting a research environment that is underpinned by a culture of integrity” by providing “suitable learning, training and mentoring opportunities to support the development of researchers”.¹¹⁰ Funders provide some further specification of what this should entail; the formal RCUK requirement in its ‘Statement of Expectations for Postgraduate Training’ is that:

Students should receive training in the principles of good research conduct in their discipline, and understand how to comply with relevant ethical, legal and professional frameworks. Students should be provided with training to identify and challenge unintentional bias as appropriate to their studies.

Students should receive training in experimental design and statistics appropriate to their disciplines and in the importance of ensuring research results are robust and reproducible.¹¹¹

As with other aspects of the Concordat, compliance with this is in principle monitored by the research and funding councils. Again, Dr Tony Peatfield from RCUK told us that there is “a dipstick monitoring process”, but “obviously we cannot have comprehensive policing of what actually goes on. One of the things we have done is to try to focus our doctoral training in fewer places, and that makes for better training but also makes it easier to keep an eye on what is going on”.¹¹²

62. Rather than leave this training for the institutions themselves to design, the Association of Medical Research Charities suggested that there was a need for centralised training on matters relating to research integrity:

We would encourage Government to consider supporting a centralised training and education resource for researchers across the breadth of research disciplines. This could be led by UK Research and Innovation

108 [Q266](#)

109 [Q428](#)

110 Universities UK, *The Concordat to Support Research Integrity* (July 2012), p15

111 RCUK, *Statement of Expectations for Postgraduate Training*, (June 2016)

112 [Q492](#)

and the National Institute for Health Research to support excellent science more broadly. It would be significantly easier to achieve from a ‘top down’ approach, rather than fragmented efforts from multiple smaller bodies. It could, for instance, form a significant part of a researcher’s training throughout their PhD thereby equipping future scientists with the skills required to create cultural change.¹¹³

63. Sir Bernard Silverman, representing UKRIO, told us that “some formal work on research integrity would be very worthwhile, just as university lecturers nowadays get formal training in teaching”.¹¹⁴ Dr Steven Hill, representing HEFCE, agreed that “there is probably a core of activity where consistent training would be helpful”,¹¹⁵ but both HEFCE and RCUK witnesses suggested that a range of providers could provide contextualisation for different disciplines.¹¹⁶

Statistical training

64. We explored with witnesses whether training was particularly needed in relation to statistics, given the need to understand the problems associated with ‘p-hacking’ and ‘HARKing’ (see Chapter 1, Box 1). Professor Bishop told us that “people are using statistics without fully understanding what they are doing. That is extremely dangerous. We need much better statistical training, and more statisticians to deal with this issue”.¹¹⁷ She explained that “in some disciplines there are statisticians available for consultancy, particularly in medicine. In most disciplines, there are not”.¹¹⁸ Professor Leyser was concerned that “the statistical training people get is not in the principles of statistics; it is ‘Here is a list of statistical tests and here is a programme that does it for you’. The training has to be about the principles and not the details”.¹¹⁹ She argued that “what they think they are doing is testing whether or not they are right; if their p-number is small, it means they are right, and if their p-number is big, it means they are wrong. That entire approach is deeply flawed and needs to be shifted right from the beginning in education”.¹²⁰

65. Rather than training all researchers to the same level, Dr Arnaud Vaganay, a meta-researcher, argued that research teams could include individuals with the relevant skills; he told us that “usually research teams are too homogenous. Economists work with economists; sociologists work with sociologists; and usually statisticians work with statisticians. Perhaps a solution to the problem would be to bring in people with different backgrounds”.¹²¹ Similarly, the Royal Statistical Society argued that “the UK’s system for research and science funding needs to support more skilled statistical instructors who work across disciplines. Mechanisms to address statistical integrity are most advanced for medicine and clinical trials, but models developed there should be applied more widely to other fields of research”.¹²²

113 Association of Medical Research Charities ([RIN0033](#))

114 [Q428](#)

115 [Q489](#)

116 [Qq490–493](#)

117 [Q14](#)

118 [Q14](#)

119 [Q14](#)

120 [Q20](#)

121 [Q20](#)

122 The Royal Statistical Society ([RIN0085](#)) para 2.1

66. We are encouraged to hear that some universities make training in research integrity a mandatory part of doctoral studies and include it in their research supervisor training programme. It is important that the attitudes to research integrity transmitted to the next generation of researchers are the right ones, and that those supervising them are also suitably trained. *We recommend that UKRIO provide guidance to universities on best practice in delivering training to doctoral supervisors.*

67. The research councils do not have reliable information on what training is currently being delivered. The increased concentration of training, through ‘Centres for Doctoral Training’, presents an opportunity for monitoring whether suitable training on research integrity is being provided as part of a PhD. *We recommend that UKRI assess whether suitable training is being provided in line with current requirements and report back to us on its findings. UKRI should also consider further the case for centralised provision of training on research integrity, or standards that could be set.*

68. *We recommend that UKRI consider how best to encourage research teams to engage with statisticians as part of their research, and how best to improve the statistical competencies of researchers in general.*

‘Open science’

69. The BMJ told us that “increasingly, journals have policies to enhance the reproducibility of published research by making the underlying ‘raw’ data accessible to other researchers”.¹²³ We heard that journals including *Science*, *Nature*, and the *PLoS* (Public Library of Science) require authors to make study protocols, datasets, and code available on publication,¹²⁴ and that the *BMJ* “requires authors of clinical trials to make anonymised individual patient data available on reasonable request”.¹²⁵ Moreover, some journals are integrated with data repositories to facilitate data sharing.¹²⁶ Universities UK agreed that open access to research outputs and data “will undoubtedly create opportunities for enhancing the integrity of research” and that this approach “may help to address the challenges associated with reproducibility and publication bias more effectively than a regulator could”.¹²⁷ In particular, publication of datasets could assist with identifying errors.¹²⁸

70. However, we also heard that open data can present risks to integrity through secondary misuse, and ‘p-hacking’ in particular (see Chapter 1, Box 1). As Professor Lewandowsky and Professor Bishop explained, “if one subdivides a large multivariate dataset in every possible way, some associations will be found by chance, but they cannot be regarded as meaningful unless adequate correction is made for the number of statistical tests”.¹²⁹ Professor Bishop provided us with an example of this from the USA:

A group of people who thought that vaccines caused autism—still, after all these years—found a big dataset from some American survey. They dived into it and found that if you looked at the children who were boys, who were black, who were of a particular age range and went to a particular nursery,

123 BMJ (RIN0081) para 3.a.v

124 BMJ (RIN0081) para 3.a.v

125 BMJ (RIN0081) para 3.a.v

126 BMJ (RIN0081) para 3.a.v

127 Universities UK (RIN0057) para 29

128 Q23

129 Professor Stephan Lewandowsky and Professor Dorothy Bishop (RIN0046) para 26

lo and behold there was an association between vaccination and autism. If you looked at the whole dataset, of course, there was nothing. That was classic p-hacking. The paper was published. It was subsequently retracted, but the damage was done. It is still thought to be a cover-up by the original researchers who did not publicise that amazing fact.¹³⁰

The fact that the paper based on p-hacking was published in the first instance—even if subsequently retracted—demonstrates some of the limitations of peer review as a means of protecting against this practice.

71. Professor Bishop argued that there was a need for those wishing to re-analyse data to submit a protocol setting out the analysis that will be done, rather than “a free-for-all where you can just poke around and pull out the bit that happens to support your views”.¹³¹ Dr Vallance also highlighted potential privacy issues relating to individual patient data, which also underlines the need for a process for applying for access to data. He highlighted the Clinical Studies Data Request¹³² as a case study of how this process could be managed, with applicants required to specify their research question and methods before accessing the data in order to minimise risk that secondary researchers will “data-trawl large datasets and come up with very bad post-hoc analysis”.¹³³

72. The Royal Statistical Society effectively summarised the competing arguments for us:

In an ideal world, open access to data would allow external validation of any claim. But the downside of open access is its abrogation of the protections that prior approval and registration of study protocols affords, and could lead to ill-founded disputes in areas of contested science.¹³⁴

Our predecessor Committee recommended in its report on Big Data that a ‘Council on Data Ethics’ should be established.¹³⁵ More recently, in our report on algorithms in decision-making, we highlighted the newly-established “Centre for Data Ethics and Innovation”.¹³⁶ There is a role for such a body addressing the issues we have explored here in the context of open data and research integrity.

Better reporting of methods

73. The BMJ noted that one of the drivers of problems with reproducibility (see Chapter 1) was research methods being reported “too cursorily or without clarity”, and that “this may mean that the methods themselves were inadequate, or simply that they were badly written up, or both”.¹³⁷

74. Catriona Fennell, representing the Publishers Association, argued that online publishing meant that there was less of an excuse not to provide full methodological details to ensure reproducibility:

130 [Q31](#)

131 [Q31](#)

132 www.clinicalstudydatarequest.com

133 [Qq667–668](#)

134 The Royal Statistical Society ([RIN0085](#)) para 6.1

135 Science and Technology Committee, Fourth Report of Session 2015–16, [The big data dilemma](#), HC 468, para 102

136 Science and Technology Committee, Fourth Report of Session 2017–19, [Algorithms in decision-making](#), HC 351, paras 6–7

137 BMJ ([RIN0081](#)) para 1.b.vii

In the past, with print, if the author had a word limit, there was a risk that they would reduce the method section, and you basically ended up with somebody writing a recipe: “Throw some flour in a bowl. Add some butter and throw it in the oven for a while.” Actually, what you need is what type of flour and how many grams, what temperature should the oven be, what type of butter, and so on.¹³⁸

We were directed to various initiatives to improve the reporting of research methods, including reporting guidelines and checklists such as those collected for health research by the EQUATOR network.¹³⁹

75. We are encouraged to see moves towards open publishing of datasets, and steps being taken to improve reporting of research methods through reporting checklists. However, we also recognise the need for protocols for accessing research data to ensure that secondary analysis is conducted appropriately. *The Centre for Data Ethics and Innovation should consider further how best to balance the need for data to be openly shared with the need to ensure that data is used responsibly in secondary analysis.*

138 [Q265](#)

139 www.equator-network.org

5 Detecting and responding to problems with research integrity

Detection

76. In 2011 our predecessor Committee explored the extent to which the peer review process can reasonably be expected to identify misconduct. It concluded that “the integrity of the peer-review process can only ever be as robust as the integrity of the people involved. [...] Although peer review is not designed to systematically identify fraud or misconduct, it does, on occasion, identify suspicious cases”.¹⁴⁰ In our current inquiry, Dr Wager told us that “conventional peer review done by journals does not involve scrutiny of raw data and so cannot be expected to detect most cases of fabrication or falsification”.¹⁴¹ Similarly, Professor Leyser believed that peer review “is never going to be very good at picking up fraud [...] It is not the job of the system to spot fabrication”.¹⁴²

77. Our predecessors concluded that “in addition to relying on the vigilance of the people involved in the process, publishers must continue to invest in new technology that helps to identify wrongdoings.” In 2012 the InterAcademy Council also recommended that journals should use technological means to protect the integrity of the research literature, noting that “an increasing number of journals are using software to guard against plagiarism and the inappropriate manipulation of figures”.¹⁴³

78. The BMJ listed some of the techniques that journals use, including “statistical analysis of patterns in datasets, image checking tools, linguistic analysis, investigative journalism, post-publication peer review, and policies that require full reporting of methods and results (using reporting guidelines such as the CONSORT 2010 Statement for clinical trials), and data sharing”.¹⁴⁴ They told us that “none of these approaches is perfect or foolproof but each has its merits and deserves further evaluation”.¹⁴⁵

79. One example of using software to detect errors is ‘Statcheck’, a programme based on the statistical package ‘R’ which has been designed to automatically identify statistics used in journal articles and re-compute them independently to check for certain kinds of errors. Statcheck was initially used to assess what proportion of psychology journal papers that included a ‘null hypothesis significance test’ contained a statistical error.¹⁴⁶ Half of the papers assessed by the programme were found to contain at least one problem, with one in eight papers containing “a grossly inconsistent p-value that may have affected the statistical conclusion”.¹⁴⁷ Later, Statcheck was used to identify individual papers containing potential errors and automatically contact the authors.¹⁴⁸ Professor David Hand, representing the Royal Statistical Society, told us that, while fraud was “particularly

140 Science and Technology Committee, Eighth Report of Session 2010–12, [Peer review in scientific publications](#), HC 856, para 244

141 Dr Elizabeth Wager ([RIN 14](#)) para 4.4

142 [Q33](#)

143 InterAcademy Council, [Responsible Conduct in the Global Research Enterprise: A Policy Report](#) (2012), pp31–32

144 BMJ ([RIN0081](#)) para 3.a.i

145 BMJ ([RIN0081](#)) para 3.a.i

146 Nuijten M. B. et al, “[The prevalence of statistical reporting errors in psychology \(1985–2013\)](#)”, *Behavioural Research* (2016)

147 Nuijten M. B. et al, “[The prevalence of statistical reporting errors in psychology \(1985–2013\)](#)”, *Behavioural Research* (2016)

148 Stephen Buranyi, “[The hi-tech war on science fraud](#)”, *The Guardian*, 1 February 2017

pernicious”, more common problems with data were “oversights in pre-processing the data; ignoring missing values or inadequate ways of handling them; introducing errors when pre-processing the data, which happens quite often; and misunderstanding the statistical tools you are using”.¹⁴⁹

80. Professor Hand told us that while StatCheck was capable of checking for a particular kind of problem, the range of potential problems was so broad that it would not be possible to entirely automate checking for errors with software.¹⁵⁰ A move towards more datasets being available for secondary analysis by such statistical tools nevertheless presents a greater opportunity to use these techniques to check for potential problems, albeit with the caveats we explore in Chapter 4.

81. Other techniques we heard about during our inquiry included software for detecting image manipulation (see Chapter 1). Damian Pattinson told us that Research Square was working on software that can help with identifying “pixellated areas”, with automation in the early stages of development.¹⁵¹ He told us that investing in manual checking of images for signs of manipulation was expensive, and said that

Some publishers I work with question whether it is cost-effective to spend that money. An outlay of between \$20 and \$30 [per paper for scrutiny of images] is significant when it is not quite clear what the repercussion is. [...] A journal may have to retract a paper that has clear problems with images, but that is about as bad as it gets for them. Journals often feel that that is not enough of a threat to them to require a million-dollar investment in fixing the problem.¹⁵²

82. **There is a continuing need for publishers to invest in techniques and technologies to spot problems with research papers. While the purpose of peer review is not to detect fraud, the sector’s responsibility for the integrity of the research base includes taking reasonable steps to ensure that technology to detect problems is developed and put to good use. This may be an area in which market forces do not obviously support this investment of resource. A Concordat-style set of commitments in the academic publishing community to invest jointly in software for the detection of image manipulation—or common standards for checking images—may be required. We recommend that UKRIO convene a discussion with publishers to explore this.**

Responding to problems with research integrity

Institutional processes for responding to misconduct allegations

83. The Concordat to Support Research Integrity explains that the primary responsibility for investigating allegations of misconduct rests with the employers of the researchers involved.¹⁵³ It notes that employers of researchers should already, as a condition of the grants they receive, have “robust, transparent and fair processes for dealing with allegations of misconduct that reflect best practice”.¹⁵⁴

149 [Q102](#)

150 [Q116](#)

151 [Q155](#)

152 [Q161](#)

153 Universities UK, [The Concordat to Support Research Integrity](#) (July 2012), p18

154 Universities UK, [The Concordat to Support Research Integrity](#) (July 2012), p19

84. We were concerned by a perception in the submissions we received that institutions were in effect ‘policing themselves’ when responding to allegations,¹⁵⁵ and asked witnesses about practice in relation to external input to the process. Professor Sir Ian Diamond, representing UUK, told us that he was “comfortable” with the process being undertaken by colleagues within the same organisation, although he would be “pretty uncomfortable if it was someone from the same laboratory or something like that [...] I do not have a problem with someone being brought in from outside, but I do not think the way the system is at the moment is broken”.¹⁵⁶

85. UKRIO provides guidance to institutions on procedures for investigating misconduct allegations.¹⁵⁷ These include a ‘screening’ stage as a precursor to the ‘investigation panel’; the guidance states that a Screening Panel should consist of at least three senior people, and that “It is desirable, but not essential, that one or more members of the Screening Panel be selected from outside the organisation, rather than members drawn from within the organisation. Allegations that involve senior staff and/or that are judged to be especially serious, complex or controversial may particularly benefit from the presence of someone external to the organisation on the Screening Panel”.¹⁵⁸ However, if an allegation progresses to the investigation stage, “it is a requirement that one or more members of the Investigation Panel be selected from outside the organisation”.¹⁵⁹

86. Wendy Appleby, the Concordat-recommended ‘named person’ responsible for research integrity at UCL, explained the processes followed, and the stages at which external panel members are sought:

Within our procedure, as named person, my responsibility is to oversee the operation of the procedure. I make judgments in the initial stages of the procedure and help to provide advice on its operation, but I do not make judgments on the latter stages. [...] It is a three-stage process, which is standard in the [UKRIO] guideline procedure.

The initial stage of the process is a preliminary assessment, which is the stage I take. Effectively, it asks, “does the allegation of misconduct fit within the definition of research misconduct, or should it be dealt with under a different process—for example, financial problems or a staffing process?”.

If I decide that it fits within the definition, the next step is for it to go to screening. At UCL, we establish a screening panel, which is effectively a peer review. [...] Typically, our screening panel is three individuals drawn from within UCL, but we are very careful to check that there is no conflict of interest with the research or the researcher where there is concern. [...] Screening is very much about saying, is there meat on the bones of the allegation? Is there prima facie evidence of research misconduct? The important thing to emphasise is that it is about an intention to deceive, because things can go wrong.

155 Professor Carl Heneghan ([RIN0064](#)) para 3.2

156 [Q55](#)

157 UK Research Integrity Office, [Procedure for the Investigation of Misconduct in Research](#) (August 2008)

158 UK Research Integrity Office, [Procedure for the Investigation of Misconduct in Research](#) (August 2008), p40

159 UK Research Integrity Office, [Procedure for the Investigation of Misconduct in Research](#), (August 2008), p44

[...] If it goes to the third stage, which is the research misconduct investigation panel, we establish a fresh panel of a minimum of three people, which will include an external member—I recall one panel where the membership was entirely external—and that panel will conduct an in-depth investigation.

[...] It is not all self-investigation; indeed, in our screening panel, our procedure allows us to use an external member if we wish. It might be that we are seeking a particular form of expertise; it might be a very complex case. If we wish to, we can do it at screening level as well.¹⁶⁰

87. However, she suggested that the UKRIO guidance on screening panels might not be being followed at every institution:

I have noticed that in some universities' procedures they still refer screening to the head of the department where the allegation sits, or a single person. There is greater danger for conflict of interest there, but panellists tend to operate in very independent ways, and use the process and their expertise in forming judgments. In an internal employment process, say a disciplinary, a grievance or something like that, typically an internal set of staff would be involved in hearing that.¹⁶¹

88. Universities and other employers of researchers need to be able to demonstrate that they are following best practice in the way that investigations are conducted. The annual narrative report recommended by the Concordat (see Chapter 3) is one opportunity for institutions to review their processes and set out whether they reflect UKRIO's guidance. Any suggestion that best practices are not being followed is a concern, particularly given the reputational risk of, for example, not using external panel members in some stages of the process. UKRIO's guidance on misconduct processes was published in 2008; it is worrying that, ten years on, some institutions may not yet have acted on it. We recommend that following best practice in use of external panel members form an explicit part of a strengthened Concordat.

Complex cases

89. We also received evidence on some of the additional steps that institutions take in complex and high-profile cases, going beyond the standard UKRIO model. Box 2 provides an example of this at UCL.

Box 2: The case of Paulo Macchiarini

In January 2016, Swedish Television broadcast a three-part documentary, *Experimenten* (The Experiments), exposing several examples of misconduct concerning transplantations performed by Paulo Macchiarini, a visiting professor at Karolinska Institutet (KI). During his tenure at KI, Macchiarini performed synthetic trachea transplantations in three patients at the Karolinska University Hospital. A Guardian article from September 2017 states that the documentary “argued convincingly that Macchiarini’s artificial windpipes were not the life-saving wonders we’d all been led to believe. On the contrary, they seemed to do more harm than

160 [Qq139–141](#)

161 [Q179](#)

good—something that Macchiarini had for years concealed or downplayed in his scientific articles, press releases and interviews”.¹⁶² A written submission to us from two academics at the University of Liverpool explains that part of the misconduct lay in ‘over-hyping’ patient outcomes:

The Swedish Central Ethics Review Board has recently published its report on research misconduct relating to scientific articles authored by Macchiarini and co-workers, the conclusion being that a series of six papers should be retracted. A key problem identified in the report was that the scientific articles contained over-hyped descriptions of patient outcomes, which gave the impression that the health benefits of the synthetic tracheas were much greater than they actually were.¹⁶³

Macchiarini was also a visiting professor at UCL until 2014, and a collaborator of UCL academics.¹⁶⁴ Given Macchiarini’s connection to UCL and related research undertaken there, we asked Wendy Appleby (the university’s ‘named person’ for research integrity) to describe the “special inquiry” process that UCL followed to explore a range of allegations of misconduct in relation to regenerative medicine. She explained that “a number of allegations came in on the area of regenerative medicine research, focusing particularly on some of the sorts of methods Macchiarini was using, with slightly different angles in each allegation and lots of questions. One interesting thing about the way a research misconduct process works, or the stages within the overall procedure, is that it relies on allegation, a respondent and so forth. At UCL, we felt we had had a connection with Macchiarini, even though it was not current. We were doing research and working in the area and we had received a number of slightly different variants of misconduct allegations. We felt that we needed to step back from the approach where you need an allegation to look into a specific thing, and take a more generic approach, which was why we did the special inquiry, and that that should be independent. We had an entirely external panel for the special inquiry, with separate legal advisers we appointed and paid for, to help them in their work”.¹⁶⁵

Wendy Appleby told us that the UCL Special Inquiry “made a number of very helpful recommendations; indeed some of them were around the operation of our overall research misconduct procedure, and you can see them. Some of them were around scientific practice, and working appropriately within the regulatory environment. There are lessons in terms of how we work with research councils, [including] balancing the interests of the individual and their rights and the expectations of funding councils, and the contract we have with them. Finally, within UCL itself, we are looking at the body of activity. It is a very wide-ranging area of research activity, and includes about 1,000 individuals, a huge number of staff across a wide range of organisational units. We were looking at whether we had the governance right, so that if ever there were a rogue action in the future we would have more robust oversight of it”.¹⁶⁶

162 [“Dr Con Man: the rise and fall of celebrity scientist who fooled almost everyone”](#), The Guardian, 1 September 2017

163 Professor Patricia Murray and Raphael Levy ([RES0022](#))

164 [Q185](#) [Wendy Appleby]

165 [Qq185–187](#)

166 [Q187](#)

Maintaining the integrity of the research record

90. Publishers have a key role to play in maintaining the integrity of the research record through retracting problematic articles. The British Medical Journal (BMJ) outlined the various steps that publishers can take when problems are detected:

For proven misconduct a journal may publish a correction or notice of concern about the article; retract the article; publish commentaries about the case; tighten its peer review, statistical review, and publishing policies; ban authors; and/or ask the authors' institution (and any institutional review board or ethics committees involved that approved the research) to investigate.¹⁶⁷

The Publishers Association added that:

Once a query about an article is received, journals will investigate and decide upon the appropriate action to take in accordance with the Committee on Publication Ethics guidelines. This process can be incredibly detailed and time intensive, but is crucial to the integrity of research and the reputation of the publisher of that research.¹⁶⁸

91. Dr Elizabeth Moylan, representing the Committee on Publication Ethics, outlined some of the problems that publishers encounter when raising issues with an institution:

If an issue arises and is brought to a journal's attention, perhaps on a published paper, in the first instance we go to the authors and ask for an explanation, and we loop in their institutions. That can be quite tricky sometimes, because some institutions can come down on people quite harshly, and some institutions might not respond. [...] The publisher does not have the tools to do that investigation and the published article is, effectively, on hold until the investigation is completed.

That is where it is tricky, because publishers have a responsibility for the integrity of the published literature. What do they do in the interim? Often, people put an expression of concern on a published article or an editor's note, because they are waiting for the outcome of an investigation that might determine whether the paper is corrected or retracted. [...] The publisher is waiting for the institution to get back to them.¹⁶⁹

92. Dr Trish Groves, the Director of Academic Outreach at the British Medical Journal (BMJ), told us that in her experience of 28 years at the BMJ, a university has never proactively contacted that journal regarding the outcome of a misconduct investigation to suggest that articles may need to be retracted, and that instead "we are often the ones banging on the door of the institution".¹⁷⁰ In contrast, she told us that journals talk to each other though, and that "if one journal retracts, it often contacts other journals".¹⁷¹

167 BMJ ([RIN0081](#)) para 3.a.vii

168 The Publishers Association ([RIN0061](#)) para 23

169 [Q235](#)

170 [Q237](#)

171 [Q236](#)

93. The BMJ suggested that publishing corrections to papers was not always an effective way to correct the record, since “the original, erroneous versions of papers that have subsequent published corrigenda are cited at roughly the same rate as the corrected versions”.¹⁷² Similarly, a recent article for *Wired* magazine notes that:

For every retracted paper, the original unmarked copy still lives on in print (where you might have read it in the first place). And if you have cited that paper in your own work, you don’t receive an alert that one of your citations has just imploded. Which means that you might be totally in the dark. [...] One stem cell paper published in 2005 and retracted in 2010 has been cited 667 times—so far. Nearly half of those citations occurred after the retraction was made official. Here we are, in 2017, seven years after its retraction, and authors continue to refer to it as if nothing happened (including half a dozen times in the past couple of months alone). Nobody knows the extent to which the mistakes in that paper have affected any of those papers downstream.¹⁷³

94. Dr Trish Groves, representing the BMJ, suggested that it was the responsibility of authors to ensure that they check the references they are citing:

We know anecdotally that a lot of people put references in their papers without actually reading the papers they cite in the reference list. They have not bothered to check at the journal website or in an index, such as PubMed or MEDLINE, that it has a big thing that says, “Look out. Retraction.” They do not check. That is initially the responsibility of authors. Some journals have systems where, when a paper is to be published, during the technical/copy editing phase all the references are checked. At that point, a good copy editor ought to pick it up and say, “Hang on. This one’s been corrected,” and it should come back to the handling editor and the author, but I do not know how often that happens.¹⁷⁴

Catriona Fennell added that there was a “lag” in authors adjusting to a paper having been retracted:

If a paper is retracted, papers may have already been written that cite it; they are in the editorial process, and do not come out for maybe five or six months. It could be that the person was not aware of it at the time they wrote it, and we would hope to try to catch it in the editorial process. After about a year and a half, if I remember the data, you see the citations drop off, because it becomes well known that the paper is retracted.¹⁷⁵

Our predecessor’s report into Regenerative Medicine

95. The case of Paulo Macchiarini and UCL’s special investigation into research integrity (see Box 2) has some implications for our predecessor’s 2017 report on regenerative medicine. The Committee’s report noted that:

172 BMJ (RIN0081) para 1.a.iii

173 Jerome Samson, “Retracting bad science doesn’t make it disappear”, *Wired* (accessed 5 June 2018)

174 [Q258](#)

175 [Q258](#)

In 2008, MRC-funded researchers at University College London carried out the first transplant of a human trachea (wind pipe) reconstructed using stem cells. By 2013, the group were ready to build on this success by developing the first clinical trials of a stem cell-derived larynx transplant in a project known as “RegenVOX”. The RegenVOX procedure involves preparing a reconstructed larynx made from the patient’s own stem cells and a donor larynx. The team removes the cells from the donor larynx, leaving behind a scaffold onto which the patient’s stem cells are grafted. This means that the new larynx will not be rejected by the immune system so patients do not need immunosuppressant medication.¹⁷⁶

The Committee’s report also quoted a witness as referring to “the first successful transplant of a tissue-engineered trachea, utilising the patient’s own stem cells”.¹⁷⁷

96. Since then, misconduct processes have revealed that the research on using stem cells to support artificial trachea transplants is not reliable, and is based on exaggerated patient outcomes (see Box 2). The ‘RegenVOX’ clinical trial of stem cell-based tissue-engineered laryngeal implants referred to above is now listed as ‘withdrawn’ on the Clinicaltrials.gov website.¹⁷⁸ Having explored the issue of correcting the research record with our witnesses, we resolved to find a way of flagging the now contested evidence that the Committee received to readers of its report. We have arranged for a note to be attached at the relevant places in the online report with a forward reference to this inquiry. Our intention is to help readers of that earlier report to find further relevant information, not to alter the formal record of our predecessor’s work.

Recording sanctions on researchers

97. Dr Elizabeth Wager noted that there was an interest in a university keeping the outcome of any misconduct investigations quiet, which could lead to fraud occurring at other institutions in the future:

If results of investigations are kept confidential, or worse, if deals are made so that researchers are “let go quietly” with favourable or neutral references to avoid perceived bad publicity surrounding a proper investigation, researchers are likely to move to other institutions which are unaware of their track record, and the chance to rehabilitate or retrain them will be missed.¹⁷⁹

There are examples of this happening in the UK; the case of neuroscientist Jatinder Ahluwalia was highlighted by Dr Wager as an example of a lack of communication between institutions and checking of references. According to a summary published by the Times Higher Education (THE), Ahluwalia was dismissed from the University of Cambridge’s doctoral programme in 1998 for suspected research misconduct, and subsequently completed a PhD at Imperial College London in 2002.¹⁸⁰ He then took a postdoctoral position at University College London (UCL), working with Professor Anthony Segal.

176 Science and Technology Committee, Fifteenth Report of Session 2016–17, *Regenerative Medicine*, HC 275, p26

177 Science and Technology Committee, Fifteenth Report of Session 2016–17, *Regenerative Medicine*, HC 275, para 9

178 NIH US National Library of Medicine, ‘[Clinical Trial of Stem Cell Based Tissue Engineered Laryngeal Implants \(RegenVOX\)](#)’, ClinicalTrials.gov, accessed 12 June 2018

179 Dr Elizabeth Wager (RIN0014) para 3.1

180 Jump, P., “[Faking it](#)”, *Times Higher Education* (2012)

THE reported that in 2004, Professor Segal attempted to repeat Ahluwalia's experiments after a paper from another group contradicted their findings. Ahluwalia left UCL in 2007, but in 2008 UCL started a misconduct investigation which concluded in 2010 that "it was beyond reasonable doubt that Ahluwalia had misrepresented his experiments [...] deliberately" and "that it was likely that he had [...] deliberately contaminated chemicals used in colleagues' experiments "so as to falsify the results of those experiments in order to conceal the falsification by him of the results of his own experiments".¹⁸¹ By then, Ahluwalia had moved to the University of East London. Following this revelation, Ahluwalia was dismissed from UEL in 2011.¹⁸² Dr Wager summed up this example as "four very reputable British universities not sharing information".¹⁸³

98. Professor C.K. Gunsalus noted that researchers found guilty of misconduct may also move from country to country. She knew of "five cases where individuals who were found to have committed research misconduct in the United States moved to the United Kingdom and are active researchers there, and vice versa—people who got into trouble in the UK and moved to the US and started anew. Recidivism is a fairly serious problem".¹⁸⁴

99. Dr Wager suggested that there was a need for 'blacklisting' of researchers or a licence to practice, to combat 'serial fraudsters':

I think the idea of some kind of licence or public list is a good one. They do it in Pakistan; if you get caught for plagiarism, there is a public website¹⁸⁵ I can look at to find out if I want to employ you or not. I think that is a real area of concern.¹⁸⁶

However, Dr Tony Peatfield, representing RCUK, was sceptical about maintaining a blacklist of researchers, on legal grounds:

You [would] have to have a process for striking off people. Somebody would have to complain, and then you go through a legal process to strike them off, because you are depriving somebody of the right to work. My personal view is that it would be extremely bureaucratic and expensive to set up and probably will not work very well. [...] I am not a lawyer, but I understand that it may be illegal to blacklist people if it stops them working, so blacklists per se are not an option.¹⁸⁷

Sir Mark Walport, the Chief Executive of UKRI, was similarly cautious about the legalities of maintaining a blacklist in relation to data handling, but commented that "subject to it being legal, I can see a good argument for doing it".¹⁸⁸

100. Dr Alyson Fox from the Wellcome Trust indicated that funders may in practice have their own blacklists:

181 Jump, P., "Faking it", *Times Higher Education* (2012)

182 Jump, P., "Faking it", *Times Higher Education* (2012)

183 [Q65](#)

184 [Q303](#)

185 Higher Education Commission, Pakistan, '[Blacklisted Researchers/Faculty Members](#)', accessed 11 May 2018

186 [Q65](#)

187 [Q479](#)

188 [Q602](#)

Typically, if someone has been found guilty of research misconduct, we, as a funder, would no longer receive any applications from them for funding for life, because we think it is serious. That is what we do.¹⁸⁹

Dr Peatfield suggested that it was for the new employer to be diligent in its hiring process:

It crops up occasionally where somebody just moves from one institution to another. A report by Science Europe last year recommended that universities employing researchers should ask the question at interview, “Have any cases of misconduct been held against you?” If that person lies, that would be a reason for subsequent dismissal if they were then appointed. There is an onus on the new employer, or any employing institution, to ask those who are applying for jobs what their history has been.¹⁹⁰

101. Cases of researchers committing misconduct at a string of institutions suggest that either some universities are using non-disclosure agreements to keep misconduct quiet, or are not being sufficiently diligent in checking references when hiring researchers. Hiding misconduct through non-disclosure agreements is not acceptable, not least as it effectively makes the institution complicit in future misconduct by that individual. *The Government should ask UKRI to consider how this practice can be effectively banned by institutions receiving public funds, and statements to this effect should be included in a strengthened Concordat (see Chapter 3). Meanwhile, there is a need for greater diligence in employers checking for past misconduct, and for previous employers fully disclosing such information.*

Communication to coordinate the response to problems with research integrity

102. Dr Wager suggested that there were currently problems with the various parts of the system not communicating properly with each other when investigating or responding to research integrity problems. She described “systematic failings to alert readers to potentially or actually unreliable research reports. This may be due to journals being reluctant to issue Expressions of Concern or to retract articles, or institutions being reluctant to investigate cases, or failing to investigate them properly, or failing to inform journals about investigations or their findings”.¹⁹¹

103. Dr Fox said that the Wellcome Trust’s grant conditions required institutions that it funds to report any investigations to them at the screening stage.¹⁹² Wendy Appleby, the Registrar at UCL, also commented on the information flow between research institutions and funders:

A topic of discussion between funders and universities is about when you disclose to a funder an allegation of research misconduct. We need to be very clear about the stage for that and about what a funder is going to do with it. Understandably, if an allegation is to be dealt with at one of the earlier stages, and is not going to go through to proven misconduct, researchers

189 [Q234](#)

190 [Q485](#)

191 Dr Elizabeth Wager ([RIN0014](#)) para 4.4

192 [Q232](#)

are naturally concerned about their funders being informed of that. They have certain rights in terms of confidentiality as well. Clearer protocols and mechanisms for dealing with these things generally would be very useful.¹⁹³

104. We were also alerted to the complexities of handling investigations that may span multiple research institutions, such as when a researcher moves to another university or when a project is undertaken at several locations. As with the interactions between funders, employers and publishers, such investigations also raise questions about when and how information is shared, how confidentiality is handled during the process, and how the risk of duplication of effort is managed. The Russell Group Research Integrity Forum has recently produced a ‘Statement of cooperation in respect of cross-institutional research misconduct allegations’, emphasising the need to provide clarity on when a researcher’s right to confidentiality “might be overridden by an institution’s duty to uphold the integrity of research carried out in its name”.¹⁹⁴ The statement commits Russell Group members to contacting associated parties at the outset and agreeing with them how to proceed.

105. Although the Concordat to Support Research Integrity includes a commitment to deal with allegations of misconduct using “transparent, robust and fair” processes, it does not discuss the liaison required between different parties that may be involved, beyond stating that employers of researchers should provide information to funders “as required by their conditions of grant and other legal, professional and statutory obligations”.¹⁹⁵

106. Researcher mobility means that research misconduct investigations may require coordination between current and former employers, and between journals and funders. We are encouraged to see the Russell Group developing protocols for communicating with related parties when dealing with allegations that cross institutional boundaries. There is a need for all parts of the system to work together—including employers, funders and publishers of research outputs—but there appear to be problems with the required sharing of confidential information. *We recommend that employers, funders and publishers of research work together to agree a protocol for information-sharing on researchers involved in research integrity problems in a way that meets employment protection legislation. Commitments in this vein could form part of a tightened Concordat (see Chapter 3).*

193 [Q194](#)

194 Russell Group ([RES0056](#))

195 Universities UK, [The Concordat to Support Research Integrity](#) (July 2012), p19

6 Regulating research and researchers

107. The UK has an enviable reputation for high-quality research. In 2013, the UK accounted for almost 16% of the world’s most highly cited research articles, despite having less than 1% of the global population and around 4% of researchers.¹⁹⁶ Meanwhile, researchers themselves are one of the most highly-trusted groups in the eyes of the UK public. The 2017 IPSOS Mori Veracity Index suggests that 85% of British adults trust “professors” to tell the truth, higher than judges and the police, and considerably higher than politicians at 17%.¹⁹⁷

108. However, as Professor Stephan Lewandowsky and Professor Dorothy Bishop put it, “science [...] has to be conducted according to rigorous standards to be effective. Where the integrity of research is compromised by dishonesty, conflict of interest or incompetence, there can be major impacts on public health and safety”. Similarly, Universities UK noted the importance of public confidence in research, and observed that “wherever this confidence is undermined, either through poor practice or misconduct, then public trust in—and support for—research can be shaken”.¹⁹⁸

109. High-profile cases of research misconduct in other countries have prompted changes in the way in which research integrity is managed. For instance, in the USA, the Office of Research Integrity was created following research misconduct cases at four major research centres in 1980.¹⁹⁹ In general, we were told that many countries follow a similar path: “a problem occurs; there is a question about whether oversight and regulation would be useful; there is significant pushback, with people saying regulations are terrible and they will do bad things and interfere with scientific progress. The regulation occurs; people normalise it and things stabilise a bit. Then another problem occurs so they look at it again”.²⁰⁰

110. UK research has an enviable record of excellence and public trust, but this should not be taken for granted. There is a risk that public trust in science could be eroded in the future through high-profile examples of research misconduct, and a risk that this could lead to demands for knee-jerk and ill-advised changes to the research system in the UK. There is a need for the research community—including funders, publishers, and employers of researchers—to stay ahead of research integrity issues and how they are dealt with in public policy. The UK’s position of international high regard and public trust in researchers is strengthened if the community has the confidence to admit that no area of human endeavour is immune to misconduct and error at some scale.

111. UKRIO’s position statement explains that the UK system is based on the responsibility to investigate misconduct usually resting with the employer:

When issues of research [mis]conduct arise, if a field of research is not governed by statute, it normally devolves to the relevant employer—such as a university, NHS body or private sector organisation—to investigate

196 Elsevier, *International Comparative Performance of the UK Research Base* (December 2013), p2

197 IPSOS Mori, *Veracity Index 2017* (November 2017)

198 Universities UK (RIN0057) para 3

199 Office of Research Integrity, ‘*Historical Background*’, accessed 5 June 2018

200 [Q284](#) [Professor C.K. Gunsalus]

and, if necessary, take remedial action. [...] In turn, research funding bodies, via contractual mechanisms, help ensure that employers fulfil their responsibilities.²⁰¹

Sir Mark Walport (speaking then as the Director of the Wellcome Trust) told our predecessors in 2011 that research integrity was “an intrinsic responsibility of an employer. It is not something they should be delegating to somebody else”. Similarly, Universities UK argued that:

Universities—as autonomous institutions—are responsible for responding to and investigating allegations of research misconduct, and ultimately have the final decision on whether an allegation of research misconduct is upheld. Universities may also apply sanctions up to and including dismissal, subject to employment law. This is a responsibility that universities take very seriously, and have a significant interest in ensuring policies and processes are fit for purpose and in line with best practice.²⁰²

112. However, we also heard that current arrangements of institutions “policing their own conduct” could represent a conflict of interests.²⁰³ Retraction Watch observed that “given many cases we have covered in which universities cleared their scientists of misconduct, only to later be forced to acknowledge such misconduct, it is obvious that institutions have a conflict of interest in investigating their own employees”.²⁰⁴ Professor Dorothy Bishop called for an ombudsman to be created in the UK in order to manage this conflict of interest, and argued that this would be a benefit to the community in being able to defend itself against accusations of impropriety:

It would be sensible to have an independent arbiter, who has to be independent from Government and from the universities. They would be more like an ombudsman, but would need expertise in statistics and methods so that they could examine data, and they should have teeth so that they could take steps. Obviously, that would not be non-trivial to set up, but it would benefit the scientists who sometimes come under attack from people with vested interests, the people who are concerned about fraud, and the institutions themselves, who otherwise have to deal with those very messy cases.²⁰⁵

113. In contrast, Professor Sir Ian Diamond (on behalf of UUK) argued that it was already in a university’s interest to investigate misconduct properly:

It is easy to say that there is a conflict of interest, but [...] universities have an enormous interest in their own reputation and maintaining it. Universities have a long history of being able to co-regulate in an effective way. [...] It is in everybody’s interest to get to the bottom of the problem.²⁰⁶

201 UKRIO, *Position statement: Statutory regulation of research integrity* (November 2016)

202 Universities UK (RIN0057) para 8

203 Professor Carl Heneghan (RIN0064)

204 Retraction Watch and The Center For Scientific Integrity (RIN0075)

205 [Q21](#)

206 [Q54](#)

Self-regulation in the UK

114. UKRIO's November 2016 position statement on statutory regulation of research integrity notes that "ultimately, all countries and jurisdictions rely on self-regulation by researchers", but that "what varies are the structures set up to support and oversee this self-regulation and to ensure that action is taken when needed".²⁰⁷ It explains that:

There is currently no overall statutory regulation of research or of researchers in the UK. While there are regulators for certain types of research, such as human clinical trials or research involving animal subjects, and for certain types of researchers, such as (medical) doctors, these are exceptions rather than the rule.²⁰⁸

115. Our predecessor committee concluded in 2011 that the general oversight of research integrity in the UK was "unsatisfactory", and recommended that an external regulator for research integrity should be established.²⁰⁹ The Government declined to act on this recommendation, stating:

the Government does not agree that there is a case for setting up an external regulator to oversee the employers [of researchers]. There are already a number of regulatory and licensing bodies in key areas of research, and therefore any new regulatory body would increase regulatory burden on employers, and risks causing unnecessary overlap and uncertainty. Through the Research Integrity Concordat the Government will expect employers of researchers to deal with research integrity in an open and transparent manner.²¹⁰

116. The written evidence we received suggests that there is still strong resistance within the university sector to the idea of a regulator. The Russell Group argued that "the creation of a UK regulatory body to oversee compliance would run the risk of undoing the progress made in strengthening the rigor and culture of UK research, by discouraging transparency and undermining the credibility of positive messages".²¹¹ The Group also suggested that "a culture which places an emphasis on compliance with rules can be counterproductive, as it may encourage people to do the minimum, just enough to comply, as opposed to incentivising people to strive to improve research behaviours and practices".²¹² Similarly, Universities UK argued that "policing researchers via a compliance-led policy focus risks distancing researchers from the importance of pursuing best practice, and instilling undesirable attitudes towards the promotion of research integrity [...] It is unclear how further regulation can address poor research culture or promote good practice".²¹³

207 UKRIO, [Position statement: Statutory regulation of research integrity](#) (November 2016)

208 UKRIO, [Position statement: Statutory regulation of research integrity](#) (November 2016)

209 Science and Technology Committee, Eighth Report of Session 2010–12, [Peer review in scientific publications](#), HC 856, paras 262 & 271

210 Science and Technology Committee, Tenth Special Report of Session 2010–12, [Peer review in scientific publications: Government and Research Councils UK responses to the Committee's Eighth Report of Session 2010–12](#), HC 1535, p3

211 Russell Group ([RIN0070](#)) para 5.7

212 Russell Group ([RIN0070](#)) para 5.6

213 Universities UK ([RIN0057](#))

117. The Government’s position is that the “primary responsibility” for research integrity lies with the researchers themselves, with an “overarching responsibility” at the institutional level. The Government argued that formal regulation would be “overly bureaucratic, difficult to implement” and would risk “hampering the research endeavour”.²¹⁴

International examples

118. We were directed to a range of international examples of research integrity systems, including those in Australia (see Box 3), Canada (Box 4), Denmark (Box 5) and the USA. Our attention was drawn specifically to systems that provide a means of assuring that employers have conducted misconduct investigations in an appropriate way, while retaining the onus on the employer to conduct the investigation. Dr Elizabeth Wager explained that:

One model that has a lot of merit is the Australian system, where the first response lies with the university. That is the prime responsibility to investigate, and it is an important principle. We do not have some big expensive body trying to do the investigations. However, in the last four or five years, they have set up an independent but national committee on research integrity that acts like a court of appeal. If the university has not done a good job, if people are unhappy or it is too slow, or to collate best practice and give advice, they have that extra layer. That is something we really lack in the UK.

[...] We do not have anything that universities, individuals or whistleblowers can turn to if a university does not do a good job. Often they investigate well, but there are cases when they do not investigate well, and that is when the system really falls down, because we just say, “Well, they are autonomous and secretive,” and there the matter ends.²¹⁵

119. We asked the Australian Research Council to provide some further information on the work of the Australian Research Integrity Committee (ARIC—see Box 3). We also sought reflections from Australian academics, who told us that there was still a lack of transparency within the Australian system in terms of the total numbers of investigations—ARIC reviews only a very small number of contentious cases each year and most information on misconduct processes is not public. Neither does ARIC play a role in promoting responsible research or providing advice on training, which, we were told, means that its impact will only be on one part of the system (poorly handled misconduct cases). We were pointed towards Canada as an example of a system which includes this wider role alongside reviewing whether investigations have been conducted appropriately (see Box 4).

120. Professor C. K. Gunsalus, an American academic, provided some information on the equivalent part of the research integrity system in the USA, which goes slightly further than in other countries:

The institution is obliged to report when it initiates an inquiry and to submit its investigation report. The two federal agencies, the Office of

214 Department of Business, Energy & Industrial Strategy ([RIN0016](#))

215 [Q104](#)

Research Integrity for the Department of Health and Human Services and the Office of Inspector General for the National Science Foundation, review those reports and have the ability to query them and send them back to the institution and say, “You’ve missed the mark. Do it over again,” which they do with some regularity, before they accept the institutional findings.²¹⁶

121. We asked Dr Ivan Oransky, from Retraction Watch, whether there were research integrity systems in other countries that the UK could seek to emulate. He highlighted transparency as a key issue:

For me, the best system would be to pick the best from each and avoid the worst in each. [...] In Japan, there is a legal obligation that, when there is a finding of misconduct, the university must issue at least an executive summary. They often issue a fairly substantial investigation report. We think that is good for transparency. Personally, I would like to see them release details when there is not such a finding. Of course, I understand that one is innocent until proven guilty, and all those considerations.²¹⁷

Box 3: Research Integrity in Australia

The Australian Research Integrity Committee (ARIC) was jointly established by the Australian Research Council and the National Health and Medical Research Council in 2011. It is jointly administered by these two bodies, with the secretariat provided by the relevant funding agency in each case.

ARIC does not replace institutional investigation of research misconduct. Research institutions maintain their autonomy and are responsible for investigating allegations of research misconduct in the first instance.

ARIC provides a review system of institutional processes to respond to allegations of research misconduct. This system is intended to ensure that institutions investigate such allegations and observe proper process in doing so.

Specifically, the ARC and the NHMRC jointly administer the ARIC to:

- Review the process by which a nominated institution has managed an allegation of research misconduct;
- Provide findings and, where relevant, recommendations to the CEO of the ARC and/or the CEO of the NHMRC; and
- Publish de-identified information on its activities at least annually.

The ARIC considers whether the institution’s response to the allegation of research misconduct was consistent with the framework outlined in the Code and with the institution’s policies and procedures for investigating allegations of research misconduct.

Source: “[Australian Research Integrity Committee](#)”, Australian Government (accessed 20 June 2018)

216 [Q285](#)

217 [Q294](#)

Box 4: Research Integrity in Canada

In Canada, the Panel on Responsible Conduct of Research (PRCR, established in 2011) reviews institutional investigations, but also has a wider function of promoting research integrity.

A framework agreed by the three federal research agencies sets out policies and requirements related to applying for and managing Agency funds, performing research, disseminating results, and the processes that institutions and agencies follow in the event of an allegation of a breach of the policy.

The PRCR:

- reviews institutional investigation reports;
- recommends recourse in cases of confirmed breaches, if appropriate, consistent with the Framework;
- provides advice to the Agencies on matters related to the responsible conduct of research; and
- provides advice to the Agencies on future revisions to the Framework.

The PRCR helps to foster a research environment that supports and promotes the responsible conduct of research by undertaking “educational outreach to the research community”. It has a role to “enhance public trust in research activities undertaken under the auspices of Canadian institutions and organizations receiving funding from the Agencies.”

The PRCR also publishes anonymised summary information on every confirmed breach of the Framework, in three-year instalments. Each summary contains a distillation of the facts as established through the institutional inquiry or investigation, as well as a description of the recourse exercised by the institution and the relevant Agency. Such recourse is not within the authority of or required by the Agencies, but was implemented by the institutions within their absolute discretion to impose employment-related recourse measures such as suspensions or termination of employment. The summaries are anonymized, in keeping with provincial and federal privacy legislation.

Source: Government of Canada, '[Panel on Responsible Conduct of Research](#)', accessed 20 June 2018

Box 5: Research Integrity in Denmark

The Danish Committee on Research Misconduct was established in 1992, initially on a trial basis and made permanent in 1999. In 2017 a system of sub-committees was replaced by a single research misconduct committee with a High Court judge as chairman and 8–10 recognized researchers as members representing different scientific areas. The DCRM is an independent body under the Danish Ministry of Higher Education and Science where the DCRM secretariat is situated.

A recent Act of Parliament in Denmark separates research integrity into three parts:

Responsible conduct of research is developed in the research community based on common guidelines and practices laid down in non-legal settings such as the Danish Code of Conduct for Research Integrity;

Questionable Research Practices are handled by the individual institutions who are legally obliged to deal with such issues and publish guidelines for their processes in this regard;

All research misconduct cases—defined in the law as fabrication, falsification and plagiarism—will be handled by the DCRM.

All allegations of suspected breaches of research integrity matters must be brought to the relevant institution for an initial assessment. If it is a case of research misconduct and the following conditions are met, the institution must forward the case to the DCRM with a report on the facts of the case:

The allegation must relate to a scientific product, for example a scientific paper, a Ph.D. thesis or similar.

The allegation must relate to a researcher having contributed to the scientific product in question.

The allegations put forward must concern research misconduct. Questions about scientific disagreements, the quality of research and questionable research practice is outside the mandate of the DCRM.

The allegations put forward are reasoned by the complainant.

Meanwhile, the Danish Code of Conduct for Research Integrity provides the research community with a framework to promote commonly agreed principles and standards. The Code of Conduct aims to support a common understanding and common culture of research integrity in Denmark.

The DCRM is required to publish an annual report on questionable research practice in Denmark based on annual reporting from the institutions to the Committee. In this respect the Committee works toward strengthening the credibility of Danish research, prevent research misconduct and support the effort on research integrity as expressed in the Danish Code of Conduct for Research Integrity

Sources: ENRIO, '[Denmark](#)', accessed 20 June 2018; Mathias Willumsen ([RES0043](#))

122. We see a gap in the UK system for a body that can provide a means of independently verifying whether a research institution has followed appropriate processes to investigate misconduct, as in Australia and Canada. We recommend that the Government ask UKRI to establish a new national committee which could undertake this role. Employers should still have the first responsibility for investigating and taking action in response to allegations of research misconduct, but there should be a means of checking that processes have been followed appropriately. The new committee should be able to recommend to UKRI that funding be restricted or reclaimed if an employer has not followed appropriate processes in responding to research misconduct.

While established under the auspices of UKRI, the new committee should have its own secretariat and sufficient independence from it so that it can act in cases where the research is not funded by UKRI. Without a body along the lines we suggest there is a risk that demands for statutory regulation will grow in the future. We recognise that there is a strong consensus within the community about the disadvantages that overbearing regulation could bring. We argue, however, that the onus is now on the community to support steps to avoid this.

123. *We recommend that the national committee should also have formal responsibility for promoting research integrity, as the equivalent body does in Canada. Working with Universities UK, the new committee should take responsibility for driving the implementation of an updated and strengthened Concordat, and following up on other recommendations to the sector in this report. Meanwhile, UKRIO should continue its work in providing advice on research integrity and sharing best practice. It should now advise UKRI on the creation of the new body, including its work methods, drawing on the best international examples.*

Monitoring trends

124. We noted in Chapter 1 that the available data on research integrity problems is limited. As Dr Elizabeth Wager argued, “without clear [annual narrative] statements about misconduct investigations it is impossible to estimate the extent of problems in the UK or to ensure that institutions are handling them appropriately”.²¹⁸ She noted that an annual report on the overall state of research integrity across the UK has never been produced,²¹⁹ and UUK agreed that “more consistent and comprehensive reporting of data on the number and scope of investigations may be valuable”.²²⁰

125. To our surprise, the Royal Society disagreed, telling us that “it is not helpful to seek to quantify the ‘research integrity problem’”, since “in an environment where the answer is not always clear cut, a lot of time can be spent discussing how to quantify the problem rather than looking for ways to solve it”.²²¹ Professor Leyser expanded on this point by arguing that “getting meaningful and robust information about the size of the research integrity problem is very difficult and potentially very expensive [...] It seems much more productive to work to change the culture so that those problems are less prevalent”.²²²

126. An RCUK requirement since April 2017 is that the institutions that it funds should report instances of potential misconduct to the research council at the screening phase—considerably earlier than previous requirements.²²³ This should in principle provide further data on the overall rates of misconduct, at least in the bodies that RCUK funds. UKRIO told us that it will shortly begin a programme of research into research integrity in the UK, including assessing “the extent and scope of challenges to and breaches of research integrity in the UK”.²²⁴ This aligns closely with the themes in our report, and we hope that the sector will pay close attention to UKRIO’s findings.

218 Dr Elizabeth Wager ([RIN0014](#)) para 2.3

219 Dr Elizabeth Wager ([RIN0014](#)) para 2.4

220 Universities UK ([RIN0057](#)) para 22

221 Royal Society ([RIN0049](#)) para 6

222 [Q30](#)

223 “[RCUK Policy and Guidelines on the Governance of Good Research Conduct: Frequently Asked Questions](#)”, Research Councils UK, January 2018

224 UK Research Integrity Office ([RE50023](#))

127. Several international systems for monitoring and responding to problems with research integrity include regular reporting or collection of information at the national level (see Boxes 3 to 5). We also note that annual statements from universities are also an opportunity for an institution to report on the proactive steps that it has taken to improve research integrity, including training undertaken and policies reviewed. As well as a means of providing transparency, it is an opportunity for employers of researchers to demonstrate that they are taking research integrity seriously.

128. Transparency is a key feature of a healthy research integrity system. *The new national research integrity committee we recommend should publish an annual report on the state of research integrity in the UK, looking across the whole of research, and collecting information on: retractions; misconduct investigations and their outcomes; Concordat compliance; and training undertaken. The data for this will come from university narrative statements and the aggregated data on screening-phase investigations that UKRI is now being provided with. The proposed national committee should also consider how best to engage industry with the issue of research integrity, and should incorporate meaningful information on this aspect in its annual report.*

Conclusions and recommendations

Introduction

1. The Science Minister's initial reluctance to give evidence to our inquiry was disappointing, not least as it risked sending the message that the Government does not take this issue seriously. Nevertheless, we welcome the fact that the Minister was subsequently willing to appear and are grateful for his responses to our questions. (Paragraph 8)
2. The Government rightly invests considerable sums of public money in research, and investment in research and development as a proportion of GDP is set to grow further in the coming years. The Government needs to be confident that all possible steps are being taken to ensure that this money is not wasted through problems with research integrity, and that the research that it buys is as reliable as possible. While the Government should not seek to interfere directly in research matters or compromise the independence of universities, it should nevertheless maintain an active interest in supporting research integrity and ensuring that all elements of self-regulation are functioning well in order to get the best value possible from public investment. (Paragraph 9)

Understanding and measuring 'research integrity'

3. The available data on misconduct investigations suggest that serious research misconduct is rare, but it is impossible to be certain without better data. There is a mismatch between the number of investigations and the scale of reported temptations to compromise on research standards, the 'reproducibility crisis' in some disciplines, the growth in journal article retraction rates, and trends in image manipulation. We hope that most researchers will never succumb to the temptations to compromise on research standards, and some of these trends may be the product of increased detection and correction of honest errors. Nevertheless, it is worrying that there seem to be so few formal research misconduct investigations conducted by universities. Increases in the number of investigations should be seen as a healthy sign of more active self-regulation. Further work is needed to determine the scale of the problem. (Paragraph 28)

The Concordat to Support Research Integrity

4. Most universities take their research integrity responsibilities seriously, but progress in implementing the Concordat to Support Research Integrity across the whole sector is disappointing. Six years on from the signing of the Concordat, the sector as a whole still falls some way short of full compliance in terms of publishing an annual statement, which risks giving the impression of pockets of complacency. We were surprised by the reasons that some universities gave for not publishing an annual statement on research integrity as recommended by the Concordat. The majority of universities have successfully balanced transparency against confidentiality in producing an annual statement, but a few are lagging behind and see transparency as a threat to their public image. Publishing an annual statement

is a positive opportunity for an institution to set out the steps that it is taking to safeguard research standards, as well as to report on the number of investigations. We were encouraged that our letter to all Universities UK members prompted some of them to take steps to improve their compliance with the Concordat. More leadership is required to drive the implementation of the Concordat across the whole of the research sector, and we return to this issue in Chapter 6. We welcome Universities UK's plans to convene a Research Integrity Forum meeting to consider our recommendations relating to the Concordat and look forward to seeing the results of their work. (Paragraph 39)

5. Compliance with the Concordat has technically been a condition of receiving funding from research councils and higher education funding councils since 2013, but meaningful sanctions have never been deployed. The Concordat contains mainly high-level statements rather than explicit measurable requirements, and comprehensive information on 'compliance' is not collected by the funders. *We recommend that the signatories update and strengthen the Concordat by making the requirements and expectations clearer, and produce a route map and timetable for reaching 100% compliance with the strengthened version within the next year. UKRI should collect and publish details of universities that are not compliant. In particular, the Concordat should be strengthened in relation to training on research integrity (discussed in Chapter 4), processes for responding to allegations of misconduct (see Chapter 5), commitments to clinical trials transparency (which we will return to in a dedicated report) and publication of 'negative' research results.* (Paragraph 43)
6. We endorse the Government Chief Scientific Adviser's call for Government departments to sign up to the Concordat on Research Integrity to ensure consistency of approaches to research governance. If the Concordat is suitably strengthened, as we recommend above, this will be a useful step forward. We look forward to receiving further details of actions taken by the departments in response to his initiative in the Government's response to this report. (Paragraph 46)

Supporting and promoting the integrity of research

7. It is surprising that most UK universities are not subscribers to the UK Research Integrity Office. The result is that the profile and impact of UKRIO might be highest with the institutions which already choose to participate, rather than the ones that might need the most help. The default assumption for all universities should be that they are subscribers to UKRIO, unless they can explain why they do not need to use UKRIO's advisory services. *We recommend that the Government and Universities UK write jointly to all universities to encourage them to engage with UKRIO and consider subscribing to its services.* (Paragraph 50)
8. Creating a healthy 'research culture' is just as important as tackling lapses in research integrity, and would help ensure that a career in research is attractive to those who value rigour, accuracy, honest and transparency. We endorse Research England's plans to require the REF 2021 assessors to consider how research integrity issues can be taken into account. We hope that this will underline the importance of research integrity to a healthy research environment, and counterbalance some of the pressures to compromise on integrity. For this to be successful it must be

implemented in a way that encourages universities to be more transparent about research integrity and investigations, rather than an additional incentive to avoid drawing attention to lapses in integrity. (Paragraph 57)

9. There is a need to understand more fully the effects of the current funding system on researcher and institutional behaviour, and consider how unwanted effects can be minimised. *We recommend that UKRI commission research to understand the effects of incentives in the research system on researcher behaviour and assess where adjustments or counterbalances may be needed to support research integrity.* (Paragraph 58)
10. We are encouraged to hear that some universities make training in research integrity a mandatory part of doctoral studies and include it in their research supervisor training programme. It is important that the attitudes to research integrity transmitted to the next generation of researchers are the right ones, and that those supervising them are also suitably trained. *We recommend that UKRIO provide guidance to universities on best practice in delivering training to doctoral supervisors.* (Paragraph 66)
11. The research councils do not have reliable information on what training is currently being delivered. The increased concentration of training, through ‘Centres for Doctoral Training’, presents an opportunity for monitoring whether suitable training on research integrity is being provided as part of a PhD. *We recommend that UKRI assess whether suitable training is being provided in line with current requirements and report back to us on its findings. UKRI should also consider further the case for centralised provision of training on research integrity, or standards that could be set.* (Paragraph 67)
12. *We recommend that UKRI consider how best to encourage research teams to engage with statisticians as part of their research, and how best to improve the statistical competencies of researchers in general.* (Paragraph 68)
13. We are encouraged to see moves towards open publishing of datasets, and steps being taken to improve reporting of research methods through reporting checklists. However, we also recognise the need for protocols for accessing research data to ensure that secondary analysis is conducted appropriately. *The Centre for Data Ethics and Innovation should consider further how best to balance the need for data to be openly shared with the need to ensure that data is used responsibly in secondary analysis.* (Paragraph 75)

Detecting and responding to problems with research integrity

14. There is a continuing need for publishers to invest in techniques and technologies to spot problems with research papers. While the purpose of peer review is not to detect fraud, the sector’s responsibility for the integrity of the research base includes taking reasonable steps to ensure that technology to detect problems is developed and put to good use. This may be an area in which market forces do not obviously support this investment of resource. A Concordat-style set of commitments in the academic publishing community to invest jointly in software for the detection of

image manipulation—or common standards for checking images—may be required. *We recommend that UKRIO convene a discussion with publishers to explore this.* (Paragraph 82)

15. Universities and other employers of researchers need to be able to demonstrate that they are following best practice in the way that investigations are conducted. The annual narrative report recommended by the Concordat (see Chapter 3) is one opportunity for institutions to review their processes and set out whether they reflect UKRIO's guidance. Any suggestion that best practices are not being followed is a concern, particularly given the reputational risk of, for example, not using external panel members in some stages of the process. UKRIO's guidance on misconduct processes was published in 2008; it is worrying that, ten years on, some institutions may not yet have acted on it. *We recommend that following best practice in use of external panel members form an explicit part of a strengthened Concordat.* (Paragraph 88)
16. Cases of researchers committing misconduct at a string of institutions suggest that either some universities are using non-disclosure agreements to keep misconduct quiet, or are not being sufficiently diligent in checking references when hiring researchers. Hiding misconduct through non-disclosure agreements is not acceptable, not least as it effectively makes the institution complicit in future misconduct by that individual. *The Government should ask UKRI to consider how this practice can be effectively banned by institutions receiving public funds, and statements to this effect should be included in a strengthened Concordat (see Chapter 3). Meanwhile, there is a need for greater diligence in employers checking for past misconduct, and for previous employers fully disclosing such information.* (Paragraph 101)
17. Researcher mobility means that research misconduct investigations may require coordination between current and former employers, and between journals and funders. We are encouraged to see the Russell Group developing protocols for communicating with related parties when dealing with allegations that cross institutional boundaries. There is a need for all parts of the system to work together—including employers, funders and publishers of research outputs—but there appear to be problems with the required sharing of confidential information. *We recommend that employers, funders and publishers of research work together to agree a protocol for information-sharing on researchers involved in research integrity problems in a way that meets employment protection legislation. Commitments in this vein could form part of a tightened Concordat (see Chapter 3).* (Paragraph 106)

Regulating research and researchers

18. UK research has an enviable record of excellence and public trust, but this should not be taken for granted. There is a risk that public trust in science could be eroded in the future through high-profile examples of research misconduct, and a risk that this could lead to demands for knee-jerk and ill-advised changes to the research system in the UK. There is a need for the research community—including funders, publishers, and employers of researchers—to stay ahead of research integrity issues and how they are dealt with in public policy. The UK's position of international

high regard and public trust in researchers is strengthened if the community has the confidence to admit that no area of human endeavour is immune to misconduct and error at some scale. (Paragraph 110)

19. We see a gap in the UK system for a body that can provide a means of independently verifying whether a research institution has followed appropriate processes to investigate misconduct, as in Australia and Canada. *We recommend that the Government ask UKRI to establish a new national committee which could undertake this role. Employers should still have the first responsibility for investigating and taking action in response to allegations of research misconduct, but there should be a means of checking that processes have been followed appropriately. The new committee should be able to recommend to UKRI that funding be restricted or reclaimed if an employer has not followed appropriate processes in responding to research misconduct. While established under the auspices of UKRI, the new committee should have its own secretariat and sufficient independence from it so that it can act in cases where the research is not funded by UKRI. Without a body along the lines we suggest there is a risk that demands for statutory regulation will grow in the future. We recognise that there is a strong consensus within the community about the disadvantages that overbearing regulation could bring. We argue, however, that the onus is now on the community to support steps to avoid this.* (Paragraph 122)
20. *We recommend that the national committee should also have formal responsibility for promoting research integrity, as the equivalent body does in Canada. Working with Universities UK, the new committee should take responsibility for driving the implementation of an updated and strengthened Concordat, and following up on other recommendations to the sector in this report. Meanwhile, UKRIO should continue its work in providing advice on research integrity and sharing best practice. It should now advise UKRI on the creation of the new body, including its work methods, drawing on the best international examples.* (Paragraph 123)
21. Transparency is a key feature of a healthy research integrity system. *The new national research integrity committee we recommend should publish an annual report on the state of research integrity in the UK, looking across the whole of research, and collecting information on: retractions; misconduct investigations and their outcomes; Concordat compliance; and training undertaken. The data for this will come from university narrative statements and the aggregated data on screening-phase investigations that UKRI is now being provided with. The proposed national committee should also consider how best to engage industry with the issue of research integrity, and should incorporate meaningful information on this aspect in its annual report.* (Paragraph 128)

Annex: Summary of Universities UK member responses on implementation of the Concordat to Support Research Integrity

The table below provides a summary of the responses we received to our letter to all Universities UK members in November 2017. The full responses, and further summary data, are available for reference online. Wherever possible, information provided in the responses has been supplemented with contact details obtained through searching the institution's website.

Table 1: UUK member contact details for research integrity

Institution	Research integrity responsibility	Contact address	Other research integrity contact
Aberystwyth University	Gary Reed, Director, Department of Research, Business and Innovation	gar@aber.ac.uk ; ethics@aber.ac.uk	Mitchell Parker, Research Ethics and Integrity Officer (mip32@aber.ac.uk)
Anglia Ruskin University	Dr Michael Millan, Director, Research and Innovation Development Office	michael.millan@anglia.ac.uk	Julie Scott, Research Ethics and Integrity Manager (julie.scott@anglia.ac.uk)
Aston University	Dr Nichola Seare, Chair of the University Ethics Committee	n.seare@aston.ac.uk	
Bangor University	Dr Garry Reid, Director of the Research and Enterprise Office	g.reid@bangor.ac.uk	Professor Jo Rycroft-Malone, Pro-Vice Chancellor for Research, Innovation and Impact—formal investigations (j.rycroft-malone@bangor.ac.uk)
Bath Spa University	Professor John Strachan, Vice-Provost (Research & Enterprise)	j.strachan@bathspa.ac.uk	researchsupportoffice@bathspa.ac.uk
Birkbeck, University of London	Professor Matthew Innes, Vice-Master	m.innes@bbk.ac.uk	Dr Sarah Lee, Head of Research Strategy Support (sarah.lee@bbk.ac.uk)
Birmingham City University	Professor Keith A Osman, Director of Research	keith.osman@bcu.ac.uk	
Bournemouth University	Professor John Fletcher, Pro Vice-Chancellor for Research and Innovation	researchintegrity@bournemouth.ac.uk	
Brunel University London	Professor Geoff Rodgers, Deputy Vice-Chancellor (Research & Innovation)	Research-Integrity@brunel.ac.uk	res-ethics@brunel.ac.uk

Institution	Research integrity responsibility	Contact address	Other research integrity contact
Buckinghamshire New University	Sean Mackney, Pro Vice-Chancellor	Sean.Mackney@bucks.ac.uk	
Canterbury Christ Church University	Head of Centre/School		red.resgov@canterbury.ac.uk
Cardiff Metropolitan University (UWIC)	Professor Scott Fleming, Director of Research and Graduate Studies	sfleming@cardiffmet.ac.uk	
Cardiff University	Professor Hywel Thomas, Pro-Vice-Chancellor for Research, Innovation and Engagement	via Sarah Wallace wallaces1@cardiff.ac.uk	Dr Kathy Pittard Davies, Deputy Director & Head of Research Governance and Contracts (davieskp2@cardiff.ac.uk)
City, University of London	Professor Andrew Jones, Vice-President (Research & Enterprise)	andrew.jones.3@city.ac.uk	Anna Ramberg, Research Governance & Integrity Manager (anna.ramberg.1@city.ac.uk)
Coventry University	Professor Olivier Sparagano, Associate Pro-Vice-Chancellor (Research) and Chair of Ethics Strategy Group	olivier.sparagano@coventry.ac.uk	
Cranfield University	Professor Tom Stephenson, Pro-Vice-Chancellor for Research and Innovation	T.Stephenson@cranfield.ac.uk	
De Montfort University	Professor Andrew Collop, Deputy Vice-Chancellor	acollop@dmu.ac.uk	Laurence Gardiner, Head of Research Support (research@dmu.ac.uk)
Durham University	Professor Claire Warwick, Pro-Vice-Chancellor for Research	pvc.research@durham.ac.uk	
Edge Hill University	Dr Nikki Craske, Director of the Research Office	Not specified	research@edgehill.ac.uk
Edinburgh Napier University	Elaine Lambie, Clerk of University Research Integrity Committee	e.lambie@napier.ac.uk	Elaine Lambie, Clerk of University Research Integrity Committee (e.lambie@napier.ac.uk)
Falmouth University	Alan Murray, Deputy Vice Chancellor (Academic)	research@falmouth.ac.uk	
Glasgow Caledonian University	The PVC and VP (Research)	Not provided	

Institution	Research integrity responsibility	Contact address	Other research integrity contact
Glyndwr University	Professor Richard Day, PVC for Research	Not provided	
Goldsmiths, University of London	Professor Simon McVeigh, Academic Director for Research Policy, and Chair of the Research Ethics and Integrity Sub-Committee	via Karen Rumsey, Committee Secretary k.rumsey@gold.ac.uk	
Guildhall School of Music and Drama	Head of Research	Not provided	
Heriot-Watt University	Not provided	Not provided	
Heythrop College	Ethics Officer	Not provided	
Imperial College London	Professor Nick Jennings, Vice-Provost (Research and Enterprise)	n.jennings@imperial.ac.uk	
Keele University	Professor David Amigoni, Pro Vice-Chancellor for Research and Enterprise	d.amigoni@keele.ac.uk	Dr Clark Crawford, Head of Research Integrity (research.governance@keele.ac.uk)
King's College London	Marice Lunny, Head of Research Policy and Ethics	marice.lunny@kcl.ac.uk	
Kingston University	Pro Vice Chancellor (Research, Business & Innovation)		
Lancaster University	Becky Gordon, Research Support and Systems Manager	b.gordon@lancaster.ac.uk	Head of Research Services
Leeds Beckett University	Jenny Share, Secretary and Registrar		
Leeds Trinity University	Professor Ray Lloyd, Deputy Vice-Chancellor		Dr Helen Morris, University Research Officer
Liverpool Hope University	Revd Canon Professor Kenneth Newport, Pro Vice-Chancellor (Academic)	knewport@hope.ac.uk	
Liverpool John Moores University	Alan Welby, Director of Research & Innovation Services	A.R.Welby@jmu.ac.uk	

Institution	Research integrity responsibility	Contact address	Other research integrity contact
London Business School	Professor Madan Pillutla, Deputy Dean (Faculty) and Dr Rosemary Vipond, Director, Research and Faculty Office	mpillutla@london.edu	
London Metropolitan University	Research ethics review panels in each school		
London School of Hygiene and Tropical Medicine	Lucinda Parr, Secretary	lucinda.parr@lshtm.ac.uk	Head of Research Governance and Integrity Office
London South Bank University	Professor Peter Doyle, Research Environment Manager	doylep8@lsbu.ac.uk	
Loughborough University	Jackie Green, Research Governance Officer	J.A.Green@lboro.ac.uk	
Manchester Metropolitan University	Professor Richard Greene, Pro-Vice-Chancellor for Research and Knowledge Exchange	via Alexa Stewart alexa.stewart@mmu.ac.uk	
Middlesex University	Director of Research and Director of Knowledge Transfer		
Newcastle University	Professor Brian Walker, Pro-Vice-Chancellor for Research Strategy and Resources	Brian.Walker@ncl.ac.uk	
Northumbria University	Ruth Hattam, Deputy Director (Research)	ruth.hattam@northumbria.ac.uk	
Nottingham Trent University	Professor Yvonne Barnett, Senior Pro Vice-Chancellor (Research)		ResearchOffice@ntu.ac.uk
Oxford Brookes University	Professor Linda King, Pro Vice-Chancellor Research and Global Partnerships (oversees policy)	laking@brookes.ac.uk	Sarah Taylor, Research Support Director (point of contact for RI) (staylor@brookes.ac.uk)
Plymouth Marjon University	Professor Andrew Edwards, Director of Research	aedwards@marjon.ac.uk	

Institution	Research integrity responsibility	Contact address	Other research integrity contact
Plymouth University	Dr John Martin, Secretary of the University Research Ethics Committee	J.Martin-2@plymouth.ac.uk	
Queen Margaret University	Kim Stuart, Head of Research and KE Development	kstuart@qmu.ac.uk	
Queen Mary University of London	Vice Principal for Research	Not provided	
Queen's University Belfast	Pro-Vice-Chancellor for Research, Postgraduates and Enterprise, via Mrs Louise Dunlop, Head of Research Governance, Ethics and Integrity	i.h.dunlop@qub.ac.uk	researchgovernance@qub.ac.uk
Regent's University London	Not provided	Not provided	
Robert Gordon University	Professor Paul Hagan, Vice-Principal (Research)		
Royal College of Art	Director of Research and Innovation and Director of Academic Development		
Royal College of Music, London	Professor Richard Wistreich, Director of Research	richard.wistreich@rcm.ac.uk	
Royal Holloway, University of London	Professor Katie Normington	k.normington@rhul.ac.uk	
Royal Veterinary College	Professor Jonathan Elliott, Vice Principal for Research and Innovation	jelliott@rvc.ac.uk	
Sheffield Hallam University	Professor Ann Macaskill, Head of Research Ethics and Integrity	researchsupport@shu.ac.uk	
SOAS, University of London	Pro-Director for Research	Not specified	
Southampton Solent University	Chair of the Research, Innovation & Enterprise Committee		
St George's, University of London	Professor Mark Fisher, Deputy Principal for Research	lfisher@sgul.ac.uk	

Institution	Research integrity responsibility	Contact address	Other research integrity contact
Staffordshire University	Professor Martin Jones, Deputy Vice Chancellor	martin.jones@staffs.ac.uk	
Swansea University	Dr Jeanette Hewitt, Chair of University Research Ethics & Governance sub-committee	j.l.hewitt@swansea.ac.uk	researchintegrity@swansea.ac.uk ; researchmisconduct@swansea.ac.uk
Teesside University	Dr Andrew Rawnsley, Research Governance & Training Manager	a.rawnsley@tees.ac.uk	
The Glasgow School of Art	Colin Kirkpatrick, Head of Research and Enterprise	c.kirkpatrick@gsa.ac.uk	
The London School of Economics and Political Science	Professor Julia Black, Pro-Director, Research	j.black@lse.ac.uk	Lyn Grove, Research Ethics Manager (l.grove@lse.ac.uk)
The Open University	Professor Kevin Hetherington, Pro-Vice-Chancellor (Research and Academic Strategy)	PVC-RAS@open.ac.uk	
The Royal Central School of Speech & Drama	Dr Stephen Farrier, Chair of the Research Ethics Sub-committee	Not provided	
The University of Buckingham	Not provided	Not provided	
The University of Manchester	Vice-President for Research	via Mrs April Lockyer, Research Governance and Integrity Manager (April.Lockyer@Manchester.ac.uk)	
The University of Nottingham	Soma Mukherjee, Research Integrity Manager	soma.mukherjee@nottingham.ac.uk	
The University of West London	Professor Joëlle Fanghanel, Pro Vice Chancellor (Academic)	Not provided	
Trinity Laban Conservatoire of Music and Dance	Dr Jonathan Clark, Head of Research	j.clark@trinitylaban.ac.uk	
Ulster University	Nick Curry, Head of Research Governance	n.curry@ulster.ac.uk	

Institution	Research integrity responsibility	Contact address	Other research integrity contact
University College London	Ms Rowena Lamb, Head of Research Integrity (information on research integrity)	researchintegrity@ucl.ac.uk	
University of Aberdeen	Professor Marion Campbell, Vice Principal for Research and Knowledge Exchange	m.k.campbell@abdn.ac.uk	
University of Bath	Professor Jonathan Knight, Pro-Vice-Chancellor (Research)	s.m.eglinton@bath.ac.uk	
University of Bedfordshire	Director of Research Development	Not provided	
University of Birmingham	Professor Tim Softley, Pro-Vice-Chancellor for Research and Knowledge Transfer	Not provided	Dr Sean Jennings, Head of Research Governance and Ethics (s.jennings@bham.ac.uk)
University of Bolton	Dr Andy Graham, Executive Dean, Research and Graduate School	a.graham@bolton.ac.uk	
University of Bradford	Professor John Bridgeman, Pro-Vice-Chancellor (Research and Knowledge Transfer)	via Pam McLaren p.mclaren@bradford.ac.uk	
University of Brighton	Hilary Ougham, Research Policy Officer	h.a.ougham@brighton.ac.uk ; ext 4184	
University of Bristol	Professor Nishan Canagarajah, Pro Vice-Chancellor for Research and Enterprise	research-governance@bristol.ac.uk	
University of Cambridge	Pro-Vice-Chancellor for Research	researchintegrity@admin.cam.ac.uk	Dr Rhys Morgan, Research Governance and Integrity Officer (rhys.morgan@admin.cam.ac.uk)
University of Central Lancashire	Emma Sandon-Hesketh, University Officer for Ethics	officerforethics@uclan.ac.uk	
University of Chester	Professor Nick Avis, Pro Vice-Chancellor for Research and Knowledge Transfer	Not provided	
University of Chichester	Professor Catherine Harper, Deputy Vice Chancellor	c.harper@chi.ac.uk	Dr Andy Dixon, Director of Research (a.dixon@chi.ac.uk)
University of Cumbria	Director of Research and Head of the Graduate School	Not provided	

Institution	Research integrity responsibility	Contact address	Other research integrity contact
University of Derby	Head of Research	Not provided	
University of Dundee	Professor Alan Fairlamb, Chair of the Research Governance and Policy Subcommittee	a.h.fairlamb@dundee.ac.uk	Dr Clive Randall, Research Policy Manager (c.randall@dundee.ac.uk)
University of East Anglia	Professor Fiona Lettice, Pro-Vice-Chancellor for Research and Innovation	fiona.lettice@uea.ac.uk	ResearchIntegrity@uea.ac.uk
University of East London	Dr Lisa Mooney, Pro Vice-Chancellor for Research and Knowledge Exchange and Chair of the University of East London's Research Ethics Committee	L.Mooney@uel.ac.uk	Catherine Fieulleteau, Research Integrity and Ethics Manager (C.fieulleteau@uel.ac.uk)
University of Edinburgh	Professor Jonathan Seckl, Chair of Research Policy Group	j.seckl@ed.ac.uk	
University of Essex	Pro-Vice-Chancellor (Research)		Ms Sarah Manning-Press, Research Governance and Planning Manager (sarahm@essex.ac.uk)
University of Exeter	Gail Seymour, Research Ethics and Governance Manager	g.m.seymour@exeter.ac.uk	
University of Glasgow	Professor John Briggs, Vice Principal and Clerk of Senate	John.Briggs@glasgow.ac.uk	
University of Gloucestershire	Deputy Vice Chancellor	Not provided	
University of Greenwich	Secretary, University Research Ethics Committee	researchethics@gre.ac.uk	
University of Hertfordshire	Dr Susan Grey, Director of Research Degrees and Director of the Doctoral College, Institutional Lead Research Integrity, Point of contact for whistle-blowing	s.grey@herts.ac.uk	
University of Huddersfield	Professor Tim Thornton, Deputy Vice Chancellor	t.j.thornton@hud.ac.uk	

Institution	Research integrity responsibility	Contact address	Other research integrity contact
University of Hull	Dr David Richards, Pro-Vice Chancellor (Research and Enterprise)	pvc-re@hull.ac.uk	researchgovernance@hull.ac.uk
University of Kent	Professor Philippe De Wilde, Deputy Vice-Chancellor Research & Innovation	p.dewilde@kent.ac.uk	Nicole Palmer, Research Ethics & Governance Officer (n.r.palmer@kent.ac.uk)
University of Leeds	Professor Lisa Roberts, Deputy Vice-Chancellor: Research & Innovation	DVC.Res@leeds.ac.uk	
University of Leicester	Professor Mark Jobling, Chair of Research Ethics and Integrity Training Group, with Dr Juliet Bailey, Research and Enterprise Division	maj4@le.ac.uk	
University of Lincoln	Professor Andrew Hunter, Senior Deputy Vice Chancellor – Research, Innovation and Enterprise	ahunter@lincoln.ac.uk	
University of Liverpool	Professor Sarah O'Brien, Chair of the University Research Governance Committee	integrity@liverpool.ac.uk	
University of London	Professor Rick Rylance, Dean and Chief Executive of the School of Advanced Study	Not provided	
University of Northampton	Mrs Jane Bunce, Director of Student and Academic Services	Jane.Bunce@northampton.ac.uk	
University of Oxford	Professor Ewan McKendrick, Registrar (oversight), Ms Kathryn Dally (contact point)	Kathryn.dally@admin.ox.ac.uk	
University of Portsmouth	Professor Pal Ahluwalia, Pro Vice-Chancellor (research & Innovation)	pal.ahluwalia@port.ac.uk	Denise Teasdale, Research Manager in Research and Innovation Services (denise.teasdale@port.ac.uk)
University of Reading	Dr Richard Messer, University Secretary	r.j.messer@reading.ac.uk	
University of Roehampton	Deputy Provost for Research and External Engagement	Not provided	

Institution	Research integrity responsibility	Contact address	Other research integrity contact
University of Salford	Deputy Vice Chancellor	Direct questions to Dr Jo Cresswell, Associate Director Research (j.e.cresswell@salford.ac.uk)	research-misconduct@salford.ac.uk
University of Sheffield	Professor Dave Petley, Vice-President (Research and Innovation)	d.n.petley@sheffield.ac.uk	Lindsay Unwin, Ethics and Integrity Officer (L.V.Unwin@sheffield.ac.uk)
University of South Wales	Pro Vice-Chancellor Research	Not provided	
University of Southampton	Professor Mark Spearing, Vice President Research and Enterprise	via Fiona Wright F.D.Wright@southampton.ac.uk	Diana Galpin, Head of IP, Contracts and Policy (researchintegrity@soton.ac.uk)
University of St Andrews	Professor J. Derek Woollins, Vice Principal (Research and Innovation)	researchintegrity@st-andrews.ac.uk	
University of Stirling	Director of Research & Innovation Services	Not provided	Rachel Beaton, Research Policy Officer (rachel.beaton@stir.ac.uk)
University of Strathclyde	Associate Principal responsible for Research	research-integrity@strath.ac.uk	
University of Sunderland	Martin Finlayson, Head of the University Research Office	martin.finlayson@sunderland.ac.uk	
University of Surrey	Associate Deans (Research) for each faculty and the Director of the Doctoral College	Separate contact details for each faculty	rigo@surrey.ac.uk
University of Sussex	Professor Saul Becker, Deputy Vice-Chancellor	Not provided	
University of the Arts London	Professor Oriana Baddeley	o.baddeley@arts.ac.uk	
University of the Highlands and Islands	Neil Simco, Acting Vice-Principal (Research)	neil.simco@uhi.ac.uk	
University of the West of England, Bristol	Ms Ros Rouse, Research Governance Manager	Ros.Rouse@uwe.ac.uk	researchgovernance@uwe.ac.uk

Institution	Research integrity responsibility	Contact address	Other research integrity contact
University of the West of Scotland	Prof Ehsan Mesbahi, Vice Principal and Pro Vice Chancellor (Academic)	Ehsan.Mesbahi@uws.ac.uk	
University of Wales	Deputy Vice-Chancellor (Research and Innovation)	Not provided	
University of Wales Trinity Saint David	Professor Jill Venus, Chair of the Ethics Committee	j.venus@uwtsd.ac.uk	
University of Warwick	Professor Stephen Jarvis, Deputy Pro-Vice-Chancellor (Research Infrastructure & Governance)	S.A.Jarvis@warwick.ac.uk	Jane Prewett, Head of Research Governance and Deputy Director Research & Impact Services (Jane.prewett@warwick.ac.uk)
University of Westminster	Professor Graham Megson (Acting Vice Chancellor)	First point of contact is Bob Odle, Research Quality and Standards Manager b.odle@westminster.ac.uk .	
University of Winchester	Professor Kate Adams, Director of Research & Knowledge Exchange	Kate.Adams@winchester.ac.uk	
University of Wolverhampton	Dean of Research, as Chair of the Ethics Committee	Not provided	
University of Worcester	Professor Derek Peters, Chair of the Ethics and Research Governance Committee	d.peters@worc.ac.uk	
University of York	Professor Deborah Smith, Pro-Vice-Chancellor for Research	PVC-Research@york.ac.uk	Research Strategy and Policy Manager, Anna Grey (anna.grey@york.ac.uk)
York St John University	Not provided	Not provided	

Source: Survey responses ([RES0059](#)), university webpages

Table 2: UUK member annual reports on research integrity

Institution	Publishes report? (as at date of response)	Reason given for non-publication	2015/16 Report hyperlink	2016/17 Report hyperlink	General info webpage on research integrity
Aberystwyth University	Yes			2016/17 Report	General info
Anglia Ruskin University	Yes		2015/16 Report	2016/17 Report	General info
Aston University	Will		None	None	General info
Bangor University	Will		None	None	General info
Bath Spa University	Yes		2015/16 Report		General info
Birkbeck, University of London	No	Confidentiality	None	None	General info
Birmingham City University	Will		None	None	
Bournemouth University	Yes			2016/17 Report	General info
Brunel University London	Yes			2016/17 Report	General info
Buckinghamshire New University	Yes			2016/17 Report	General info
Canterbury Christ Church University	Yes		2015/16 Report		General info
Cardiff Metropolitan University (UWIC)	No	No nil return	None	None	General info
Cardiff University	Yes			2016/17 Report	General info
City, University of London	Yes			2016/17 Report	General info
Coventry University	Yes			2016/17 Report	General info
Cranfield University	Will		None	None	General info
De Montfort University	Yes		2015/16 Report		General info
Durham University	Yes			2016/17 Report	General info
Edge Hill University	Yes		2015/16 Report	2016/17 Report	General info

Institution	Publishes report? (as at date of response)	Reason given for non-publication	2015/16 Report hyperlink	2016/17 Report hyperlink	General info webpage on research integrity
Edinburgh Napier University	Yes		2015/16 Report	2016/17 Report	General info
Falmouth University	Will		None	None	General info
Glasgow Caledonian University	No	No nil return	None	None	General info
Glyndwr University	Yes		2015/16 Report	2016/17 Report	General info
Goldsmiths, University of London	Yes		2015/16 Report	2016/17 Report	General info
Guildhall School of Music and Drama	No	No nil return	None	None	
Heriot-Watt University	Will		None	None	
Heythrop College	Yes			2016/17 Report	
Imperial College London	Yes		2015/16 Report	2016/17 Report	General info
Keele University	Yes		2015/16 Report	2016/17 Report	General info
King's College London	Yes		2015/16 Report		General info
Kingston University	Yes			2016/17 Report	General info
Lancaster University	Yes			2016/17 Report	General info
Leeds Beckett University	Will		None	None	General info
Leeds Trinity University	No	No nil return	None	None	
Liverpool Hope University	Yes			[2017/18 report]	General info
Liverpool John Moores University	No	Assumed figures reported elsewhere were public	None	None	
London Business School	No	No nil return	None	None	
London Metropolitan University	No	No nil return	None	None	

Institution	Publishes report? (as at date of response)	Reason given for non-publication	2015/16 Report hyperlink	2016/17 Report hyperlink	General info webpage on research integrity
London School of Hygiene and Tropical Medicine	Yes		2015/16 Report	2016/17 Report	General info
London South Bank University	Will		None	None	General info
Loughborough University	Yes		2015/16 Report	2016/17 Report	General info
Manchester Metropolitan University	Yes		2015/16 Report	2016/17 Report	
Middlesex University	No	Not appropriate	None	None	
Newcastle University	Will		None	None	General info
Northumbria University	Yes		2015/16 Report	2016/17 Report	General info
Nottingham Trent University	Yes		2015/16 Report	2016/17 Report	General info
Oxford Brookes University	Yes			2016/17 Report	General info
Plymouth Marjon University	Will		None	None	General info
Plymouth University	Yes			2016/17 Report	General info
Queen Margaret University	Yes			2016/17 Report	General info
Queen Mary University of London	No	Not provided	None	None	General info
Queen's University Belfast	Yes		2015/16 Report	2016/17 Report	General info
Regent's University London	Will		None	None	
Robert Gordon University	Will		None	None	General info
Royal College of Art	No	No nil return	None	None	
Royal College of Music, London	No	No nil return	None	None	General info
Royal Holloway, University of London	Yes		None	Short statement on general info webpage	General info

Institution	Publishes report? (as at date of response)	Reason given for non-publication	2015/16 Report hyperlink	2016/17 Report hyperlink	General info webpage on research integrity
Royal Veterinary College	Will		None	None	General info
Sheffield Hallam University	Yes		2015/16 Report	2016/17 Report	General info
SOAS, University of London	Will		None	None	General info
Southampton Solent University	No	No nil return	None	None	General info
St George's, University of London	Yes		2015/16 Report	2016/17 Report	General info
Staffordshire University	No	Not provided	None	None	General info
Swansea University	Will		None	None	General info
Teesside University	Yes		2015/16 Report	2016/17 Report	General info
The Glasgow School of Art	No	No nil return	None	None	
The London School of Economics and Political Science	Will		None	None	General info
The Open University	Yes			2016/17 Report	General info
The Royal Central School of Speech & Drama	Yes			2016/17 Report	General info
The University of Buckingham	No	No nil return	None	None	
The University of Manchester	Yes			2016/17 Report	General info
The University of Nottingham	Yes		2015/16 Report		General info
The University of West London	No	Reviewing procedures	None	None	
Trinity Laban Conservatoire of Music and Dance	No	Not provided	None	None	

Institution	Publishes report? (as at date of response)	Reason given for non-publication	2015/16 Report hyperlink	2016/17 Report hyperlink	General info webpage on research integrity
Ulster University	Yes		2015/16 Report		General info
University College London	Yes		2015/16 Report		General info
University of Aberdeen	Yes		2015/16 Report		General info
University of Bath	Yes		None	2016/17 Report	General info
University of Bedfordshire	No	Confidentiality	None	None	
University of Birmingham	Yes		2015/16 Report	2016/17 Report	General info
University of Bolton	Yes			2016/17 Report	General info
University of Bradford	No	Reviewing procedures	None	None	
University of Brighton	Yes		2015/16 Report		
University of Bristol	Yes		2015/16 Report		General info
University of Cambridge	Yes		2015/16 Report	2016/17 Report	General info
University of Central Lancashire	Will		None	To be published	General info
University of Chester	Will		None	2016/17 Report	General info
University of Chichester	No	No nil return	None	None	General info
University of Cumbria	No	No nil return	None	None	General info
University of Derby	Will		None	2016/17 Report	General info
University of Dundee	Yes		2015/16 Report	2016/17 Report	General info
University of East Anglia	Yes			2016/17 Report	General info
University of East London	Yes			2016/17 Report	General info
University of Edinburgh	Yes		2015/16 Report		General info
University of Essex	Will		None	2016/17 Report	General info
University of Exeter	Yes			2016/17 Report	General info
University of Glasgow	Yes		2015/16 Report	2016/17 Report	General info

Institution	Publishes report? (as at date of response)	Reason given for non-publication	2015/16 Report hyperlink	2016/17 Report hyperlink	General info webpage on research integrity
University of Gloucestershire	No	No nil return	None	None	General info
University of Greenwich	Will		None	None	General info
University of Hertfordshire	Yes		2015/16 Report		General info
University of Huddersfield	Yes		2015/16 Report	2016/17 Report	General info
University of Hull	Yes		2015/16 Report	2016/17 Report	General info
University of Kent	Yes			2016/17 Report	General info
University of Leeds	Yes		2015/16 Report	2016/17 Report	General info
University of Leicester	Yes		2015/16 Report	2016/17 Report	General info
University of Lincoln	No	Not necessary or proportionate	None	None	General info
University of Liverpool	Yes			2016/17 Report	General info
University of London	No	Not provided	None	None	General info
University of Northampton	Yes			2016/17 Report	General info
University of Oxford	Yes		2015/16 Report	2016/17 Report	General info
University of Portsmouth	Yes			2016/17 Report	General info
University of Reading	No	Reviewing procedures	None	None	
University of Roehampton	Yes			2016/17 Report	General info
University of Salford	Yes			Number of cases disclosed on general information page	General info
University of Sheffield	Yes		2015/16 Report	2016/17 Report	General info
University of South Wales	No	Confidentiality	None	None	General info
University of Southampton	Yes		2015/16 Report	2016/17 Report	General info
University of St Andrews	Yes		2015/16 Report	2016/17 Report	General info

Institution	Publishes report? (as at date of response)	Reason given for non-publication	2015/16 Report hyperlink	2016/17 Report hyperlink	General info webpage on research integrity
University of Stirling	No	No nil return	None	None	General info
University of Strathclyde	Yes			2016/17 Report	General info
University of Sunderland	Yes			2016/17 Report	General info
University of Surrey	Yes			2016/17 Report	General info
University of Sussex	Yes			2016/17 Report	
University of the Arts London	Yes		2015/16 Report	2016/17 Report	General info
University of the Highlands and Islands	No	Not provided	None	None	General info
University of the West of England, Bristol	Will		None	None	General info
University of the West of Scotland	No	No nil return	None	None	
University of Wales	No	No nil return	None	None	
University of Wales Trinity Saint David	No	No nil return	None	None	General info
University of Warwick	Yes		2015/16 Report	2016/17 Report	General info
University of Westminster	Yes			2016/17 Report	General info
University of Winchester	No	No nil return	None	None	General info
University of Wolverhampton	Will		None	To be published	General info
University of Worcester	Yes		2015/16 Report		General info
University of York	Yes		2015/16 Report	2016/17 Report	General info
York St John University	No	No nil return	None	None	General info

Source: Survey responses (RES0058), university webpages

Formal minutes

Tuesday 26 June 2018

Members present:

Norman Lamb, in the Chair

Vicky Ford Stephen Metcalfe

Bill Grant Carol Monaghan

Darren Jones Graham Stringer

Liz Kendall

Draft Report (*Research integrity*), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 128 read and agreed to.

Summary and Annex agreed to.

Resolved, That the Report be the Sixth Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[Adjourned till Thursday 28 June at 2.30 pm]

Witnesses

The following witnesses gave evidence. Transcripts can be viewed on the [inquiry publications page](#) of the Committee's website.

Tuesday 24 October 2017

Question number

Professor Dorothy Bishop, Professor of Developmental Neuropsychology, University of Oxford; **Dr Arnaud Vaganay**, Director, Meta-Lab; and **Professor Dame Ottoline Leyser FRS**, former Chair, Steering Group on the Culture of Scientific Research, Nuffield Council on Bioethics

[Q1–47](#)

Dr Elizabeth Wager, Publications Consultant, Sideview, and Honorary Co-ordinator, the REWARD Alliance; **Professor Sir Ian Diamond**, Research Policy Network, Universities UK; **Professor Ian Walmsley**, Pro Vice Chancellor for Research Working Group, Russell Group; and **Dr Peter Wilmshurst**, Consultant Cardiologist, Royal Stoke University Hospital

[Q48–114](#)

Tuesday 21 November 2017

Professor David Hand, Royal Statistical Society; **Dr Damian Pattinson**, Vice President of Publishing Innovation, Research Square; and **Wendy Appleby**, Registrar and Head of Student & Registry Services, University College London

[Q115–212](#)

Dr Trish Groves, Director of Academic Outreach, British Medical Journal; **Dr Elizabeth Moylan**, Senior Editor for Peer Review Strategy and Innovation, BioMedCentral (representing the Committee on Publication Ethics); **Catriona Fennell**, Director of Publishing Services, Elsevier (representing The Publishers Association); and **Dr Alyson Fox**, Director of Grants Management, Wellcome Trust

[Q213–276](#)

Monday 4 December 2017

Dr Ivan Oransky, Co-Founder, Retraction Watch, and Distinguished Writer in Residence, New York University Arthur Carter Journalism Institute; and **Professor C K Gunsalus**, Director, US National Centre for Professional and Research Ethics

[Q277–310](#)

Dr Ben Goldacre, DataLab, Department of Primary Care, University of Oxford; **Dr Simon Kolstoe**, Senior Lecturer and University Ethics Adviser, University of Portsmouth, and Independent Chair of Hampshire A (NHS) and the MOD research ethics committees; and **Sile Lane**, Head of International Campaigns and Policy, Sense about Science

[Q311–360](#)

Tuesday 30 January 2018

Professor Sir Bernard Silverman, Chair of Trustees, UK Research Integrity Office; and **James Parry**, Chief Executive, UK Research Integrity Office

[Q361–433](#)

Dr Tony Peatfield, Director of Corporate Affairs, Medical Research Council, and Chairman, RCUK Good Research Conduct Network; and **Dr Steven Hill**, Head of Research Policy, Higher Education Funding Council for England

[Q434–496](#)

Professor Jonathan Montgomery, Chair, Health Research Authority

[Q497–531](#)

Tuesday 6 March 2018

Professor Sir Mark Walport, Chief Executive, UK Research and Innovation (UKRI)

[Q532–615](#)

Tuesday 8 May 2018

Mr Sam Gyimah MP, Minister for Universities, Science, Research and Innovation; and **Dr Patrick Vallance**, Government Chief Scientific Adviser and Head of Government Science and Engineering Profession, Government Office for Science

[Q616–693](#)

Published written evidence

The following written evidence was received and can be viewed on the [inquiry publications page](#) of the Committee's website.

RES numbers are generated by the evidence processing system and so may not be complete

- 1 Australian Research Council ([RES0050](#))
- 2 Bullied into Bad Science ([RES0002](#))
- 3 Carmen Helena Coxon ([RES0035](#))
- 4 Cell and Gene Therapy Catapult ([RES0033](#))
- 5 Cell and Gene Therapy Catapult ([RES0054](#))
- 6 Collated responses from Departmental Chief Scientists ([RES0048](#))
- 7 Collated responses from UUK members regarding Concordat compliance ([RES0059](#))
- 8 Department for Business, Energy and Industrial Strategy ([RES0057](#))
- 9 Dr Dominic Edward ([RES0027](#))
- 10 Dr Gesche Huebner ([RES0010](#))
- 11 Dr Hugh Llewelyn ([RES0024](#))
- 12 Dr Paola Di Maio ([RES0039](#))
- 13 Dr Paul Marchant ([RES0042](#))
- 14 Dr Paul Taylor and Dr Daniel Barr, RMIT University, Melbourne ([RES0051](#))
- 15 Dr Peter Wilmshurst ([RES0025](#))
- 16 Dr Sarah Starkey ([RES0018](#))
- 17 Dr Simon Kolstoe ([RES0030](#))
- 18 Dr Venu Kumar ([RES0012](#))
- 19 EIS ([RES0013](#))
- 20 Health Research Authority ([RES0040](#))
- 21 Health Research Authority ([RES0047](#))
- 22 HealthWatch UK & Universities Allied for Essential Medicines UK & TranspariMED & Dr Simon Kolstoe (joint submission) ([RES0008](#))
- 23 Innovate UK ([RES0044](#))
- 24 Mathias Willumsen ([RES0043](#))
- 25 Medical Research Council ([RES0032](#))
- 26 Medical Research Council ([RES0041](#))
- 27 Meta-Lab ([RES0021](#))
- 28 Miss Tessa Burrington ([RES0011](#))
- 29 Professor David J Hand ([RES0028](#))
- 30 Professor Donald S Kornfeld ([RES0037](#))
- 31 Professor Dorothy Bishop ([RES0019](#))
- 32 Professor Marcus Munafò ([RES0049](#))
- 33 Professor Patricia Murray and Raphael Lévy ([RES0022](#))

- 34 Professor Patricia Murray and Raphael Lévy ([RES0045](#))
- 35 Professor Patricia Murray and Raphael Lévy ([RES0053](#))
- 36 Roger Shinton ([RES0046](#))
- 37 Russell Group ([RES0056](#))
- 38 Samuel Denyer and Dr Simon Peck ([RES0031](#))
- 39 Sense about Science ([RES0034](#))
- 40 STOPAIDS, HealthWatch UK, Universities Allied for Essential Medicines UK and TranspáriMED ([RES0036](#))
- 41 The Academy of Medical Sciences ([RES0005](#))
- 42 The Royal Society ([RES0014](#))
- 43 Tony Mayer, Professor Lex Bouter, and Professor Nick Steneck ([RES0026](#))
- 44 TranspáriMED ([RES0058](#))
- 45 UK Research and Innovation ([RES0055](#))
- 46 UK Research Integrity Office ([RES0023](#))
- 47 UK Research Integrity Office ([RES0052](#))
- 48 Universities UK ([RES0020](#))
- 49 Wendy Appleby on behalf of UCL ([RES0029](#))

List of Reports from the Committee during the current Parliament

All publications from the Committee are available on the [publications page](#) of the Committee's website. The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2017–19

First Report	Pre-appointment hearing: chair of UK Research & Innovation and executive chair of the Medical Research Council	HC 747
Second Report	Brexit, science and innovation	HC 705
Third Report	Genomics and genome editing in the NHS	HC 349
Fourth Report	Algorithms in decision-making	HC 351
Fifth Report	Biometrics strategy and forensic services	HC 800
First Special Report	Science communication and engagement: Government Response to the Committee's Eleventh Report of Session 2016–17	HC 319
Second Special Report	Managing intellectual property and technology transfer: Government Response to the Committee's Tenth Report of Session 2016–17	HC 318
Third Special Report	Industrial Strategy: science and STEM skills: Government Response to the Committee's Thirteenth Report of Session 2016–17	HC 335
Fourth Special Report	Science in emergencies: chemical, biological, radiological or nuclear incidents: Government Response to the Committee's Twelfth Report of Session 2016–17	HC 561
Fifth Special Report	Brexit, science and innovation: Government Response to the Committee's Second Report	HC 1008