

Five Steps Forward

Progress in implementing
the Concordat to
Support the
Career Development
of Researchers
2008-2017



Based on successive Careers in Research
Online Surveys (CROS) and
Principal Investigators &
Research Leaders Surveys (PIRLS)

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EXECUTIVE SUMMARY

This report contains the UK aggregate results to the CROS and PIRLS surveys conducted in 2017. The aggregate results provide representative views across the UK higher education sector of the attitudes and activities of research staff and research leaders, respectively.

As such they provide robust and illuminating insights into the research environment in relation to the employment and professional and career development of researchers, and the sector's progress in achieving the ambitions laid out in the Concordat to Support the Career Development of Researchers (2008).

It is clear that the Concordat, and earlier Roberts funding for researcher development, has had a significant impact on UK institutions' policies and practices relating to the career development of researchers. Comparison of the CROS 2017 aggregate results with those from CROS in 2015, 2013, 2011 and 2009 demonstrates that progress has been made by the sector in all key areas of the Concordat. The extent of that progress varies across the range of principles.

RECRUITMENT AND SELECTION

Overall the evidence from CROS surveys shows that the recruitment of research staff by UK institutions is predominantly open and transparent, and the provision of information for applicants has improved markedly. However, despite this progress, research funding mechanisms still strongly influence the employment of research staff, with the majority still employed on fixed-term contracts. One-fifth of research staff are employed through very short-term or repeated contracts with the same institution, implying that these contracts are being used for more than 'bridging' purposes.

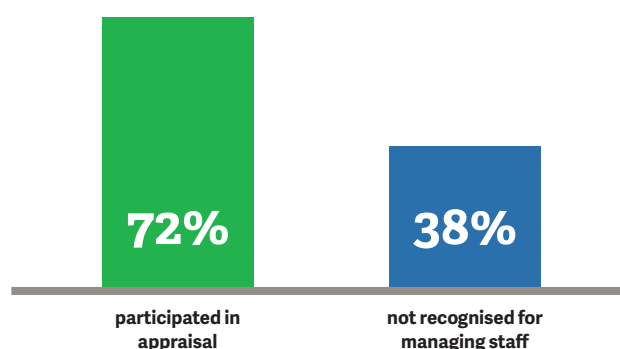


RECOGNITION AND VALUE

There has been substantial progress in increasing the participation by research staff in appraisal or staff review, and appraisals continue in the main to be perceived as being useful. Research leaders are increasingly confident in their ability to undertake appraisals.

Research leaders consistently think nurturing the career development of their researchers is an important aspect of research leadership, but many do not feel recognised or valued by their institution for supervising or managing staff or providing career development advice to them. Most research staff are playing an ever-widening role within their institutions, including many contributions to management, teaching and external engagement. While there is some modest sign that some of these contributions are being recognised by institutions, there is considerable further scope for institutions to enhance this and reward these contributions that are helping to develop research staff experience and skills.

Consistent, if modest, progress has been made in ensuring that researchers feel integrated within their departmental and institutional communities.



“Research managers should be required to participate in active performance management, including career development guidance, and supervision of those who work in their teams” (The Concordat)



SUPPORT AND CAREER DEVELOPMENT

Overall, there has been modest progress towards the aims of the Concordat in relation to support for researchers and their career development, and in many areas there seems significant scope for further progress.

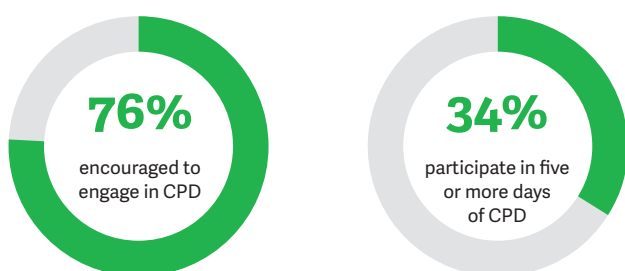
There has been a marked rise in the availability of various types of induction programme for newly appointed researchers and almost universal take-up where these are offered.

The research culture has to some extent evolved as the large majority of research staff feel encouraged to engage in personal and career development, and the overall amount of training/CPD that they undertake has risen slightly.

Among that training and development there have been marked increases in the proportion undertaking training/CPD on certain themes relating to research and academic practice, including equality and diversity, ethical research conduct, public engagement and teaching. However, progress has been much more modest in relation to the personal or transferable skills training highlighted as important by Sir Gareth Roberts, with only slight rises in those undertaking training/CPD in communications, collaboration and team working and, critically, career management.

There has also been modest progress in the form of higher proportions of research staff who undertake developmental activities, including external interactions, research management and preparation for academic practice.

Only a quarter of research leaders feel fully confident in supervising/managing staff or providing career advice to them and half say they would benefit from training or support in these areas, so there remains a need for institutions to find ways to develop these competencies further.



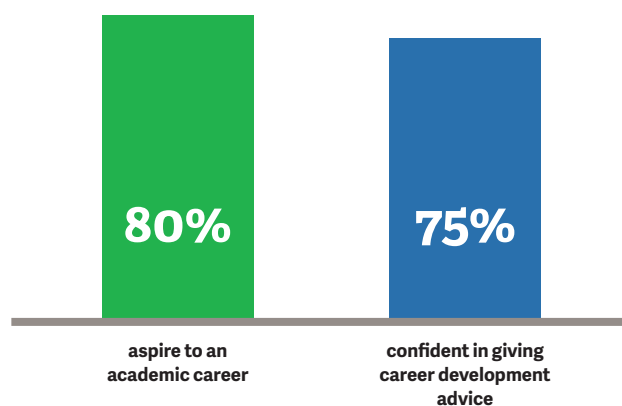
RESEARCHERS' RESPONSIBILITIES

Overall, the extent of progress in implementation of the Concordat's aspirations in relation to researchers' responsibilities has been less substantial than for some other principles. Responsibility for enhancements to researcher career and professional development is shared between institutions and individuals, so deeper culture change is needed for substantive progress.

Although research staff do overwhelmingly report that they take ownership of their career development, many continue to harbour unrealistic expectations of achieving an academic career.

There is evidence for increases in certain training and CPD activity, particularly on themes relating to academic practice (including ethical research) and exploitation of research.

More than half report that they have not undertaken training in areas such as research impact, career management and knowledge exchange, despite wishing to do so.



“ Responsibility for career and professional development is recognised by the Concordat as shared between the institution and the individual:

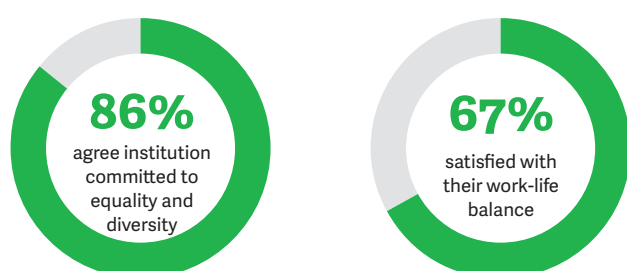
Researchers should recognise that the primary responsibility for managing and pursuing their career is theirs” (The Concordat)

DIVERSITY AND EQUALITY

Very high proportions of research staff and research leaders believe that their institution is committed to equality and diversity (E&D). There is emerging evidence that E&D is being promoted, with more research staff being aware of the Athena SWAN Charter and participating in E&D training.

Both CROS and PIRLS 2017 reveal increased uncertainty from respondents overall as to whether there is fair treatment and equality of opportunity for different sub-groups. Female and ethnic minority respondents to CROS and, especially, PIRLS, are more likely to disagree that their institution treats all staff fairly for a variety of employment issues. UK female BME respondents are even more likely to disagree. Satisfaction with work-life balance is high for research staff, but significantly lower for research leaders and falls further for female researcher leaders in the mid-age range.

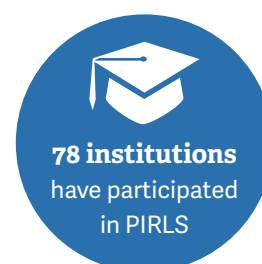
Given the otherwise consistent demographics of respondents to all PIRLS surveys, there is some evidence for an increasing proportion of females in research leadership roles. To continue to improve this gender balance, institutions need to consider how they can tackle these perceptions of unfairness by minority groups.



“Employers should aim for a representative balance of gender, disability, ethnicity and age at all levels of staff” (The Concordat)

IMPLEMENTATION AND REVIEW

Institutions' commitment to making progress in implementing the principles of the Concordat is demonstrated by continuing high participation levels in CROS and PIRLS and also growth in the number of institutions achieving and maintaining the European HR Excellence in Research Award. The independent review of the Concordat will provide a holistic overview of progress and reflect on the changing nature of research, including the drive for more innovation, openness in research and greater levels of research integrity. This will therefore position the Concordat as a powerful strategic instrument to assure the future development of research talent and secure the UK research base.



“The aim is to promote implementation through a collective commitment to reviewing its progress. Concordat signatories agree that there should be appropriate use of survey and monitoring tools such as CROS” (The Concordat)

Recommendations

Recruitment and Selection

1. Institutions should continue to use Open, Transparent and Merit-based Recruitment of Researchers (OTM-R) procedures to sustain their good practices in the recruitment and selection of researchers
2. Institutions should redouble their efforts to review and reduce their use of fixed-term contracts, particularly the use of short-term contracts, using them only where fair and appropriate

Recognition and Value

3. Institutions should consider how they can recognise more fully the wide range of contributions made by researchers in areas related to or outside their research activities
4. Institutions and the sector should also consider how to support, recognise and reward research leaders for their role in managing and supporting researchers
5. Institutions should identify any local sub-populations of researchers who do not feel integrated into their departmental or institutional communities, such as those who have had multiple short-term contracts, and help them to explore career development strategies
6. Institutions should consider how to provide more support to research leaders in order to increase their confidence in managing researchers and supporting their researchers' career development, including providing objective career advice
7. Institutions should encourage more researchers to seek and undertake training or CPD activity in career management and professional development that will enable them to appreciate the value that employers attach to competencies and to be successful in a range of careers

Researchers' Responsibilities

8. Institutions should explore how to enable research staff and research leaders who express an interest in further development activities to participate in training or other CPD opportunities
9. Institutions should continue to encourage research staff to engage more actively in career development planning with particular focus on managing career expectations
10. Institutions should ensure that researchers are aware of the wide range of possible career options and provide advice about career progression both within and beyond HE, including the positive experiences and stories researchers who have moved to careers outside HE
11. Institutions should consider requiring all researchers across all disciplines to participate in research integrity training and development

Diversity and Equality

12. Institutions should undertake detailed scrutiny of their CROS and PIRLS data and trends, including open-ended responses, to identify perceptions of discrimination and unjustified inequalities between different groups of research staff and with other staff
13. Institutions should ensure that their improved E&D policies are consistently implemented and that they offer mechanisms to help people identify and rethink any research practices and processes that may lead to discrimination

Implementation and Review

14. Institutions are encouraged to continue to participate in CROS and PIRLS and utilise the data obtained to evaluate and enhance their career development provision for research staff, and evidence progress for other initiatives, such as the European HR Excellence in Research Award and the independent review of the Concordat
15. Institutions are invited to support the CROS/PIRLS Steering Group in ensuring CROS and PIRLS remain fit for purpose and reflect the outcomes of the independent review of the Concordat
16. The Concordat Strategy Group, and particularly research funders, should consider how they can collectively and individually drive progress in achieving the Concordat principles through policy interventions and terms and conditions of funding

1 | INTRODUCTION

The Concordat to Support the Career Development of Researchers¹ was launched in 2008. It incorporates a set of principles aiming to enhance the attractiveness and sustainability of research careers, and to ensure the continued provision of well-trained, talented and motivated researchers within the UK labour force.

The Careers in Research Online Survey (CROS)², which explores the views and experiences of research staff in higher education, was redesigned in 2009 to reflect the principles of the Concordat and evaluate the extent of implementation of the Concordat principles. In 2011 a companion survey, the Principal Investigators and Research Leaders Survey (PIRLS)³, was created to explore the views and experiences of academics who manage and lead research groups.

This report presents the findings from the 2017 CROS and PIRLS, supported by comparable data, where available, from previous CROS (2009, 2011, 2013, 2015) and PIRLS (2011, 2013, 2015), and how they inform understanding of the extent of the implementation of the Concordat principles since 2008. In addition, where appropriate, the report highlights respondents' perspectives and activities where they relate to other initiatives, such as public engagement, research integrity, and equality and diversity. It also identifies where further attention is needed to realise the aims of the Concordat.

The complete UK aggregate CROS and PIRLS 2017 results, including comparisons with 2015 results, are presented in Appendices 2 and 3.

1.1 CONTEXT

The importance of a highly skilled research workforce has repeatedly been articulated in the policies of recent Governments as a key element of the UK's strategy to support research innovation, future economic prosperity and national and societal wellbeing. The development of highly skilled and effective researchers is seen as key to capitalising on the impact of the UK's excellent research and attracting world class talent.

The UK Government's Industrial Strategy⁴ commits to increasing investment in research and development to ensure that UK research continues to be world class. The creation of UK Research and Innovation (UKRI) forms an overarching funding body and powerful mechanism to drive the UK research and innovation strategy. A significant aspect of this is the Industrial Strategy Challenge Fund, which will capitalise on UK strengths in research and innovation and support the innovation pipeline to meet major industrial and societal challenges. These large-scale, collaborative and interdisciplinary approaches are changing the way research is conducted and therefore the professional development needs of early career researchers. The drive for more openness in research, greater levels of research integrity⁵, and the involvement of research users at all stages of research through the open science initiative⁶ are also changing the research environment.

1. Concordat to Support the Career Development of Researchers www.vitae.ac.uk/concordat

2. www.vitae.ac.uk/cros

3. www.vitae.ac.uk/pirls

4. Building our Industrial Strategy, Department for Business, Energy & Industrial Strategy, 2017 www.gov.uk/government/uploads/system/uploads/attachment_data/file/611705/building-our-industrial-strategy-green-paper.pdf

5. UK Research Integrity Office <http://ukrio.org/>

6. Open science www.oecd.org/sti/outlook/e-outlook/stipolicyprofiles/interactions-forinnovation/openscience.htm

With these developments in the UK research and innovation strategy, and the forthcoming ten-year anniversary of the Concordat, the Concordat Strategy Group⁷ agreed it is timely to review progress in implementing the Concordat principles. During 2017-18 an independent panel⁸ will:

- review the impact of the Concordat since 2008, building on the outputs from previous reviews and evaluations, and evaluate progress in implementing the Concordat principles
- consider the extent to which the Concordat has achieved its aims, and whether it remains fit for purpose or requires updating
- provide advice and priorities to the Concordat Strategy Group on the required policy interventions relating to researcher career development to ensure an effective UK research system.

The Concordat, and associated CROS results, is also the mechanism through which UK institutions can demonstrate alignment with the principles of the European Charter and Code⁹. There are now 100 UK organisations holding the HR Excellence in Research Award¹⁰ among the 373 award-holders across Europe.

In this context, this report summarises the evidence from CROS and PIRLS in terms of progress in implementing the Concordat principles and how this evidence informs what still needs to be achieved.

CROS results also provide valuable insights through the experiences and perspectives of current research staff into the progress of complementary initiatives to improve the research environment. For example, CROS asks questions relevant to the implementation of the Concordat to Support Research Integrity¹¹, the Concordat for Engaging the Public with Research¹² and the Athena SWAN Charter¹³.

It also provided evidence of the career development support for research staff to inform Unit of Assessment submissions for the Research Environment within the Research Excellence Framework (REF) 2014¹⁴.

7. Concordat Strategy Group www.vitae.ac.uk/policy/concordat-to-support-the-career-development-of-researchers/concordat-strategy-group-membership

8. Independent review of the Concordat to Support the Career Development of Researchers, www.rcuk.ac.uk/skills/frameworks/review-of-the-concordat-to-support-the-career-development-of-researchers

9. European Charter & Code for Researchers www.euraxess.ec.europa.eu/jobs/charter

10. HR Excellence in Research Award www.vitae.ac.uk/hrexcellencebadge

11. Concordat to Support Research Integrity, UUK, 2012 www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2012/the-concordat-to-support-research-integrity.pdf

12. Concordat for Engaging the Public with Research, RCUK, 2010 www.rcuk.ac.uk/RCUK-prod/assets/documents/scisoc/ConcordatforEngagingthePublicwithResearch.pdf

13. Athena SWAN Charter, ECU, 2005 www.ecu.ac.uk/equality-charters/athena-swan/

14. Vitae Research Excellence Framework REF 2014 Summary for Submitting Units, 2013 www.vitae.ac.uk/news/vitae-research-excellence-framework-ref-2014-summary-for-submitting-units-2013.pdf

2 | CROS AND PIRLS 2017: PARTICIPATION AND METHODOLOGY

2.1 TARGET AUDIENCES

When the Concordat was published it was targeted at research staff: 'individuals whose primary responsibility is to conduct research and who are employed for this purpose'.

However, the Concordat Strategy Group recognised that there are likely to be early career staff who may be sustaining their research activity through a series of teaching or other professional contracts and/or fellowships, particularly in the social sciences, arts and humanities. Since 2015, institutions have been encouraged to promote CROS additionally to early career staff who are 'primarily engaged in research'¹⁵.

The target audience for PIRLS is academic staff with line- or operational management responsibility for research staff. This target group is not necessarily easy to identify and institutions tend to promote the survey generally to academic staff, which results in a sample consisting of respondents who currently may or may not have responsibility for research staff. Nevertheless, PIRLS provides useful insights into the leadership and management views of this community. The Concordat Strategy Group sees the engagement of principal investigators as key to successful implementation of the Concordat principles.

2.2 METHODOLOGY AND PARTICIPATION

The 2017 CROS and PIRLS aggregate results are collated from a series of parallel online surveys conducted by individual institutions, between March and May 2017. Details of the methodology can be found in Appendix 1 and the question-sets, with associated results, can be seen in Appendices 2 and 3.

A total of 67 UK HE institutions participated in CROS 2017 and 50 in PIRLS 2017. More details of the types of institution that participated can be found in Appendix 1.

In total, 7,657 complete, non-duplicate responses were obtained from respondents to CROS and 3,970 to PIRLS 2017, which represent overall response rates of around 24% and 21%, respectively.

Given the varied environments, infrastructure and practice to support researchers within individual institutions, responses from a particular institutional cohort may differ markedly from the aggregate responses. Institutions are encouraged to use their own data to assess their progress in embedding the Concordat principles, comparing their results with the UK aggregate results, benchmarking against other groups of institutions through the Bristol Online Survey (BOS) tool, and to compare them with their previous results.

2.3 RESPONDENT SAMPLE PROFILES AND REPRESENTATIVENESS

In Appendix 1 the personal and disciplinary profiles of the CROS and PIRLS 2017 respondent samples are described in some detail, and which were in many respects very similar to those achieved in CROS and PIRLS 2015. On the basis of the relatively large sample sizes, the response samples are likely to be highly representative of their respective target populations sampled and, assuming random sampling, potentially also of the total UK research staff and research leader populations, respectively. This is supported by the relative similarity of the demographic profile of CROS respondents and research-only academic staff in recent HESA statistics.

One of the key benefits of CROS and PIRLS is the opportunity to use the results to measure progress in relation to embedding the principles of the Concordat to Support the Career Development of Researchers within institutions' human resources and talent management practice. This can be achieved by comparing results from successive CROS and/or PIRLS surveys for comparable questions, assuming the aggregate response samples are each representative of the target populations.

¹⁵. Are you supporting all your staff engaged in research? Concordat discussion paper, 2016 www.vitae.ac.uk/vitae-publications/guides-briefings-and-information/vitae-concordat-discussion-paper-2016.pdf

3 | CROS AND PIRLS 2017: RESULTS AND INSIGHTS INTO CONCORDAT IMPLEMENTATION

This section focuses on evidence for the extent of implementation of the principles of the Concordat, comparing 2017 data with previous results to highlight trends, where applicable.

3.1 RECRUITMENT AND SELECTION

Principle 1: Recognition of the importance of recruiting, selecting and retaining researchers with the highest potential to achieve excellence in research.

'The Concordat encourages institutions to examine the way they recruit and retain researchers:

Recruitment and selection procedures should be informative, transparent and open to all qualified applicants regardless of background.'

- CROS 2017 shows that more research staff learnt about their post through an open advertisement than was the case in 2009; however, a consistent minority continue to have heard about their post only through word of mouth
- The proportion of research leaders who are confident about recruitment and selection has risen and is now the large majority

'Person and vacancy specifications must clearly identify the skills required for the post.'

- The provision of a written job description and details of requirements for qualifications, specialist research skills and transferable skills have increased consistently and are now approaching very high levels

'Research posts should only be advertised as a fixed-term post where there is a recorded and justifiable reason.'

- The proportion of research staff employed on fixed-term contracts has been decreasing steadily since 2009, but remains the case for the majority (72%)

- A consistent but substantial minority of around one-fifth of fixed-term contracts are for one year or less
- Some research staff have undertaken multiple short-term contracts with their institution and continue to be employed on a very short contract

3.1.1. Recruitment and appointment processes

The Concordat seeks open and transparent recruitment policies and that job descriptions and all other relevant information are provided to applicants for posts. This aspiration aligns well with the European Commission's emphasis on the importance of Open, Transparent and Merit-based Recruitment (OTM-R)¹⁶ within their European Research Area (ERA) priorities.

An increasing proportion of CROS respondents learnt of their current job opportunity through open advertisement or listing (52%, Figure 1).

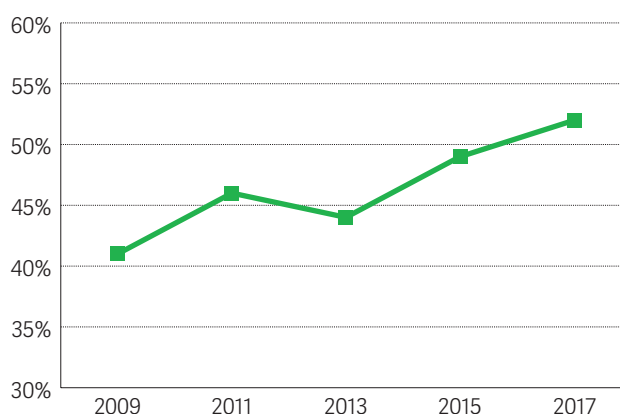


FIGURE 1: Proportion of CROS respondents who learnt about their current post through an open advertisement or listing¹⁷

The proportion who heard about it only by word of mouth - implying that it was not an open process - was 22%, a proportion that has not fallen notably since 2009.

16. Open, Transparent and Merit-Based Recruitment of Researchers, SGHRM, EC, 2015 https://cdn1.euraxess.org/sites/default/files/policy_library/otm-r-finaldoc_0.pdf

17. Results in 2013 onwards are only for those appointed to their current post within the last two years

The vast majority of research leaders responding to PIRLS 2017 are fully confident or confident about recruiting and selecting members of their research group, although only 40% report that they are fully confident and 30% think that they would benefit from more support in this area.

The Concordat states that person and vacancy specifications must clearly identify the skills required for the research post. Results from successive CROS surveys show that the proportions of respondents reporting provision of a written job description and details of requirements for qualifications, specialist research skills and transferable skills have all increased since 2009 (Figure 2), and are approaching very high levels.

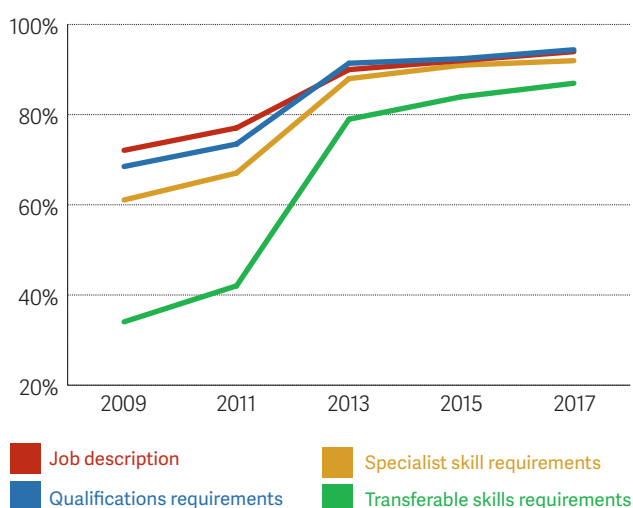


FIGURE 2: Provision of information to respondents when they applied for their current post

These results are confirmed by the European Commission's MORE2¹⁸ study into the careers of researchers, which found that the UK has the highest levels of researcher satisfaction across Europe (77-83%) with their recruitment process, in terms of openness, transparency and being merit-based.

18. MORE2 Mobility patterns and career paths of researchers, Higher Education Sector Report, EU, 2013, p189 https://cdn2.euraxess.org/sites/default/files/policy_library/report_on_survey_of_researchers_in_eu_hei.pdf

3.1.2. Employment status

The Concordat recommends that institutions appoint research staff on open-ended contracts unless there is a recorded and justifiable reason for use of a fixed-term contract, in line with fixed-term employment legislation¹⁹.

The proportion of CROS respondents employed on a fixed-term contract is a key measure of Concordat implementation progress. Figure 3 demonstrates that this proportion has been falling since 2009. In 2017, 72% were employed on a fixed-term contract and 27% an open-ended (or 'permanent') contract.

Some institutions are known to employ all research staff on open-ended contracts, which will account for some of the overall fall in fixed-term contracts in the aggregate result. However, most institutions continue to use fixed-term contracts which are related to the length of external research funding.

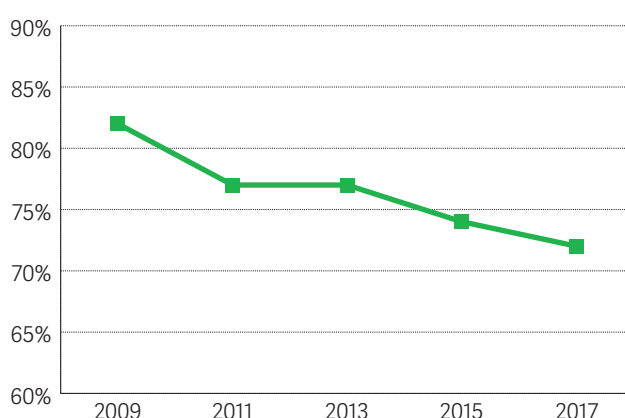


FIGURE 3: Proportion of CROS respondents employed on a fixed-term contract basis

19. Fixed-term Employees (Prevention of Less Favourable Treatment) Regulations 2002, www.legislation.gov.uk/uksi/2002/2034/contents/made

The proportion of CROS respondents employed on a fixed-term contract was higher among Russell Group institutions (81%) than other types of institution (60%). The prevalence was similar across the four REF Panels for those in Russell Group institutions, but for those outside the Russell Group this varied by Panel, from 71% in Panel B to 37% in Panel D (Figure 4). Although comprising only one-tenth of CROS respondents, Panel C and D respondents outside the Russell Group are the only sub-groups where the majority of researchers are employed on open-ended contracts.

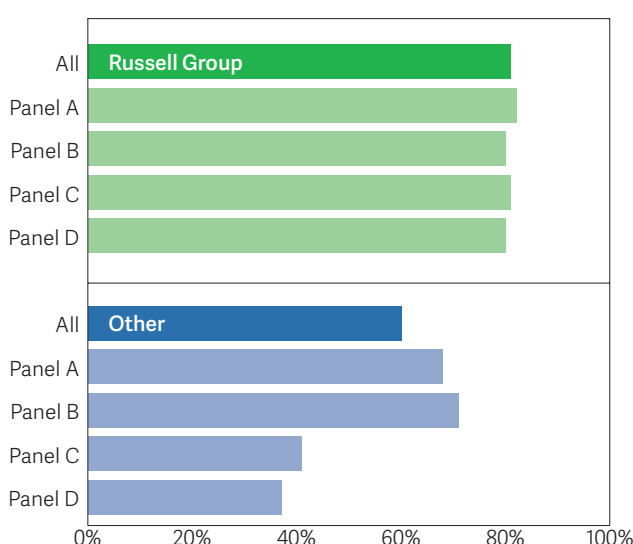


FIGURE 4: Proportion of CROS 2017 respondents employed on a fixed-term contract, by institution type and REF Panel

Overall, a slightly higher proportion of female CROS 2017 respondents (74%, v. 71% for males) reported that they were employed on a fixed-term contract. However, this was largely due to a significant difference for those working in Panel C, whereas differences by gender in the other Panels were very small or insignificant. The proportion with a fixed-term contract was similar for those employed full-time and part-time, and there were no other obvious demographic differences.

Of those CROS 2017 respondents who had been with their institution under two years, 86% were currently employed on a fixed-term basis.

Among the relatively small group who had been employed by their institution for more than ten years, the majority had open-ended contracts (67%). A broadly similar pattern could be seen with respondent age.

The profile of length of fixed-term employment contracts has been relatively consistent since CROS 2009, with the proportion of respondents on contracts of very short duration remaining a concern. Since 2009, between 19% and 23% of respondents reported having fixed-term contracts of a year or less. In 2017 this proportion was slightly higher for Panel C respondents (25%) and higher still for Panel C respondents outside the Russell Group (29%). Very short contracts can be a useful bridging mechanism between major projects, transition from doctoral studies or reflecting short term external funding. However, the evidence of multiple short-term contracts implies this is not always the case, and their use offers little career security.

A particular sub-group of concern is research staff who have had more than five contracts with their current institution but are still employed on a fixed-term contract, among whom 41% have a contract of shorter than a year. This does not correlate directly with long service at the institution, which suggests that there is a sub-group of research staff who have had a succession of only short contracts. This sub-group has been observed in each CROS survey since 2009, and has remained a relatively consistent proportion.

A new question in CROS 2017 identified the proportion of time within respondents' fixed-term contracts that was allocated to research. This revealed that 81-100% of time on research was reported by 83% of these respondents, while 5% had a research allocation of 40% or less. Somewhat higher proportions of those working in Panels C and D had a lower research time allocation, with around 70% undertaking research for 81-100% of the time.

3.1.3. Summary

Overall the evidence from CROS shows that the recruitment of research staff by UK institutions is predominantly open and transparent, and the provision of information for applicants has improved markedly. The majority of research leaders are reporting confidence in their recruitment of research group members.

However, despite this progress, research funding mechanisms continue to strongly influence the terms of employment of research staff, with the majority still employed on fixed-term contracts. One-fifth of research staff are employed through very short-term or repeated contracts with the same institution, which suggests that many of these contracts are being used for more than 'bridging' purposes.

3.2 RECOGNITION AND VALUE

Principle 2: Researchers are recognised and valued by their employing organisation as an essential part of their organisation's human resources and a key component of their overall strategy to develop and deliver world-class research.

'Research managers should be required to participate in active performance management, including career development guidance, and supervision of those who work in their teams.'

- There has been substantial progress in increasing the participation by research staff in appraisal or staff review, rising from 50% in CROS 2009 to 72% in CROS 2017, with a concomitant reduction in the proportion of eligible staff not invited to participate
- In parallel there is consistency in the perceived usefulness of appraisals, with the majority of research staff finding them useful overall and a rise in the proportion finding them useful in relation to how they support career development

'Employers should provide training opportunities to support research managers. Institutions will wish to consider how research managers' performance in these areas is developed, assessed and rewarded.'

- Research leaders consistently think nurturing the career development of their researchers is an important aspect of research leadership, but a substantial majority (40%) persists who do not feel recognised or valued by their institution for supervising or managing staff or providing career development advice
- Only a quarter of research leaders feel fully confident in supervising/managing staff and half say they would benefit in training or support in these areas

'Employers are encouraged to value and afford equal treatment to all researchers.'

- There has been mixed progress in this area with slightly rising perceptions of recognition among research staff in relation to their directly research-related contributions such as publications and grant/funding applications. There have also been modest rises in relation to undertaking teaching and public engagement. However, substantial and unchanging proportions persist who do not feel recognised for their role in managing projects and supervising others, including research students
- Modest progress has been made in ensuring that researchers feel integrated in their departmental and institutional communities

3.2.1. Appraisal and review

The Concordat states that managers are required to participate in active performance management and supervision of their researchers. All eligible research staff should have regular review/appraisal and the process should be useful and address work practices and problems, and career development. The extent of appraisal among research staff is a key benchmark in Concordat implementation progress.

Figure 5 shows the consistent rise in proportions of CROS and PIRLS respondents who report being appraised within the last two years across the successive surveys, reaching 72% among research staff and 91% among research leaders. This is in sharp contrast to the first CROS survey in 2002 (albeit involving a small sample of institutions), when only 32% responded that they had 'ever' taken part in their institution's staff review process.

After the Concordat, participation in appraisal 'within the last two years' has risen from 50% in 2009 to the current figure. The difference between the extent of appraisal among research staff and research leaders appears to be reducing over time, and is partly accounted for by the higher proportion of CROS respondents who have only recently been appointed.

Figure 5 also shows the steady decline in the proportion of CROS respondents who were eligible for appraisal but did not participate because they were not invited to do so, which is now under 10%.

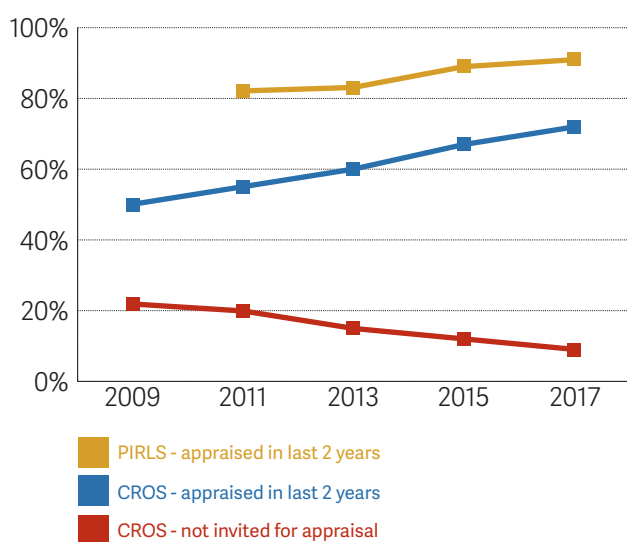


FIGURE 5: Proportion of respondents who have participated in appraisal within the last two years

The proportion of research staff participating in appraisal is lower among those on fixed-term contracts (67%) than open-ended (86%), and this may partly be due to the prevalence of short fixed-term contracts. This also accounts for much of an apparent difference between results for those in Russell Group and other institutions.

Perceptions of the usefulness of appraisals by CROS respondents have remained remarkably consistent across the period²⁰ with just under two-thirds rating it useful or very useful overall. Similarly, consistent proportions found it useful or very useful to identify strengths and achievements and to highlight issues. However, the proportion finding it useful or very useful to focus on career aspirations has risen from 52% in 2009 to 62% in 2017.

A lower but still significant proportion reported their appraisal to have been useful or very useful in leading to changes in work practices (34%), which again has changed very little since 2009.

These relatively positive and consistent results among research staff could reflect research leaders' competence in undertaking appraisals of their staff. For PIRLS 2017 respondents, 82% believed they are confident or fully confident in conducting appraisals (up from 76% in 2013). The perceived usefulness of research leaders' own appraisals has, likewise, remained relatively constant since 2013²¹, with 58% reporting it useful or very useful overall in 2017.

20. Comparisons are made after exclusion of 'not applicable' responses
21. Results prior to this survey point are not fully comparable

3.2.2. Recognition of research leaders' management activities

The Concordat requires managers of researchers to undertake active performance management of their staff and to support them with career guidance. It also explicitly raises the issue that institutions need to consider how to develop their research leaders in relation to their management of researchers and how to recognise and reward them for doing so. PIRLS provides detailed insights into the perceptions of research leaders in relation to their management of researchers.

Successive PIRLS surveys show consistently that research leaders consider that nurturing the careers of their researchers is an important aspect of excellent research leadership, and this increases with length of experience (Figure 6). PIRLS respondents rank it the third most important aspect, behind exemplifying high standards of research integrity/conduct and advancing their discipline or research area.

FIGURE 6: Percentage of PIRLS 2017 respondents ranking importance of certain behaviours first or second in importance, with length of experience in years as a research leader

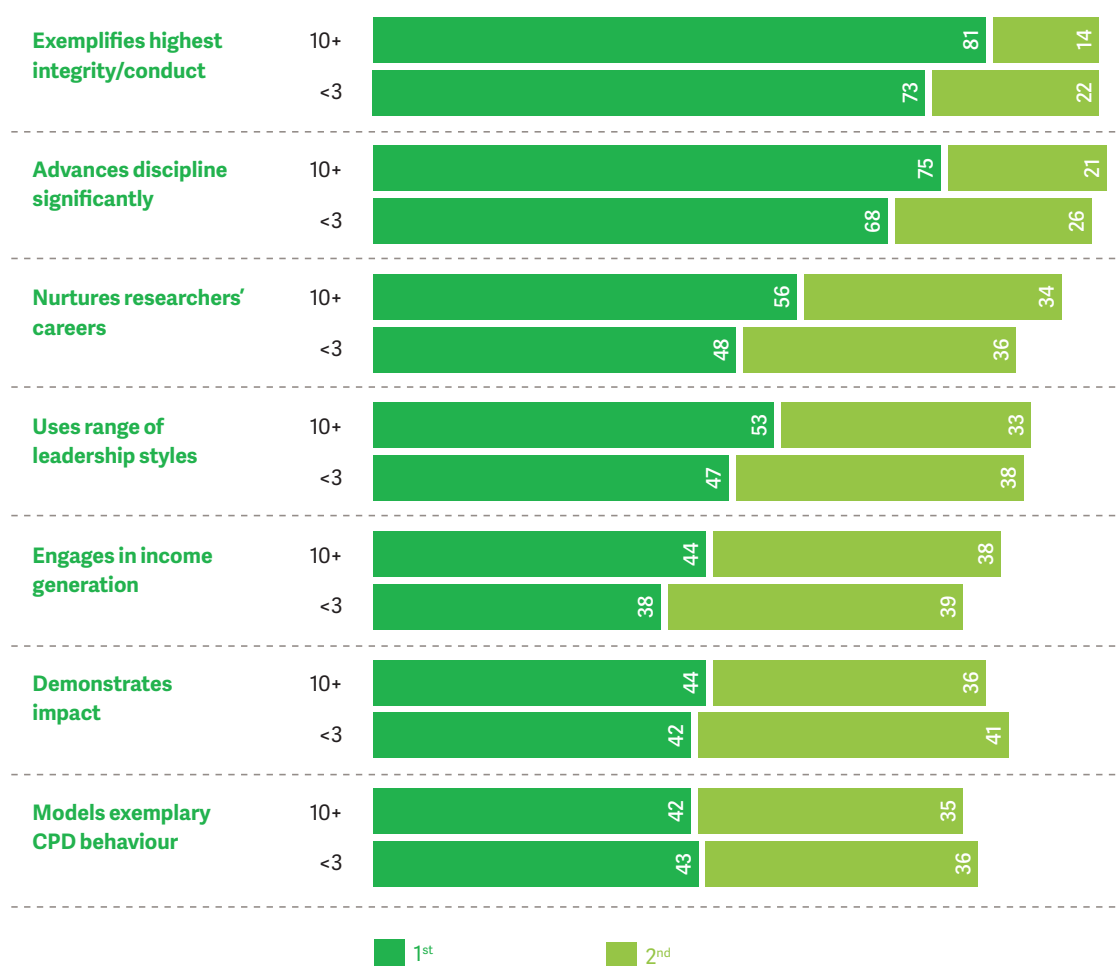


TABLE 1: Proportion of respondents disagreeing or disagreeing strongly that their institution recognises and values their contributions

Disagree or disagree strongly	PIRLS 2017	PIRLS 2015	CROS 2017	CROS 2015
Managing budgets/resources	43%	43%	37%	39%
Supervising/managing staff	38%	39%	38%	39%
Public engagement	30%	32%	23%	25%
Knowledge exchange	26%	27%	25%	27%
Teaching	24%	26%	34%	36%
Supervising research students	22%	22%	35%	36%
Publications	14%	14%	14%	15%
Grant/funding applications	13%	14%	25%	28%
Peer reviewing	–	–	41%	42%

Almost two-thirds of PIRLS 2017 respondents²² strongly agreed that leading their research group was a very important aspect of research leadership. Lower but substantial proportions felt that managing research staff performance (42%), budget/finance management (33%) or providing career advice to researchers (43%) were very important.

Table 1 demonstrates that many research leaders do not feel that their institution recognises or values them for some of their wider contributions, including these key management activities in relation to staff and finances. Comparison with the previous PIRLS results shows that these proportions have either been maintained or only slightly declined.

²². Proportion normalised to exclude those reporting this 'non-applicable'

TABLE 2: PIRLS 2017 respondents' confidence and perceptions of need for training or development in a range of research and researcher management functions

Disagree or disagree strongly	Not or not at all confident	Would benefit from further development
Managing group/project finances	29%	53%
Providing research staff with advice on the range of career opportunities	25%	40%
Managing staff performance	24%	51%
Conducting appraisals	18%	41%
Recruiting and selecting group members	14%	30%
Leading your people/group	10%	45%
Motivating individuals	10%	36%
Supervising research students	6%	28%

Only a quarter of PIRLS 2017 respondents were fully confident about providing career support for their staff, while a similar proportion did not feel confident in this area. Similar perceptions existed for financial management and staff performance management. Together, these are the three management activities where they were least confident.

Significant proportions of research leaders would like more support in some of the areas in which they are least confident, including management of staff performance (51%) and finances (53%), providing career advice (40%), leadership of their research team (45%) and also conducting appraisals (41%) (Table 2). Institutions should consider how to support such development of research leader capacity and how these activities are recognised and rewarded or valued.

3.2.3. Recognition of researchers' contributions

The Concordat emphasises that institutions should encourage researchers to make a wide range of contributions, including and beyond their primary research functions, and recognise these contributions. Results from CROS demonstrate that research staff do undertake a wide range of roles, and the proportion doing so is growing. In 2017, nearly 60% of respondents reported writing grant or funding proposals and 42% that they manage a budget. Over 60% supervised student research projects and a similar proportion undertook teaching or lecturing, while over 40% mentored or supported other researchers. Half of them undertook public engagement and around one-third knowledge exchange or commercialisation activities.

However, the results for CROS respondents shown in Table 1 illustrate that substantial proportions of research staff do not feel that their institution recognises and values many of their contributions, especially beyond research. Substantial proportions of CROS 2017 respondents (35-40%) disagreed or strongly disagreed that their institution recognises their management of budgets/resources (37%), supervision of staff (38%) or research students (35%), and teaching (34%). Around a quarter felt their public engagement (23%) and knowledge exchange activities (25%) were unrecognised, and their role in writing grant applications (25%). In comparison, only 14% did not feel recognised for their role in developing publication outputs from research, although 41% felt unrecognised for peer review work. These proportions have not changed substantially in successive surveys, although there was evidence for some slight improvements in 2017 compared with 2015.

Figure 7 illustrates the extent to which research staff feel that their institution recognises or values them for these contributions has changed since 2009²³. There has been some slight progress in terms of rising perceptions of recognition, particularly for public engagement activities and teaching. However, it also shows the markedly higher value being perceived in relation to directly research-related outputs such as publications, compared with researchers' other contributions.

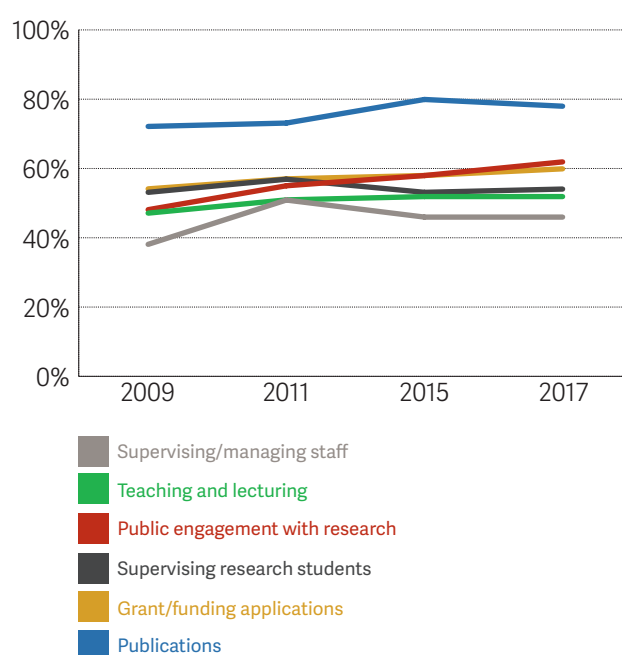


FIGURE 7: Proportion²⁴ of CROS respondents agreeing or strongly agreeing that they feel recognised and valued by their institution for a range of contributions

23. Range of contributions is restricted to those where there is comparability of the questions; data from 2013 are absent for that reason

24. Results normalised to exclude 'non-applicable' option; 2013 data absent due to non-comparability of scale used

3.2.4. Perceptions of integration

The Concordat seeks to reduce perceptions of isolation among research staff, and the results from successive CROS surveys suggest that some progress has been made in this respect since 2009, although little change has been seen since 2011 (Figure 8). The substantial majority of CROS 2017 respondents perceived that they are integrated into their department's research community, with the majority feeling integrated within their wider disciplinary and institutional research communities. An additional question in CROS 2017 indicated that two-thirds of respondents felt integrated within their department's community more generally. Although not fully comparable, a broadly similar proportion of PIRLS 2017 respondents felt integrated in their institution.

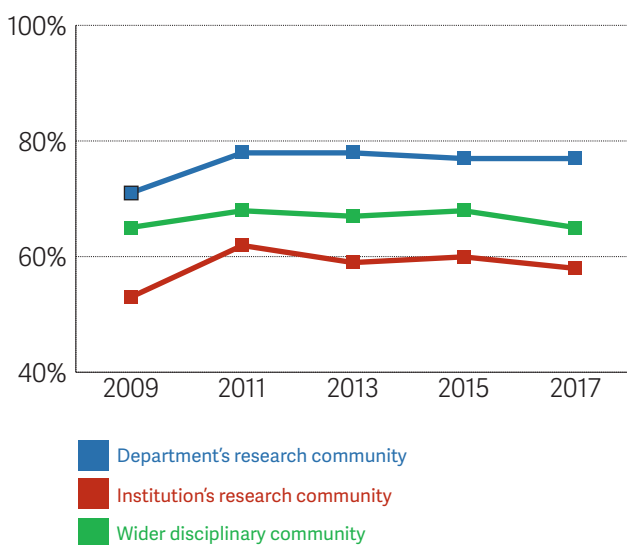


FIGURE 8: CROS respondents' perceptions of integration with a range of research communities

3.2.5. Summary

There has been substantial progress in increasing the participation by research staff in appraisal or staff review, and appraisals continue in the main to be useful. Research leaders are increasingly confident in their ability to undertake appraisals.

Research leaders consistently think nurturing the career development of their researchers is an important aspect of research leadership, but many do not feel recognised or valued by their institution for supervising or managing staff or providing career development advice to them. Only a quarter of research leaders feel fully confident in these areas and half say they would benefit from training or support in them, so there remains a need for institutions to find ways to develop and recognise these competencies.

Most research staff are playing an ever-widening role within their institutions, including contributing to management activities, teaching and external engagement. While there are modest signs that some of these contributions are being recognised by institutions, there is considerable scope for institutions to increase the recognition for these contributions, which contribute to the health of the research base and are helping to develop research staff experience and skills.

Consistent if modest progress has been made in ensuring that researchers feel integrated within their departmental and institutional communities.

3.3 SUPPORT AND CAREER DEVELOPMENT

Principle 3: Researchers are equipped and supported to be adaptable and flexible in an increasingly diverse, mobile and global research environment.

Principle 4: The importance of researchers' personal and career development, and lifelong learning, is clearly recognised and promoted at all stages of their career.

'Employers should provide planned induction programmes for researchers.'

- Significant progress has been made and the strong majority of research staff are now offered induction programmes

'Managers should encourage researchers to undertake continuing professional development (CPD).'

- The majority of research staff feel encouraged to engage in personal and career development
- The extent of training/CPD activity undertaken by research staff and research leaders has increased slightly, and fewer are doing none at all

'Researchers need to develop the communication and other professional skills that they will need to be effective researchers and highly-skilled professionals in whatever field they choose to enter.'

- There have been much more marked rises in those undertaking training/CPD in equality and diversity, ethical research conduct, public engagement and teaching
- Progress has been more modest in relation to transferable skills training, with slight rises in those undertaking training/CPD in communications, collaboration and team working

'Employers should provide a career development strategy for researchers.'

- There has been no sustained increase in the proportion of research staff who have undertaken training in career management, which remains low

'Research staff should undertake developmental activities.'

- There have been modest increases in the proportions of research staff who undertake a wide range of developmental activities, including external interactions, research management and preparation for academic practice

3.3.1. Induction

The Concordat states that employers should provide a planned induction programme for researchers on appointment to a research post. CROS results show clear increases since 2009 in the offer of inductions at all levels (Figure 9), with nearly 80% now being offered a range of inductions. The proportion of research staff who took up these offers has also increased, to the point where over 95% of respondents offered a local induction took it up, and around 90% departmental and institutional inductions²⁵.

The perceived usefulness of these inductions has also broadly risen, with over 80% reporting a local induction to have been useful or very useful, and the majority reporting this for departmental and institution-wide inductions in CROS 2017.

25. Results for CROS 2013 onwards relate only to those who were appointed to their role within the two years before the survey

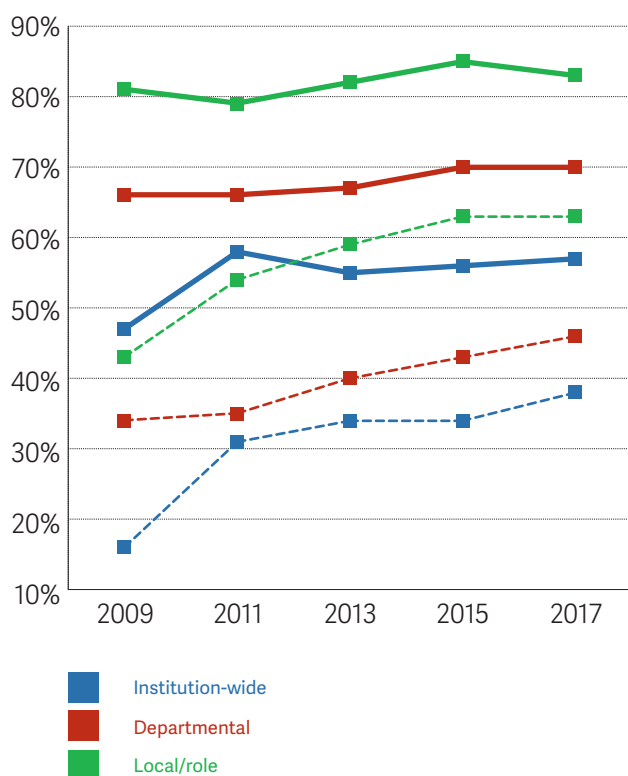


FIGURE 9: Proportions of CROS respondents being offered inductions (solid lines) of different types, and considering them useful or very useful (dotted lines)

3.3.2. Engagement in training and professional development

The Concordat requires managers of researchers to encourage research staff to undertake professional development. Over three-quarters of CROS 2017 respondents felt that they are encouraged by their institution to engage in personal and career development, which has remained consistent since 2011 after an initial rise from 65% in 2009. The proportion claiming to maintain a formal record of their CPD has risen slightly since 2013 to 60%, although there is some scope for interpretation of what constitutes a “formal record”.

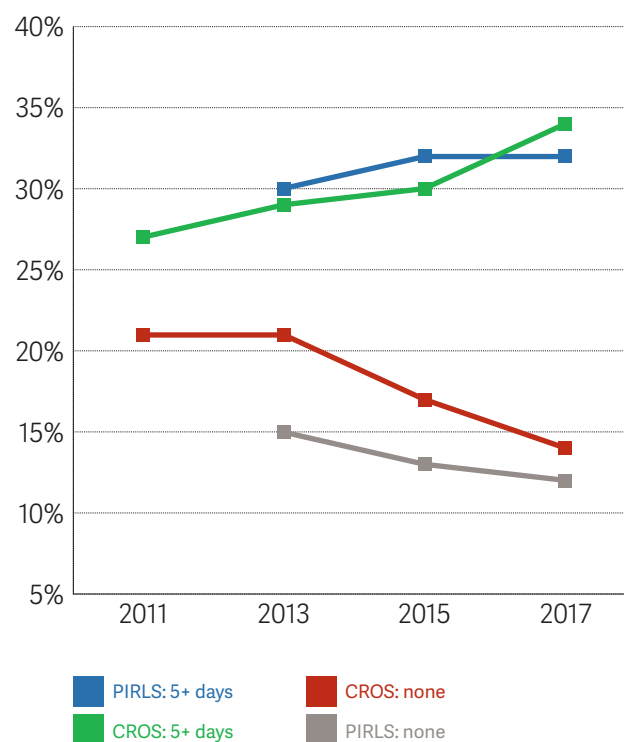


FIGURE 10: Extent of training/CPD activities undertaken by respondents in the last 12 months²⁶

Participation in training and other CPD activities, in terms of the number of days during the twelve months before a CROS survey, has been rising slightly, indicative of a culture where more CPD is taking place. Figure 10 illustrates that the proportion who have undertaken five or more days of training/CPD in the last year has risen slightly for both research staff and research leaders. At the same time, the proportions reporting that they have done no training or CPD in the last year have both fallen, more prominently for research staff.

26. Results from CROS 2009 and PIRLS 2011 not comparable

Figure 11 shows the extent of participation in training/CPD on broadly academic or research-related themes and Figure 12 on transferable skills. These show distinct rises with time for certain topics, including teaching, ethical research conduct and public engagement. The latter two rises could possibly be linked to the existence of the respective Concordats^{27,28}. The participation in training in research skills, while higher, has remained more consistent.

In relation to transferable skills, there has been a prominent rise in training/CPD on equality and diversity²⁹ while the other topics have seen only very slight or gradual rises.

The Concordat highlights the need for researchers to develop their communication and other professional skills. CROS results provide some evidence that there is potential for further progress in this area, as the extent of training in these aspects of transferable skills has been limited and not grown markedly.

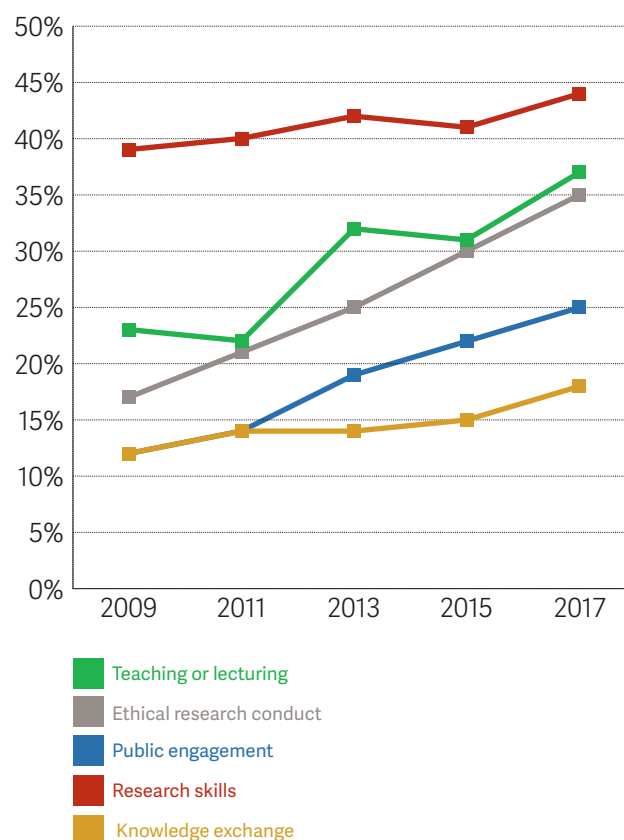


FIGURE 11: Proportion of CROS respondents who have undertaken training and CPD on a range of research-related topics

27. Concordat to Support Research Integrity, UUK 2012 www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2012/the-concordat-to-support-research-integrity.pdf

28. Concordat for Engaging the Public with Research, RCUK 2010 www.rcuk.ac.uk/documents/scisoc/concordatforengagingthepublicwithresearch.pdf

29. This option was introduced in CROS 2013

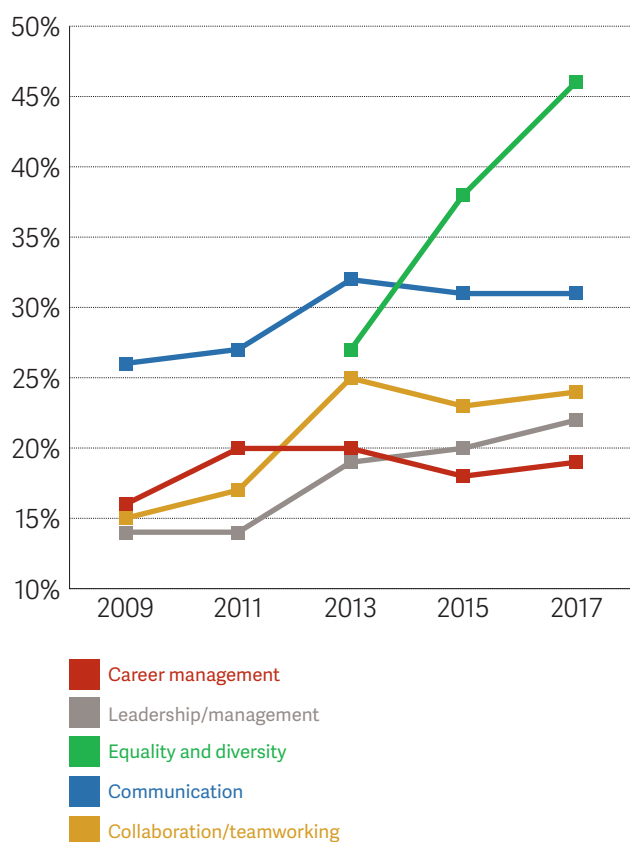


FIGURE 12: Proportion of CROS respondents who have undertaken training and CPD on a range of transferable skills

The Concordat also explicitly states that institutions need to support researchers to develop a career development strategy. Figure 12 shows that the proportion of CROS respondents who have undertaken career management training has consistently remained constant at around 20% since 2011 with no sustained increase observed.

As introduced in section 3.2.2, only a quarter of research leaders reported in PIRLS 2017 that they were fully confident about providing career support for their staff, and a similar proportion stated that they did not feel confident in this area. A substantial proportion (40%) indicated that they would benefit from training in providing careers support, a figure that has increased rather than decreased with time, and is high for experienced and newly appointed research leaders alike.

These results reaffirm that there is an issue for institutions around helping researchers to develop realistic career development plans and, especially, the research leader's role in this and how it is recognised. This should be considered in the context that research leaders do believe that nurturing the careers of their researchers is an important aspect of their research leadership.

3.3.3 Engagement in developmental activities

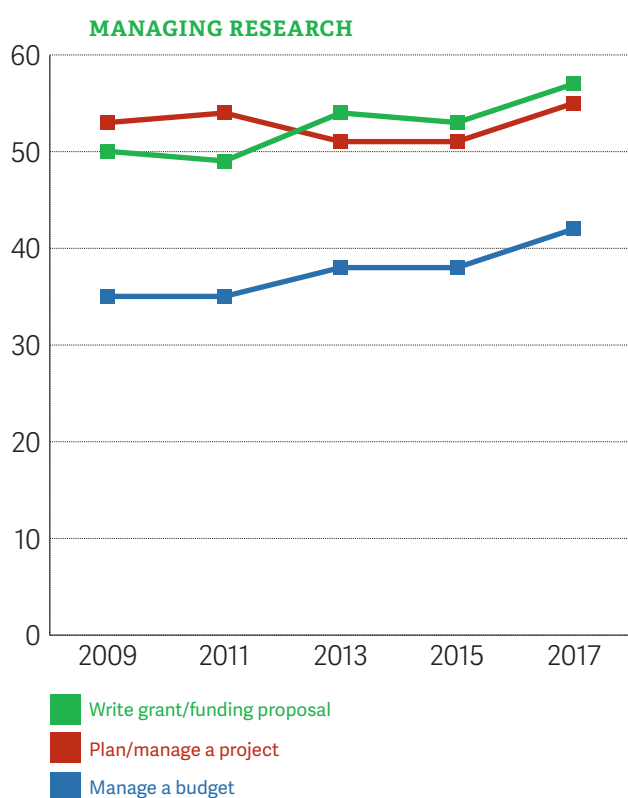
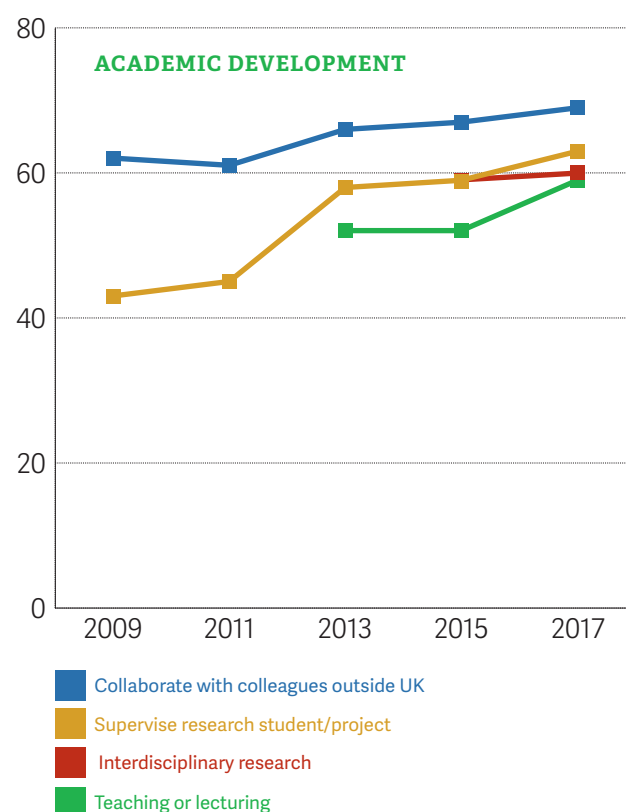
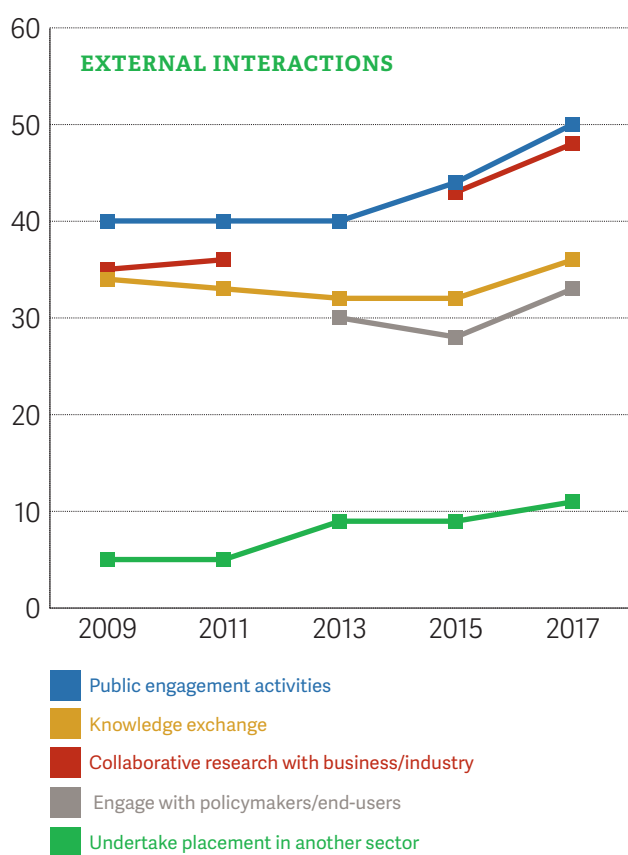
In order that research staff develop a wider range of skills and experiences during their time in research in higher education, the Concordat recommends that institutions should encourage and enable research staff to undertake a range of developmental activities as part of, and alongside, their research work. It suggests that these should include preparation for academic practice, but also highlights activities that will be relevant to careers in other sectors, recognising that not all research staff will progress to academic positions. There is a specific recommendation around the benefit of undertaking placements to broaden awareness of other sectors.

CROS charts the extent to which research staff have been participating in a range of activities, and how this has changed since 2009. Figure 13 shows that there have been slight rises in the proportion of CROS respondents who have undertaken activities, broadly grouped as external interactions (i.e. engaging research users or making research more open), management of research and academic development.

In making research more open, the proportion who undertake public engagement work has risen significantly to around half of CROS 2017 respondents. A similar proportion now undertakes collaborative research with industry or business. Over one-third of respondents reported that they engage with policymakers or end-users of research³⁰.

³⁰ New question introduced in 2013

FIGURE 13: Proportion of CROS respondents who report having undertaken a range of developmental activities



Although only a minority have undertaken specific intersectoral mobility in the form of a placement or internship, this proportion has doubled since 2009 to 11%.

Slightly rising proportions of respondents report that they have written grant or funding proposals, planned or managed projects or managed a budget.

The majority of CROS respondents now report that they undertake teaching or lecturing (60%) and supervise postgraduate or students' projects (also 60%). The proportion that collaborates in research with colleagues outside the UK has grown to nearly 70%, and 60% undertake interdisciplinary research.

These results confirm that many research staff are engaging in the wide range of activities that will provide them with developmental experiences and skills of use in future academic or other careers. Although these proportions have been rising gently, there remain significant proportions of research staff who would like to undertake these activities and have not yet been able to do so.

3.3.4. Summary

Overall, there has been modest progress towards the aims of the Concordat in relation to support for researchers and their career development, and in many areas there seems to be significant scope for further progress.

There has been a marked rise in the availability of various types of induction programme for newly appointed researchers and almost universal take-up where these are offered.

The research culture has to some extent evolved as the large majority of research staff feel encouraged to engage in personal and career development, and the overall amount of training/CPD that they undertake has been rising slightly.

There have been marked increases in the proportion of research staff undertaking training/CPD on particular themes relating to research and academic practice, including equality and diversity, ethical research conduct, public engagement and teaching. However, progress has been much more modest in relation to the personal or transferable skills training that was highlighted as important by Sir Gareth Roberts³¹, with only slight rises in those undertaking training/CPD in communications, collaboration and team working and, critically, career management.

There has also been modest progress in the form of higher proportions of research staff who undertake developmental activities, including external interactions, research management and preparation for academic practice.

Only a quarter of research leaders feel fully confident in supervising/managing staff or providing career advice to them and half say they would benefit from training or support in these areas, so there remains a need for institutions to find ways to develop these competencies further.

31. SET for Success (The Roberts Review), 2002 http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/d/robertsreview_introch1.pdf

3.4 RESEARCHERS' RESPONSIBILITIES

Principle 5: Individual researchers share the responsibility for and need to proactively engage in their own personal and career development, and lifelong learning

'Responsibility for career and professional development is recognised by the Concordat as shared between the institution and the individual:

Researchers should recognise that the primary responsibility for managing and pursuing their career is theirs.'

- Almost all research staff now report that they take ownership of their career development and an increasing proportion say they have a clear career plan
- The vast majority of research staff continue to aspire to an academic career and the proportion that expect to achieve this aspiration has if anything risen slightly, suggesting that many continue to harbour unrealistic expectations of their career trajectory

'Researchers should identify training needs and actively seek out opportunities for learning and development. They are encouraged to record their personal development planning and CPD activities.'

- An increasing proportion of researchers is aware of national initiatives relating to researcher development, including Athena SWAN, Vitae, the Vitae Researcher Development Framework and several of the concordats
- Despite some increases in the proportions who have undertaken training or CPD, there is substantial appetite for further developmental activity and support among both research staff and research leaders
- The proportion of research staff who claim to maintain a formal record of their CPD has risen modestly since 2013

'Researchers should recognise their responsibility to conduct and disseminate research in an honest and ethical manner.'

- Research leaders consistently believe that conducting research with the highest standards of integrity is the most important aspect of excellent research leadership
- The proportion of research staff who have undertaken training in ethical research conduct has doubled since 2009, although still only a third: more than a quarter would like to undertake training

3.4.1. Career management, aspirations and expectations

The Concordat is unambiguous in stating that researchers need to take responsibility for their development, but that institutions need to provide structures that encourage and enable them to take advantage of development opportunities. These are set in the context that researchers need to recognise that academic positions are limited within HE and not to have unrealistic expectations of securing one. Institutional cultures should support a broad-minded approach to researcher careers and promote the message that all career paths should be valued equally.

CROS results confirm that the vast majority of research staff (88%) recognise that they need to take ownership of their career development. The proportion reporting that they have a clear career development plan has risen modestly since 2009 and is now over half.

The reported career aspirations of research staff have been consistent in successive CROS surveys, with around 80% aspiring to an academic career (Figure 14). Similarly, their expectations of their long-term career trajectory have also remained very consistent, with around two-thirds expecting to pursue an academic career. In fact the proportion of CROS 2017 respondents expecting to achieve a long-term research and teaching role in HE was somewhat higher than in 2015.

The expectations of many research staff continue to be unrealistic, and a significant proportion who seek a long-term career in HE will not achieve this. This emphasises the importance for institutions to continue to provide research staff with access to information about a wide range of career opportunities, and reinforce this through appraisal/review and other development conversations, particularly with their managers.

More detailed analysis of career aspiration and expectation data reveals variances with different sub-groups of respondents. A higher proportion of UK respondents (38%) aspired to a research-only role compared with non-UK respondents (29%). In terms of expectations, respondents from outside the UK were somewhat more confident than their UK counterparts, with around nine in 10 non-UK respondents expecting to achieve their aspiration of an HE career, whereas this was the case for four in five UK respondents.

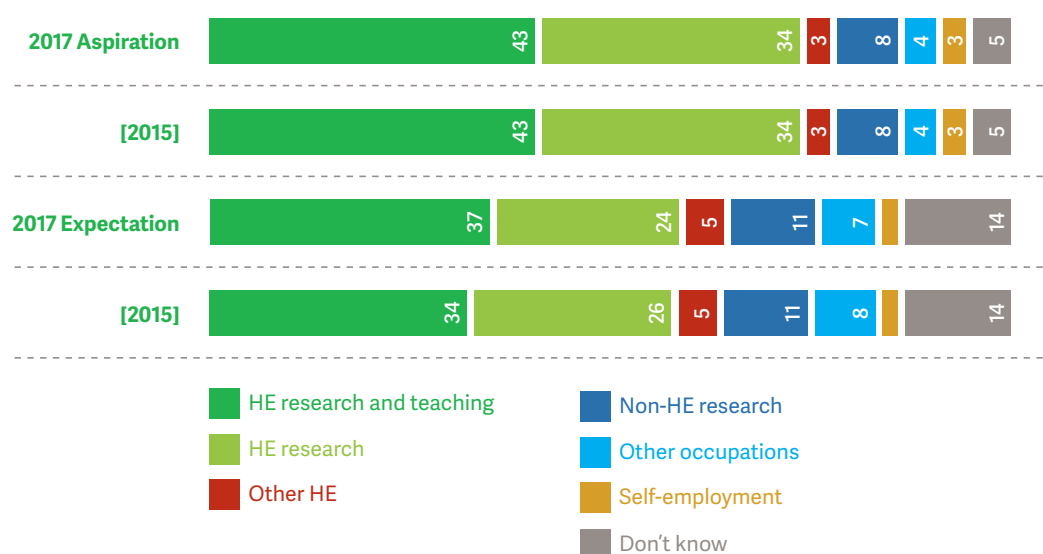
Overall, 60% or more of respondents in every REF Panel expected to achieve an academic career. However, much higher proportions of respondents in Panel D both aspired to (62%) and expected (61%) a combined research and teaching role, while this was lowest among Panel A respondents at 35% and 30%, respectively.

This trend was essentially reversed for HE research-only roles. The existence of these trends demonstrates that research staff are aware of the balance of current academic job opportunities across the REF Panels.

A roughly similar proportion of male and female respondents expected an academic career, but a higher proportion of males expected that this would be in a research and teaching role.

Higher proportions of respondents in institutions outside the Russell Group both aspired to and expected a research and teaching role in HE, although this is partly related to differences in the disciplinary profile.

FIGURE 14: CROS respondents' long-term career aspirations and expectations (percentages)



3.4.2. Awareness of researcher development initiatives and policies

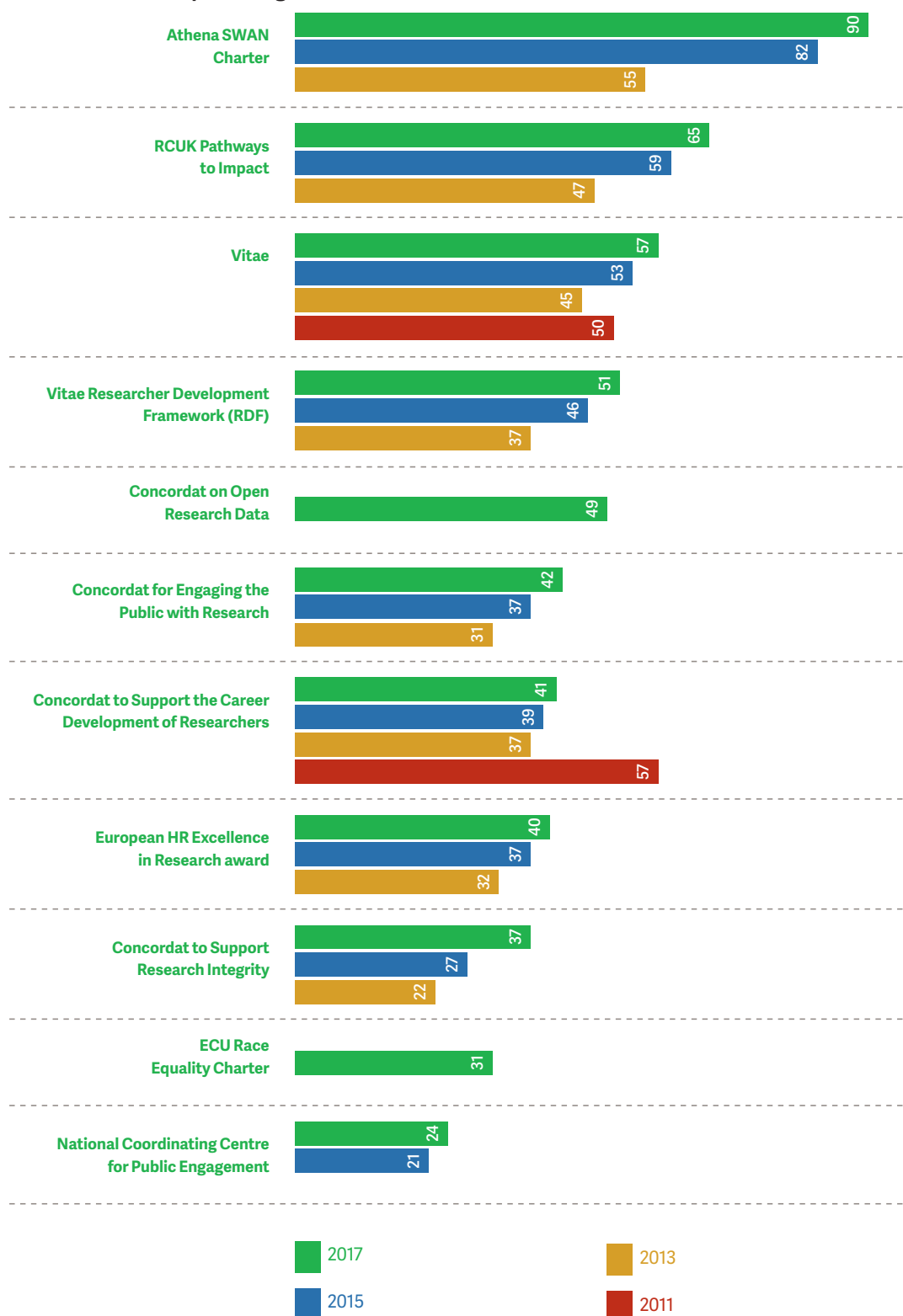
Figure 15 illustrates that rising proportions of research staff respondents are aware of national initiatives and policy instruments relating to the development of researchers and the research environment. With the exception of the Concordat itself, in all cases there are increases in the proportion of research staff that are aware of the initiative.

For the Concordat, the fall in awareness after 2011 could reflect the end of the concerted awareness-raising programme, since when its awareness trajectory has been parallel to most other initiatives.

Awareness of Athena SWAN has developed most rapidly and across different disciplines since its inception in the physical sciences³². The majority of CROS 2017 respondents were aware of the Vitae programme and half had heard of the Vitae Researcher Development Framework (RDF).

32. Exploring equality and diversity using REF2014 environment submissions, HEFCE, 2017 www.hefce.ac.uk/pubs/rereports/year/2017/edinref/

FIGURE 15: CROS respondents' awareness of a range of initiatives relating to researcher development and the UK HE research environment (percentages)



3.4.3. Appetite for professional development

The Concordat states that researchers should actively seek opportunities for learning and development and record their CPD activities. Previous sections of this report have noted the range of training/CPD (section 3.3.2) and developmental activities (section 3.3.3) undertaken by research staff, respectively. Table 3 shows the extent to which there is unfulfilled interest among CROS 2017 respondents for training or CPD activity (i.e. among those who have not already undertaken such training or activity).

Table 3 demonstrates that there are substantial proportions of research staff who, in principle, would be responsive to training or other CPD in areas such as career management (57%), knowledge exchange (54%), public engagement (49%), research impact (58%) and other CPD topics. The apparently widespread appetite for training compared with the relatively few who have undertaken training, such as in career management, may suggest some mismatch between what is being offered and perhaps what researchers feel they or their institutions are prioritising.

TABLE 3: CROS 2017 respondents' participation and interest in training/CPD

	Undertaken	Not undertaken, but would like to	Not interested
Research impact	26%	58%	17%
Career management	19%	57%	25%
Knowledge exchange	18%	54%	28%
Public engagement	25%	49%	26%
Supervision of students	36%	46%	18%
Communication	31%	45%	24%
Leadership/management	22%	43%	24%
Collaboration/team working	24%	43%	34%
Teaching or lecturing	37%	42%	21%
Research skills	44%	39%	18%
Ethical research conduct	35%	28%	37%
Equality and diversity	46%	20%	34%

The proportion of research staff who claim to maintain a formal record of their CPD was 60% in CROS 2017, which constitutes a modest rise from 55% in 2013. However, there is significant scope for interpretation by respondents of what constitutes a “formal record” of their professional development. If many are encouraged to list their CPD activities in their appraisal documentation, for example, then a rise in the extent of appraisal could account for this.

3.4.4. Research integrity

Undertaking research and disseminating its results in an honest and ethical manner is highlighted as a key priority in the Concordat and is currently receiving considerable academic and media attention³³. Responsible research and innovation (RRI)³⁴ is a cross-cutting theme within Horizon 2020 and both the UK³⁵ and Europe³⁶ have issued policy reference documents on research integrity. Conducting research with the highest standards of integrity is ranked by established research leaders as uppermost within the most important behaviours that constitute excellent research leadership, since 2013 (PIRLS). Over 97% of PIRLS 2017 respondents believed that good research conduct, including ethical research and attention to intellectual property issues, was very important or important in them being a successful research leader, and 80% of them felt that their contribution in this area was recognised and valued by their institution.

Among CROS respondents, the proportion who report that they have undertaken training or CPD in ethical research conduct has doubled since 2009 to 35%, although there is scope for further progress. A further 28% in 2017 who had not undertaken such training stated that they would like to do so.

Figure 16 summarises the proportions that have undertaken training in ethical research conduct, and that have interest in doing so, by REF Panel and gender. Female respondents are more likely to have undertaken training and more of them want to do training than males. Panels A and C respondents are most likely to have undertaken training and would like to do more, while Panel B respondents, irrespective of gender, are less likely to have undertaken training and appear to be the least enthusiastic about doing so. It is likely that these results are affected by research integrity still being linked primarily to the ethics of involving humans in research.

As expected, the proportion of respondents that has undergone training rises with greater age or experience as a researcher; however, the proportion who have not done so but would like to similarly increases. Higher proportions of respondents in Russell Group institutions have undertaken research integrity training than of those in other institutions.

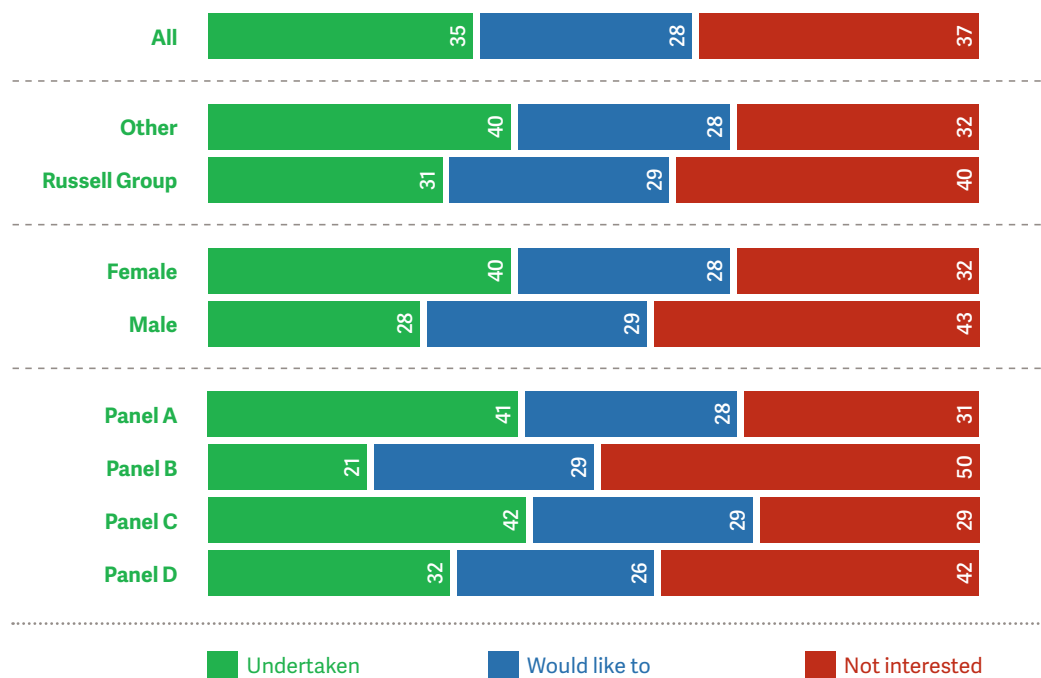
33. Fostering Integrity in Research, Science 2017 www.sciencemag.org/news/2017/04/us-report-calls-research-integrity-board

34. Responsible research and innovation <https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation>

35. Code of Practice for Research, UKRIO <http://ukrio.org/publications/code-of-practice-for-research/>

36. European Code of Conduct for Research Integrity, ALLEA, 2017 www.allea.org/wp-content/uploads/2017/05/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf

FIGURE 16: Percentage of CROS 2017 respondents reporting that they have undertaken or are interested in training/CPD on ethical research conduct, for different sub-groups



3.4.5. Summary

Overall, the extent of progress in implementation of the Concordat's aspirations in relation to researchers' responsibilities has been less substantial than for some other principles. Responsibility for enhancements to researcher career and professional development is shared between institutions and individuals, so deeper culture change is needed for substantive progress.

Although research staff do overwhelmingly report that they take ownership of their career development, many continue to harbour unrealistic expectations of achieving an academic career.

There is evidence for increases in certain training and CPD activity, particularly on themes relating to academic practice (including ethical research) and exploitation of research. More than half report that they have not undertaken training in areas such as research impact, career management and knowledge exchange, despite wishing to do so.

3.5 DIVERSITY AND EQUALITY

Principle 6: Diversity and equality must be promoted in all aspects of the recruitment and career management of researchers

'Employers should aim for a representative balance of gender, disability, ethnicity and age at all levels of staff.'

- The demographic profile of CROS respondents is mostly consistent with the HESA Staff Record, which includes under-representation of certain groups; however, PIRLS indicates an increasing proportion of female research leaders

'All members of the UK research community actively address the disincentives and indirect obstacles to retention and progression in research careers that may disproportionately impact on some groups more than others.'

- There has also been a sharp rise in the proportion who has received training on E&D
- Consistent high proportions of researchers believe their institution is committed to E&D, but there is evidence of increasingly cautious attitudes that could indicate greater awareness of equality issues
- Persistently, substantial proportions of certain sub-groups perceive a lack of fairness of treatment in relation to career progression and other issues

'Working conditions should allow both female and male researchers to combine family and work, children and career.'

- CROS and PIRLS 2017 provide positive new data on perceptions of fairness of treatment in relation to parental leave and caring responsibilities
- Most researchers do feel that their institution promotes mental health and wellbeing at work; however, large proportions of research leaders, especially females, feel they have an unsatisfactory work-life balance

- A third of research staff and two-fifths of research leaders disagree that their institution promotes wellbeing at work

'Employers should also consider participation in schemes aimed at promoting diversity in research careers.'

- Institutional and departmental participation in Athena SWAN has become very widespread, and broadened across different subject areas, and most researchers are now aware of it

3.5.1. Profile of research staff and research leaders

Information on the profile of respondents to CROS and PIRLS 2017 is provided in Appendix 1. The profile of CROS respondents has shown great consistency in successive surveys, despite some change in the profile of the institutions taking part. 55% of CROS 2017 respondents were female – higher than the HESA Staff Record data for academic staff employed on a 'research-only' contract. In contrast, the 8% proportion of UK BME respondents is lower than the 11% recorded by HESA. The proportion reporting disability is broadly similar at around 3%. Together, these data suggest that those of ethnic minority background are under-represented in the research staff population. Whether those with a disability are under-represented will be highly dependent on the extent of disclosure by research staff.

There is no readily identifiable group within the HESA Staff Record that comprises research leaders, so PIRLS data may be the most valuable profile of principal investigators and research leaders that is available. The profile of respondents to PIRLS has largely remained consistent in terms of personal characteristics with the exception of gender. Successive PIRLS surveys record steadily rising proportions who are female, from under 33% in 2011 to 38% in 2017.

3.5.2 Perceptions of equality

Commitment to equality and diversity

The Concordat demands equality of treatment and opportunity for researchers, irrespective of background. The majority of researchers believe that their institution is committed to equality and diversity (86% CROS 2017 and 85% PIRLS 2017). These proportions have been remarkably consistent since 2009 for CROS and since the launch of PIRLS in 2011.

Certain sub-groups in both CROS and PIRLS harbour less positive perceptions, with somewhat larger variances in PIRLS. Overall, 9% of PIRLS respondents disagree that their institution is committed to E&D, which rises to 15% among female respondents and 14% among UK respondents of ethnic minority background.

Fair treatment

Over 80% of respondents to both CROS and PIRLS 2017³⁷ believed that staff in their institution are treated fairly irrespective of personal ('protected') characteristics such as gender, age or ethnicity. In 2017 new question options were added in relation to parental/adoption leave and caring responsibilities.

Across most characteristics, the proportion in strong agreement that there is fair treatment fell somewhat compared with 2015, while the proportion saying that they did not know increased: the proportion that disagreed tended not to change significantly. This pattern appears to indicate more cautious attitudes, which could result from greater awareness of the challenges relating to equality and diversity.

The largest proportions of PIRLS respondents disagreeing that there is fairness of treatment were in relation to gender (18%), caring responsibilities (12%, new question), age (11%) and adoption/parental leave (10%, new question). Slightly fewer respondents disagreed in relation to ethnic background and nationality (7%), and disability (6%).

Overall, 17% of PIRLS 2017 respondents felt that there was not fair treatment in relation to gender, rising to 26% among female respondents (Figure 17a). These perceptions of unfairness by female respondents differed with discipline, from 23% in Panels A and B, to 30% in Panel C and 33% in Panel D.

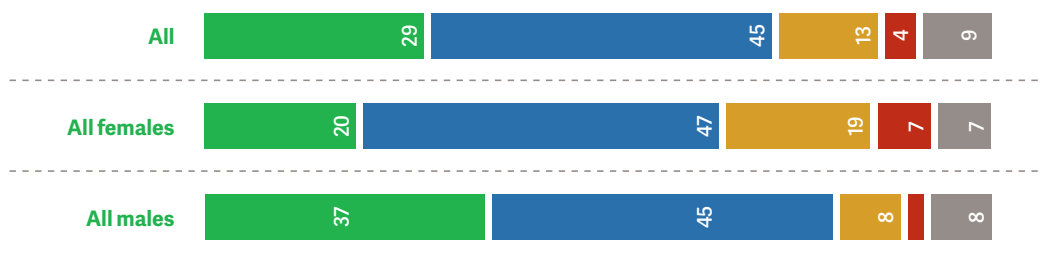
The pattern for fairness in relation to caring responsibilities was very similar, although a higher proportion said they did not know (24%) (Figure 17b). Perceptions of fairness in relation to age did not vary systematically with the age of the respondent.

Unfairness in relation to ethnicity was perceived by 7% overall but this rises to 18% for UK respondents of ethnic minority (BME) background (Figure 17c). Among UK female respondents of BME background, it was higher still (27%), although this is a small sample that may not be statistically as robust.

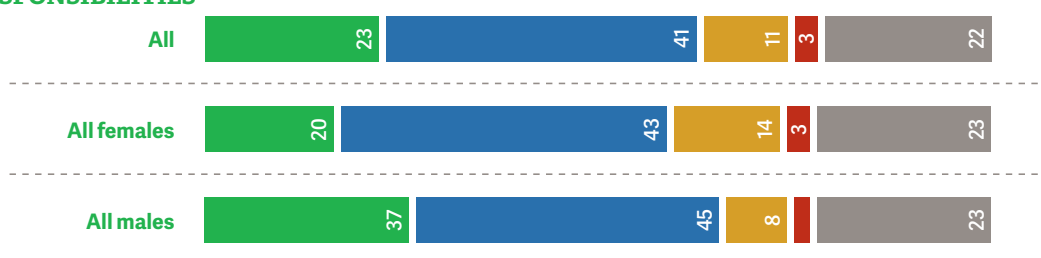
37. Excluding those who did not know

FIGURE 17: PIRLS 2017 respondents' extent of agreement with the statement that their institution treats all staff fairly regardless of (a) gender, (b) caring responsibilities or (c) ethnicity, shown as percentages

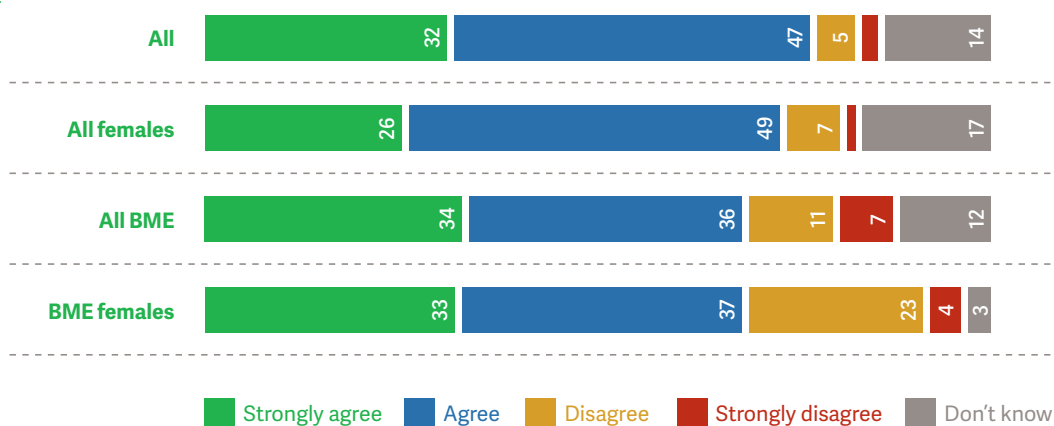
GENDER



CARING RESPONSIBILITIES



ETHNICITY



Intersectionality

Table 4 summarises the proportions of respondents who did not feel their institution treats all staff fairly, by gender and ethnicity for UK respondents. The pattern of variances closely resembles those observed in PIRLS 2015 and 2013 results.

Almost twice the proportion of white female PIRLS respondents disagree that staff are treated equally in recruitment and selection, career progression and promotion, and reward, as white males. This increases further for BME females, albeit a small population. For institutions to make more progress in the academic gender balance there is a need to tackle these perceptions of unfairness.

Significantly, higher proportions of UK BME male respondents perceived unfairness of treatment than among white males across all issues, but especially in relation to recruitment and selection, career progression and promotion, reward and participation in decision-making. These are similar to, or higher than, the levels reported by female respondents.

With the exception of white males, around one in six in all groups perceives inequality in relation to day-to-day treatment at work.

TABLE 4: Proportions of PIRLS 2017 respondents disagreeing or strongly disagreeing that their institution treats all staff fairly, irrespective of personal characteristics, in relation to a variety of issues, by gender and ethnicity

PIRLS 2017	All	White males	BME males	White females	BME females
Recruitment and selection	9%	6%	11%	11%	21%
Career progression/promotion	25%	16%	29%	31%	35%
Reward	26%	18%	28%	34%	35%
Day-to-day treatment	15%	9%	14%	18%	17%
Access to training/CPD	6%	6%	9%	4%	10%
Participation in decision-making	28%	21%	37%	31%	33%

TABLE 5: Proportions of CROS 2017 respondents disagreeing or strongly disagreeing that their institution treats all staff fairly, irrespective of personal characteristics, in relation to a variety of issues, by gender and ethnicity

CROS 2017	All	White males	BME males	White females	BME females
Recruitment and selection	16%	14%	15%	14%	22%
Career progression/promotion	25%	21%	24%	27%	35%
Reward	22%	18%	16%	23%	23%
Day-to-day treatment	13%	10%	14%	14%	18%
Access to training/CPD	6%	6%	7%	7%	12%
Participation in decision-making	23%	19%	24%	22%	31%

Similar trends were observed in responses from CROS 2017 respondents (Table 5), but CROS respondents tended to be more concerned about unfairness in relation to recruitment and selection and less about reward.

Looking at disciplinary differences, PIRLS respondents in Panels C and D report larger and more consistent perceived unfairness, across all the issues, than respondents in Panels A and B. These disciplinary differences also exist in CROS, but to a lesser extent. When analysed by gender and REF Panel together, higher proportions of females than males perceived unfairness in all the Panels, for every issue considered. As many as 40% of female respondents in Panels C and D perceived unfairness in relation to career progression, reward and participation in decision-making, compared with around 30% of their counterparts in Panels A and B.

3.5.3. Awareness and training in equality and diversity

Some of the changes in the CROS and PIRLS results between 2015 and 2017 could indicate that researchers are increasingly aware of the complexity of E&D issues and less likely to assume fair treatment. This could reflect the recent policy focus on E&D in the HE research environment and national initiatives including the Athena SWAN Charter and Every Researcher Counts³⁸. Almost 90% of CROS 2017 respondents were aware of Athena SWAN, well above the 55% recorded in 2013. Levels of awareness have risen markedly in all the sub-groups analysed including all four REF Panels. To date, a lower but substantial proportion (just over 30%) of CROS 2017 respondents have heard of the Equality Challenge Unit's Race Equality Charter³⁹.

38. Every Researcher Counts www.vitae.ac.uk/everyresearchercounts

39. ECU Race Equality Charter www.ecu.ac.uk/equality-charters/race-equality-charter/

To set this in context, at the end of 2016 a total of 96 institutions had achieved one or more Athena SWAN awards at either institutional or departmental level. Analysis of these awards by department shows that they were cited in research environment submissions to REF2014 across all Panels of Assessment although not by all departments that had them⁴⁰.

This report has noted the significant progress made in terms of the proportion of CROS 2017 respondents who have undertaken training/CPD on E&D, which has risen to 46% from 27% in CROS 2013.

3.5.4. Perceptions of health and wellbeing

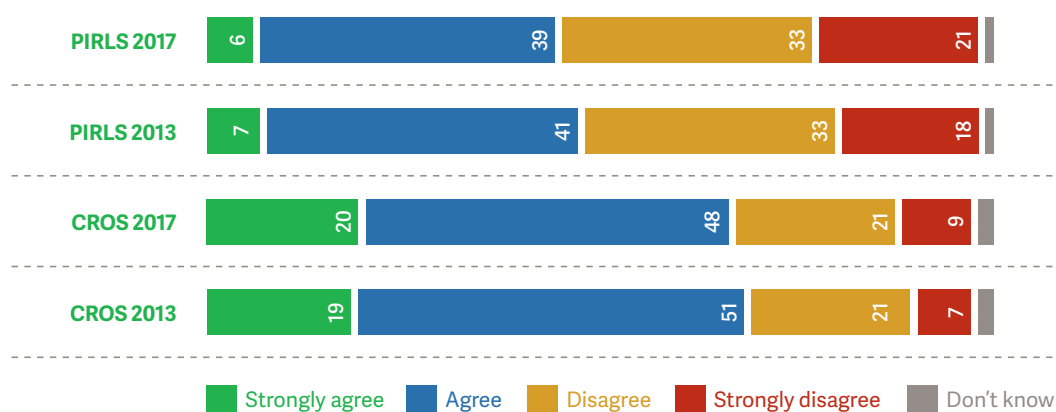
The Concordat states that working conditions should allow both female and male researchers to balance their commitments to family, work and career.

The majority of CROS 2017 respondents (67%) were satisfied with their work-life balance, but just under one-third were not. Although similar to CROS 2015 results, this is a slightly less positive picture than in CROS 2013 results (Figure 18).

The perceptions of research leaders were significantly less positive, with 54% feeling that they did not have satisfactory work-life balance, slightly higher than in 2013. This was higher among female research leaders, of whom 56% felt they had unsatisfactory work-life balance, and higher still among female research leaders aged 41-55.

There was also a slight difference in perceptions with REF Panel, with a higher proportion of research leaders in Panel D reporting their work-life balance unsatisfactory than those in Panels A and B.

FIGURE 18: Respondents extent of agreement that they are satisfied with their work-life balance (percentages)



40. Exploring equality and diversity in REF2014 environment statements, HEFCE, 2017
www.hefce.ac.uk/pubs/rereports/year/2017/edinref/

On the other hand, three-quarters of PIRLS 2017 respondents felt that they had a good level of job satisfaction, although this has fallen slightly since 2013.

CROS and PIRLS introduced a new question in 2017 seeking respondents' perceptions as to whether they thought their institution promotes better mental health and wellbeing at work. Just under half of PIRLS respondents agreed (11% strongly agreed, and 37% agreed) that this was the case, while 39% disagreed. Among CROS respondents the proportion that disagreed was 32%, with a greater proportion uncertain.

3.5.5. Summary

The Concordat promotes equality of opportunity for all researchers through recruitment processes and employment conditions.

Very high proportions of research staff and research leaders believe that their institution is committed to equality and diversity. There is emerging evidence that E&D is being promoted, with more research staff being aware of the Athena SWAN Charter and participating in E&D training.

Both CROS and PIRLS 2017 reveal increased uncertainty from respondents overall as to whether there is fair treatment and equality of opportunity for different sub-groups. Female and ethnic minority respondents to CROS and, especially, PIRLS, are more likely to disagree that their institution treats all staff fairly for a variety of employment issues. UK female BME respondents are even more likely to disagree. Satisfaction with work-life balance is high for research staff, but significantly lower for research leaders and falls further for female research leaders in the mid-age range.

Given the otherwise consistent demographics of respondents to all PIRLS surveys, there is some evidence for an increasing proportion of females in research leadership roles. To continue to improve this gender balance, institutions need to consider how they can tackle these perceptions of unfairness by minority groups.

3.6 IMPLEMENTATION AND REVIEW

Principle 7: The sector and all stakeholders will undertake regular and collective review of their progress in strengthening the attractiveness and sustainability of research careers in the UK.

'The aim is to promote implementation through a collective commitment to reviewing its progress. Concordat signatories agree that there should be appropriate use of survey and monitoring tools such as CROS.'

- There has been substantial progress in terms of the number of institutions that participate in CROS, rising from 51 in 2009 to around 70 since 2013. 97 institutions have taken part since 2009. Since 2015, 50 or more institutions have participated in each PIRLS comprising a cumulative total of 78 institutions

'Signatories recognise the value of innovation in practices and of sharing practice between institutions.'

- Institutional commitment to the Concordat is enshrined in the process to achieve the European HR Excellence in Research Award, which 100 UK institutions have gained to date, and within which their commitments to implement the Concordat principles are made public

3.6.1. Participation in CROS and PIRLS

The Concordat makes clear that understanding the extent to which its implementation has been successful requires systematic and collective review, using the most robust measures and data available but without placing excessive burdens upon institutions to collect additional data. CROS has been the principal collective survey tool with which to collect data in relation to research staff, while PIRLS provides valuable insights from research leaders about the management of researchers.

Table 6 presents a summary of institutional participation in CROS and PIRLS since 2009. The number of institutions participating increased markedly between 2011 and 2013 (when many will have used its data for their REF2014 submissions) and peaked in 2015 but has remained at close to this level. Altogether 97 institutions have participated at least once in CROS since 2009 and 78 in PIRLS. Detailed information regarding 2017 participation is available in Appendix 1.

Participation in PIRLS has also dipped slightly after reaching a peak of 55 institutions in 2015, but provides a substantial evidence base about a key group of researchers who are not readily identified in administrative datasets.

Response rates have remained relatively healthy for surveys of this type, in the face of potential 'survey fatigue' and provide a representative view of the respective populations. The aggregate results therefore provide robust measures in relation to research staff and research leaders, respectively.

Given the varied institutional environments, infrastructures and practices to support researchers, responses from a particular institutional cohort may differ markedly from the aggregate responses. Institutions are encouraged to use their own data to assess their progress in embedding the Concordat principles, comparing their results with the UK aggregate results, benchmarking against other groups of institutions, and to compare them with their previous results.

TABLE 6: Participation in CROS and PIRLS

CROS	2017	2015	2013	2011	2009
No. of responses	7,657	8,964	8,216	5,585	5,908
Population sampled	31,650	32,280	32,000	22,250	28,000
Response rate	24%	28%	26%	25%	21%
HEIs participating	67	72	68	46	51

PIRLS	2017	2015	2013	2011
No. of responses	3,970	4,316	4,837	2,588
Population sampled	18,600	17,300	17,500	14,000
Response rate	21%	25%	28%	18%
HEIs participating	50	55	49	33

3.6.2. European HR Excellence in Research Awards

The Concordat, and associated CROS results, also provides the mechanism through which UK institutions are able to demonstrate alignment with the principles of the European Charter and Code. Currently, 100 UK organisations hold the HR Excellence in Research Award, with the first UK institutions gaining the Award in 2010. UK institutions represent a substantial proportion of the 373 award-holders across Europe, and more than double the number in any other country.

As part of the Award process, institutions commit to making public implementation plans and progress against them, updating these every two years. In order to retain the Award, institutional progress reports and action plans are reviewed by a UK Panel⁴¹ every two years and by external peer reviewer teams⁴² every four years. In assessing institutional progress in implementing the Concordat principles, the Panel and peer reviewer teams are looking for strategic engagement by senior management and relevant departments, and how researchers' views are taken into account.

The visibility of institutional action plans and reports demonstrates to their researchers their commitment to the Concordat's principles and also provides an opportunity for institutions to share learning about progress and effective practice.

3.6.3. Independent review of the Concordat

The Concordat Strategy Group (CSG) has commissioned an independent review of the Concordat to Support the Career Development of Researchers during 2017-18. The purpose is to:

- consider the extent to which the Concordat has achieved its aims, and whether it remains fit for purpose or requires updating
- provide advice and priorities to the CSG on the required policy interventions relating to researcher career development to ensure an effective UK research system

This fundamental review will provide further evidence of progress in implementing the Concordat principles in UK institutions and how research funders can support this process through policy interventions and their terms and conditions of funding.

3.6.4. Summary

Institutions' commitment to making progress in implementing the principles of the Concordat is demonstrated by continuing high participation levels in CROS and PIRLS and also growth in the number of institutions achieving and maintaining the European HR Excellence in Research Award. The independent review of the Concordat will provide a holistic overview of progress and reflect on the changing nature of research, including the drive for more innovation, openness in research and greater levels of research integrity. This will therefore position the Concordat as a powerful strategic instrument to assure the future development of research talent and secure the UK research base.

41. HR Excellence in Research Award UK Panel; <https://www.vitae.ac.uk/policy/hr-excellence-in-research/applying-for-the-hr-excellence-in-research-award-using-the-uk-process/applying-for-the-hr-excellence-in-research-award-through-the-uk-process>

42. HR Excellence in Research Award Peer Reviewer Pool: <https://www.vitae.ac.uk/policy/hr-excellence-in-research/hr-excellence-in-research-award-four-year-external-review-process-1/uk-hr-excellence-in-research-award-peer-reviewers>

4 | CONCLUSIONS AND RECOMMENDATIONS

CROS and PIRLS aggregate results provide representative views across the UK HE sector of the attitudes and activities of research staff and research leaders, respectively. As such they provide robust and illuminating insights into the research environment in relation to the employment and professional and career development of researchers, and the sector's progress in achieving the ambitions laid out in the Concordat to Support the Career Development of Researchers.

It is clear that the Concordat, and earlier Roberts funding for researcher development, has had a significant impact on UK institutions' policies and practices relating to the career development of researchers. Comparison of the CROS 2017 aggregate results with those from CROS in 2015, 2013, 2011 and 2009 demonstrates that progress has been made by the sector in all key areas of the Concordat. The extent of that progress varies across the range of principles.

This picture reflects the progress made by institutions collectively, for which institutions should be commended, but results within individual institutions are likely to be more varied.

RECRUITMENT AND SELECTION

Overall the evidence from CROS shows that the recruitment of research staff by UK institutions is predominantly open and transparent, and the provision of information for applicants has improved markedly. Most research leaders report confidence in their recruitment of research group members.

However, despite this progress, the research funding mechanism still strongly influences the employment of research staff, with the majority still employed on fixed-term contracts. One-fifth of research staff are employed through very short-term or repeated contracts with the same institution, implying that these contracts are being used for more than 'bridging' purposes.

Recommendations

1. Institutions should continue to use Open, Transparent and Merit-based Recruitment of Researchers (OTM-R) procedures to sustain their good practices in the recruitment and selection of researchers
2. Institutions should redouble their efforts to review and reduce their use of fixed-term contracts, particularly the use of short-term contracts, using them only where fair and appropriate

RECOGNITION AND VALUE

There has been substantial progress in increasing the participation by research staff in appraisal or staff review, and appraisals continue in the main to be useful for a range of topics. Research leaders are increasingly confident in their ability to undertake appraisals.

Research leaders consistently think nurturing the career development of their researchers is an important aspect of research leadership, but many do not feel recognised or valued by their institution for supervising or managing staff or providing career development advice to them. Most research staff are playing an ever-widening role within their institutions, including many contributions to management, teaching and external engagement. While there is some modest sign that some of these contributions are being recognised by institutions, there is considerable further scope for institutions to enhance this and reward these contributions that are helping to develop research staff experience and skills.

Consistent if modest progress has been made in ensuring that a large majority of researchers feel integrated within their departmental and institutional communities.

Recommendations

3. Institutions should consider how they can recognise more fully the wide range of contributions made by researchers in areas related to or outside their research activities
4. Institutions and the sector should also consider how to support, recognise and reward research leaders for their role in managing and supporting researchers
5. Institutions should identify any local sub-populations of researchers who do not feel integrated into their departmental or institutional communities, such as those who have had multiple short-term contracts, and help them to explore career development strategies

SUPPORT AND CAREER DEVELOPMENT

Overall, there has been modest progress towards the aims of the Concordat in relation to support for researchers and their career development, and in many areas there seems significant scope for further progress.

There has been a marked rise in the availability of various types of induction programme for newly appointed researchers and almost universal take-up where these are offered.

The research culture has to some extent evolved as the large majority of research staff feel encouraged to engage in personal and career development, and the overall amount of training/CPD that they undertake has been rising slightly.

Among that training and development there have been marked increases in the proportion undertaking training/CPD on certain themes relating to research and academic practice, including equality and diversity, ethical research conduct, public engagement and teaching.

However, progress has been much more modest in relation to the personal or transferable skills training highlighted as important by Sir Gareth Roberts, with only slight rises in those undertaking training/CPD in communications, collaboration and team working and, critically, career management.

There has also been modest progress in the form of higher proportions of research staff who undertake developmental activities, including external interactions, research management and preparation for academic practice.

Only a quarter of research leaders feel fully confident in supervising/managing staff or providing career advice to them and half say they would benefit from training or support in these areas, so there remains a need for institutions to find ways to develop these competencies further.

Recommendations

6. Institutions should consider how to provide more support to research leaders, in order to increase their confidence in managing researchers and supporting their researchers' career development including providing objective career advice
7. Institutions should encourage more researchers to seek and undertake training or CPD activity in career management and professional development that will enable them to appreciate the value that employers attach to competencies and to be successful in a range of careers

RESEARCHERS' RESPONSIBILITIES

Overall, the extent of progress in implementation of the Concordat's aspirations in relation to researchers' responsibilities has been less substantial than for some other principles. Responsibility for enhancements to researcher career and professional development is shared between institutions and individuals, so deeper culture change is needed for substantive progress.

Although research staff do overwhelmingly report that they take ownership of their career development, many continue to harbour unrealistic expectations of achieving an academic career. There is evidence for increases in certain training and CPD activity, particularly on themes relating to academic practice (including ethical research) and exploitation of research. More than half report that they have not undertaken training in areas such as research impact, career management and knowledge exchange, despite wishing to do so.

Recommendations

8. Institutions should explore how to enable research staff and research leaders who express an interest in further development activities to participate in training or other CPD opportunities
9. Institutions should continue to encourage research staff to engage more actively in career development planning with particular focus on managing career expectations
10. Institutions should ensure that researchers are aware of the wide range of possible career options and provide advice about career progression both within and beyond HE, including the positive experiences and stories of researchers who have moved to careers outside HE
11. Institutions should consider requiring all researchers across all disciplines to participate in research integrity training and development

DIVERSITY AND EQUALITY

Very high proportions of research staff and research leaders believe that their institution is committed to equality and diversity. There is emerging evidence that E&D is being promoted, with more research staff being aware of the Athena SWAN Charter and participating in E&D training.

Both CROS and PIRLS 2017 reveal increased uncertainty from respondents overall as to whether there is fair treatment and equality of opportunity for different sub-groups. Female and ethnic minority respondents to CROS and, especially, PIRLS, are more likely to disagree that their institution treats all staff fairly for a variety of employment issues. UK female BME respondents are even more likely to disagree. Satisfaction with work-life balance is high for research staff, but significantly lower for research leaders and falls further for female research leaders in the mid-age range.

Given the otherwise consistent demographics of respondents to all PIRLS surveys, there is some evidence for an increasing proportion of females in research leadership roles. To continue to improve this gender balance, institutions need to consider how they can tackle these perceptions of unfairness by minority groups.

Recommendations

12. Institutions should undertake detailed scrutiny of their CROS and PIRLS data and trends, including open-ended responses, to identify perceptions of discrimination and unjustified inequalities between different groups of research staff and with other staff
13. Institutions should ensure that their improved E&D policies are consistently implemented and that they offer mechanisms to help people identify and rethink any research practices and processes that may lead to discrimination

IMPLEMENTATION AND REVIEW

Institutions' commitment to making progress in implementing the principles of the Concordat is demonstrated by continuing high participation levels in CROS and PIRLS and also growth in the number of institutions achieving and maintaining the European HR Excellence in Research Award. The independent review of the Concordat will provide a holistic overview of progress and reflect on the changing nature of research, including the drive for more innovation, openness in research and greater levels of research integrity. This will therefore position the Concordat as a powerful strategic instrument to assure the future development of research talent and secure the UK research base.

Recommendations

14. Institutions are encouraged to continue to participate in CROS and PIRLS and utilise the data obtained to evaluate and enhance their career development provision for research staff, and evidence progress for other initiatives, such as the European HR Excellence in Research Award and the independent review of the Concordat
15. Institutions are invited to support the CROS/PIRLS Steering Group in ensuring CROS and PIRLS remain fit for purpose and reflect the outcomes of the independent review of the Concordat
16. The Concordat Strategy Group, and particularly research funders, should consider how they can collectively and individually drive progress in achieving the Concordat principles through policy interventions and terms and conditions of funding

A1.1 METHODOLOGY

CROS and PIRLS 2017 each comprised a series of parallel surveys conducted by individual institutions, between March and May 2017. These were hosted on the BOS (Bristol Online Survey) platform⁴³, which provides a secure environment for the design, implementation and analysis of online surveys. Individual institutions' surveys contained a core question set to which they could add a small number of bespoke questions for their own participants. Linkage of all survey responses through the BOS tool enabled collation of the responses to the core questions on a confidential basis, protecting the anonymity of individual respondents and their institutions, and thereby offers the opportunity for aggregate analysis.

The CROS/PIRLS Steering Group undertakes a review of the CROS and PIRLS question-sets every two years, inviting feedback from participating and non-participating institutions. The aim is to ensure the survey remains relevant, while maintaining the longitudinal comparison of the questions where possible. Since 2009 the structure of the CROS question-set has closely reflected the principles of the Concordat. PIRLS was introduced in 2011 but significant changes to its question-set were implemented in 2013. Very few changes were made to the existing 2015 core question-sets for either survey, although a number of additional questions and options were added in relation to collection of data about respondent personal characteristics and diversity. All core questions were optional, except where they contained survey routing options. The core question-sets can be seen in Appendices 2 and 3.

The primary scope of this report is to present the UK aggregate CROS and PIRLS 2017 results, together with comparisons with the aggregate results from 2015 and selected comparisons over a longer period, particularly where these provide measures of progress in terms of implementation of the Concordat at the UK level. In addition, the report highlights CROS and PIRLS respondents' perspectives and activities where they relate to certain key initiatives in the sector, such as public engagement, research impact and equality and diversity.

Given the varied environments, infrastructure and practice to support researchers within individual institutions, responses from a particular institutional cohort may differ markedly from the aggregate responses reported here. Institutions are encouraged to use their own data to assess their progress in embedding the Concordat principles, comparing their results with the UK aggregate results reported here, benchmarking them against other groups of institutions through the BOS tool, and comparing them with their previous CROS or PIRLS results.

A1.2 PARTICIPATION AND RESPONSE RATES

CROS 2017

A total of 67 UK HE institutions participated in CROS 2017. They comprised 14 members of the Russell Group, 23 considered to be 'other pre-1992' institutions and 30 'post-1992' institutions (including 12 members of the University Alliance). Participating institutions were located in all four UK nations: 50 in England, nine in Scotland, six in Wales and two in Northern Ireland.

Individual institutions were responsible for identifying their potential respondent populations and issuing survey invitations to them. On this basis, the total target population in the participating institutions was reported to be 31,650.

⁴³. BOS www.onlinesurveys.ac.uk/

This equates to roughly 65% of the number of research-only academic staff in UK HE institutions as reported in the HESA Staff Record⁴⁴.

In total, 7,657 complete, non-duplicate responses were obtained and these comprised the aggregate dataset analysed for this report. They represent an overall response rate of around 24%, based on institutions' estimates of their target populations (Table A1.1). This is a little lower than the 28% response rate achieved in CROS 2015 but is still considered healthy for a survey of this type.

Of the 67 institutions participating in 2017, 58 had also participated in 2015 with some others that had participated in 2011 and/or 2013 but not 2015. Broadly, therefore, CROS 2017 will have targeted many researchers who could have responded in 2015, plus researchers employed since 2015 and those in the nine institutions that did not take part in 2015. Researchers in institutions that are members of the Russell Group (which is characterised by research-intensive institutions) accounted for 56% of the responses. Since 2009, 97 institutions have participated in at least one CROS survey.

TABLE A1.1: Institutional participation and response rates for CROS 2017, compared with previous surveys

CROS	2017	2015	2013	2011	2009
No. of responses	7,657	8,964	8,216	5,585	5,908
Population sampled	31,650	32,280	32,000	22,250	28,000
Response rate	24%	28%	26%	25%	21%
HEIs participating	67	72	68	46	51
Russell Group (% of responses)	14 (56%)	18 (66%)	21 (63%)	13 (66%)	16 (71%)

44. HESA (2017), Resources of Higher Education Institutions 2015/16; 'research only' staff www.hesa.ac.uk

PIRLS 2017

Fifty UK HE institutions participated in PIRLS 2017, including seven Russell Group member institutions, with participation in all four parts of the UK. Based on institutions' estimates of their potential respondent populations, the total target population in the participating institutions was reported to be 18,600.

For PIRLS, 3,970 complete, non-duplicate responses were obtained from respondents in the 50 institutions, representing an overall response rate of around 21% (Table A1.2).

As for CROS, this is a little lower than the response rate achieved in 2015.

Research leaders in institutions that are members of the Russell Group accounted for 30% of the responses. Of the 50 institutions participating in PIRLS 2017, 40 had also participated in 2015. A cumulative total of 78 institutions has taken part since its launch in 2011.

TABLE A1.2: Institutional participation and response rates for PIRLS 2017, compared with previous surveys

PIRLS	2017	2015	2013	2011
No. of responses	3,970	4,316	4,837	2,588
Population sampled	18,600	17,300	17,500	14,000
Response rate	21%	25%	28%	18%
HEIs participating	50	55	49	33
Russell Group (% of responses)	7 (30%)	8 (32%)	14 (47%)	8 (51%)

A1.3 RESPONDENT PROFILES AND CHARACTERISTICS

A1.3.1. Demographic profiles

The profiles of the CROS and PIRLS 2017 respondent samples were similar to those achieved in CROS and PIRLS 2015, respectively, in terms of age, disability, nationality and ethnic background (Table A1.3). A consistent trend in PIRLS, however, has been a rising proportion of respondents who are female, which has risen from under 33% in 2011 to 38% in 2017.

Comparison of the profiles of the two survey respondent groups shows, unsurprisingly, that those responding to CROS were younger, with just under a quarter aged 30 or under, and 18% aged over 45 years, while among PIRLS respondents 60% were aged over 45 years.

In terms of gender, 56% of PIRLS respondents reporting their gender were female, while for PIRLS this was lower at 38%. Comparison with HESA Staff Record data suggests that CROS continues to over-represent female research staff, as HESA records that 47% of academic staff employed on a 'research only' basis are female, and has a slightly older age profile than that recorded by HESA⁴⁵. There is no readily identifiable group within the HESA Staff Record with which to compare PIRLS results.

The proportions reporting that they considered themselves to be disabled were close to the 4% of academic staff (and 2.5% of those on research-only contracts) recorded by HESA⁴⁶.

45. HESA Staff Record 2014/15

46. Recalculated after exclusion of those who preferred not to say whether they were disabled

TABLE A1.3: Personal characteristics of CROS and PIRLS 2017 and 2015 respondents

	CROS 2017	CROS 2015	PIRLS 2017	PIRLS 2015
Age (yrs)				
30 and under	23%	25%	1%	1%
31-45	59%	59%	39%	42%
Over 45	18%	16%	60%	57%
<i>N</i>	7,560	8,884	3,867	4,234
Gender*				
Female	56%	54%	38%	37%
Male	44%	46%	62%	63%
<i>N</i>	6,967	8,765	3,531	4,193
Disability*				
Yes	3.5%	2.6%	4.0%	3.5%
<i>N</i>	7,154	8,619	3,546	4,078
Nationality				
UK	59%	60%	76%	77%
Other EU	26%	26%	17%	16%
Rest of world	15%	15%	7%	7%
<i>N</i>	7,657	8,840	3,952	4,316
Ethnicity**				
White	92%	92%	92%	92%
BME	8%	8%	8%	8%
<i>N</i>	4,101	5,136	2,693	3,083

* Proportion of all respondents declaring their gender, or whether disabled or not ** Proportion of UK respondents identifying an ethnic background

Just under 60% of respondents to CROS declared that they were UK nationals, with 26% from other European Union (EU) countries and 15% from the rest of the world. The proportion of UK domiciles is close to the 56% reported by HESA for those employed on a research-only contract. By comparison, over three-quarters of PIRLS respondents were UK nationals, with 17% from other EU countries and only 7% from other countries.

The ethnicity of respondents was investigated only for those of UK nationality, and showed that 8% of those who stated their ethnic background selected a black or minority ethnic (BME) background, among both CROS and PIRLS respondents. This is slightly lower than the 11% reported by HESA for UK research-only academic staff (for 2014/15).

A1.3.2. Disciplinary profiles

At the broad REF Panel level, the profiles of 2017 respondents by subject specialism was mostly very consistent with those obtained in 2015 (Table A1.4), for both CROS and PIRLS. There was an increase in the proportion of CROS respondents in Panel C subjects and a (proportionally smaller) decrease in Panel A in 2017 compared with 2015. A more detailed breakdown of the respondent profiles at Unit of Assessment level can be seen in Appendices 2 and 3.

TABLE A1.4: Subject specialism of CROS and PIRLS respondents

	CROS 2017	CROS 2015	PIRLS 2017	PIRLS 2015
REF Panel A (medical, biological sciences and agriculture)	47%	50%	39%	38%
REF Panel B (physical sciences, engineering and mathematics)	30%	30%	27%	29%
REF Panel C (social sciences, including education)	17%	14%	23%	22%
REF Panel D (languages, humanities and creative arts)	6%	6%	11%	11%
N	7,349	8,667	3,950	4,294

A1.3.3. Length of experience

CROS respondents are asked their total experience as a researcher (excluding doctoral study) and length of service in their current institution, while for PIRLS respondents it is their length of experience as a research leader and length of service in that role in their current institution. These results (Table A1.5) show that around one quarter of CROS respondents had been researchers for less than three years, but 31% for 10 or more years.

Among PIRLS respondents, over half had been a research leader for 10 or more years, with around two-thirds of these had been in their current institution for 10 or more years. These experience profiles were all extremely similar to those recorded in 2015.

TABLE A1.5: Length of experience of CROS and PIRLS respondents

	CROS 2017	CROS 2015	PIRLS 2017	PIRLS 2015
Total as researcher (CROS) or research leader (PIRLS)				
< 3 years	24%	25%	14%	15%
3-9 years	45%	45%	34%	33%
10+ years	31%	30%	52%	52%
N	7,649	8,946	3,956	4,295
Time in that role in current HE institution				
< 3 years	47%	49%	23%	24%
3-9 years	40%	37%	41%	10%
10+ years	13%	14%	36%	36%
N	7,641	8,947	3,930	4,266

A1.3.4. Intersectionality

More detailed analysis of the profile of respondents to CROS and PIRLS identified a number of relationships between demographics and other characteristics. For example, the disciplinary profile of respondents is significantly gendered, with a much lower proportion of female respondents (18%) in Panel B in PIRLS, compared with over 40% for the other Panels. There was a similar variance for CROS respondents, with 30% females in Panel B, but over 55% for other Panels. A higher proportion of female PIRLS respondents (19%) had less than three years' experience as a research leader than male respondents (12%).

In relation to ethnicity, three-quarters of BME respondents to PIRLS were male, whereas the gender balance among CROS BME respondents reflected the overall balance. By discipline, 40% BME PIRLS respondents were within Panel B. Overall, the proportion of BME PIRLS respondents ranged from 11% in Panel B to 3% in Panel D. These interrelationships were essentially absent among CROS respondents.

By university type, 6% of UK PIRLS respondents in Russell Group institutions were of ethnic minority background, whereas it was 9% in other types of institution. This variance was smaller among CROS respondents, with just under 8% of respondents of BME origin among those from Russell Group institutions and 9% of those from other institutions.

Understanding some of these key intersectional relationships between different respondent characteristics is important when interpreting apparent trends in results for some sub-groups, as variances in response trends may partly or largely be driven by differences in the profile of the sub-group.

A1.4 REPRESENTATIVENESS OF THE SAMPLE AND COMPARABILITY

Statistically, for a random sample of a known size from a known total population, the confidence interval can be calculated for a certain level of confidence. Statistical analysis is frequently conducted on the basis of a 95% confidence level and, on this basis, the 7,657 CROS responses from a population of 31,650 research staff targeted produces a confidence interval of just under 1% for mid-range percentages (i.e. the error bar would be smaller than 1%, and smaller still for smaller percentage results). The confidence interval for PIRLS results is broadly similar. Such small confidence intervals indicate that the overall responses to CROS and PIRLS are likely to be highly representative of their respective target populations sampled and, assuming random sampling, potentially of the total UK research staff and research leader populations. This is supported by the relative similarity of the demographic profile of CROS respondents and research-only academic staff in recent HESA statistics.

This high confidence level has been consistent for all CROS and PIRLS run since 2009. Assuming the aggregate response samples are representative of their populations, results from successive CROS or PIRLS surveys can be compared for comparable questions. On the basis of a confidence interval of just under 1%, it is assumed that a difference of more than 1% between results to comparable questions is significant.

► APPENDIX 2 | CAREERS IN RESEARCH ONLINE SURVEY (CROS) 2017

Results from CROS 2015 are shown [x] only where questions are comparable and where there is a difference between 2017 and 2015 result. Underlined text is used to indicate where wording within a question or option is different from CROS 2015. All results shown as percentages except N (number of responses). n/a – not applicable

SECTION 1 – ABOUT YOUR RESEARCH CAREER

In this section we are interested in your career as a member of research staff in higher education and your current employment. Please exclude any time studying for a doctorate, unless you did that whilst being employed as a researcher.

1. Excluding any period of doctoral study
 - A. How long have you been a researcher?
 - B. How long have you been a researcher at this institution?
 - C. How long have you been a researcher at other HE or research institutions in the UK?
 - D. How long have you been a researcher at other HE or research institutions outside the UK?
 - E. How long have you been a researcher in other employment sectors?

Yrs	< 1	1	2	3	4	5	6	7	8	9	10	> 10	n/a	N
A	7.9	5.8	10.1	9.5	7.9	8.1	6.2	5.7	4.4	3.5	4.4	26.1	0.4	7649
B	18.4	12.3	16.3	12.0 [10.9]	7.5	6.0	4.4	3.5	2.6	1.9	2.1	12.5	0.5	7641
C	7.1	5.8	7.1	6.4	4.5	3.3	2.5	2.1	1.4	0.9	1.5	7.9	49.5 [50.9]	7633
D	5.3	5.0	5.3	4.1	3.3	3.0	1.9	1.4	1.1	0.4	0.7	2.5	65.9	7598
E	4.4	4.4	3.8	2.2	1.4	1.3	0.7	0.5	0.4	0.3	0.4	1.9	78.4 [79.7]	7592

2. How many individual contracts of employment as a researcher have you had with your current institution? N=7623

0	2.4
1	47.8
2	19.8
3	11.9
4	5.9
5 or more	12.1

3. Are you currently employed... N=7616

Full-time?	85.5
Part-time?	14.5

4. What is the nature of your current contract? N=7657

Fixed-term	71.8 [74.3]
Open-ended (can be known as 'permanent')	26.7 [23.8]
Casual/hourly-paid contract	0.4
Not sure	1.1

5. What is the total length of your [fixed-term] contract? N=5486

6 months or less	5.7
7 - 12 months	15.3 [14.2]
13 – 24 months (1-2 years)	28.5
25 – 36 months (2-3 years)	35.2 [38.1]
37 – 48 months	7.3
49 – 60 months	6.4
More than 5 years	1.6

6. What percentage of your contracted time is allocated to research? N = 5270

0 – 20 %	2.7
21 – 40 %	2.1
41 – 60 %	4.3
61 – 80 %	7.6
81 – 100 %	83.3

7. What is your main subject specialism (current contract)? N=7349

A1	Clinical Medicine	3.3
A2	Public Health, Health Services and Primary Care	10.5 [9.2]
A3	Allied Health Professions, Dentistry, Nursing and Pharmacy	3.3
A4	Psychology, Psychiatry and Neuroscience	8.2
A5	Biological Sciences	20.8 [24.0]
A6	Agriculture, Veterinary and Food Science	1.2
B7	Earth Systems and Environmental Sciences	4.1
B8	Chemistry	4.6
B9	Physics	5.3
B10	Mathematical Sciences	2.2
B11	Computer Science and Informatics	4.5
B12	Aeronautical, Mechanical, Chemical and Manufacturing Engineering	3.3
B13	Electrical and Electronic Engineering, Metallurgy and Materials	3.0
B14	Civil and Construction Engineering	1.1
B15	General Engineering	1.6
C16	Architecture, Built Environment and Planning	1.1
C17	Geography, Environmental Studies and Archaeology	2.7

C18	Economics and Econometrics	1.3
C19	Business and Management Studies	2.6
C20	Law	0.8
C21	Politics and International Studies	1.2
C22	Social Work and Social Policy	1.6
C23	Sociology	1.8
C24	Anthropology and Development Studies	1.4
C25	Education	2.2
C26	Sport and Exercise Sciences, Leisure and Tourism	1.3
D27	Area Studies	0.1
D28	Modern Languages and Linguistics	0.9
D29	English Language and Literature	0.9
D30	History	1.3
D31	Classics	0.1
D32	Philosophy	0.2
D33	Theology and Religious Studies	0.2
D34	Art and Design: History, Practice and Theory	1.1
D35	Music, Drama, Dance and Performing Arts	0.5
D36	Communication, Cultural and Media Studies, Library and Information Management	0.9

8. What is the main source of funding for your research activity?
N=7378

Charity funded	16.5
EU/EC funded	13.2
Institution funded	17.2 [15.6]
UK Research Council funded	26.5 [29.1]
UK industry funded	3.5
UK government (including devolved administrations) funded	12.1 [11.1]
Self-funded	2.0
Other	9.0 [10.3]

9. Which Research Council is your main source of funding?
N=1992

AHRC	4.9
BBSRC	14.2 [16.1]
EPSRC	32.5
ESRC	12.8 [10.2]
MRC	20.3
NERC	10.1
STFC	5.2

SECTION 2 – RECOGNITION AND VALUE

This is your opportunity to consider how you, as a researcher, feel valued and recognised as a member of your institution's staff.

10. To what extent do you agree that your institution both recognises and values the contributions that you make to...

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	n/a	N
a) Grant/funding applications?	14.4 [11.4]	35.4 [33.6]	13.4	7.3	12.0	17.5 [22.1]	7631
b) Knowledge transfer and commercialisation activities?	8.1 [6.4]	33.6 [31.0]	13.0	6.7	17.4	21.2 [25.2]	7620
c) Managing budgets/resources?	4.6	26.1 [24.0]	19.2	8.7	16.7	24.7 [28.5]	7602
d) Peer reviewing?	5.5	27.3	23.0	12.8	17.4	13.9 [17.1]	7597
e) Publications?	28.9 [25.2]	46.5 [48.3]	9.7	4.3	7.5	3.2	7621
f) Public engagement with research?	12.2 [10.3]	43.2 [39.6]	14.3	6.3	13.5	10.4 [14.1]	7607
g) Supervising/managing staff?	5.4	27.2	18.4	8.7	10.1	29.3 [32.2]	7615
h) Supervising research students?	8.5	34.9	18.6	9.4	8.7	20.0 [22.5]	7629
i) Teaching and lecturing?	6.9	30.5 [28.0]	15.5	8.9	7.9	28.1 [33.0]	7623

11. To what extent do you agree that your institution treats you (as a member of research staff) equally with other types of staff in relation to...

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	n/a	N
Access to training and development opportunities?	29.8	53.4	8.4	3.3	5.2	0.8	7629
Opportunities to attend conferences and external meetings?	28.9	48.8	11.6	4.9	4.7	1.2	7636
Opportunities to participate in decision-making processes (e.g. committees)?	10.5	37.9 [36.1]	23.6 [24.8]	10.9 [12.8]	11.8	5.3	7631
Opportunities for promotion and progression?	7.3	26.9	25.3 [26.7]	21.4	14.3	4.9	7625
Requests for flexible working?	28.6 [27.2]	41.5 [39.6]	4.6	2.8	13.2	9.2 [11.4]	7615
Terms and conditions of employment (excluding any fixed-term nature of contract)?	13.4	41.5	12.0	7.8	16.2	9.2	7613
Visibility on websites and staff directories?	20.6 [21.7]	52.5	11.3	5.8	8.3	1.5	7623

12. To what extent do you agree that...

	Agree strongly	Agree	Disagree	Disagree strongly	N
a) You are integrated into your department's research community?	25.5	51.0 [52.1]	17.8	5.8	7626
b) You are integrated into your department's community more generally?	18.5	48.8	25.9	6.8	7372
c) You are integrated into your institution's research community?	11.7 [13.3]	45.8	34.3 [32.6]	8.2	7608
d) You are integrated into your wider disciplinary community?	16.3 [17.4]	48.9 [50.3]	28.7 [27.3]	6.1 [5.0]	7603

13. Over the past two years (or since taking up your current position if that is more recent) have you participated in staff appraisal/ review? N=7657

Yes	72.4 [67.0]
No	27.6 [33.0]

14. [If NO] Is this because... N=2107

You are on probation?	11.4 [9.0]
You've only recently been appointed?	32.0 [30.9]
You haven't been invited to do so?	33.8 [37.2]
You haven't arranged this?	10.0 [11.6]
You are not eligible?	5.1
Other	7.7

15. [If you participated in your institution's staff review/appraisal scheme in the last two years] How would you rate this scheme's usefulness...

	Very useful	Useful	Not very useful	Not at all useful	Not applicable	N
a) Overall?	11.5	50.3	28.0	10.0	0.3	5493
b) For you to highlight issues?	12.6	53.4	23.2	9.2	1.6	5494
c) In helping you focus on your career aspirations and how these are met by your current role?	14.6 [12.9]	46.2 [44.9]	27.0 [29.1]	11.4	1.7	5522
d) In identifying your strengths and achievements?	13.6 [11.7]	50.5 [51.6]	25.5	10.0	0.5	5525
e) In leading to training or other continuing professional development opportunities?	10.7 [9.5]	43.1	31.9 [33.3]	12.9	1.3	5525
f) In leading to changes in work practices?	5.6	26.5	40.2 [41.9]	22.2	5.5	5520
g) In reviewing your personal progress?	15.6 [13.6]	54.7	19.8 [21.1]	9.2	0.7	5520

16. How would you rate your knowledge and understanding of the following UK initiatives relevant to staff engaged in research?

	I have some understanding of this/these	I know these exist but I don't know the detail	I have never heard of this/these	N
a) Athena SWAN Gender Equality Charter Mark	56.3 [47.9]	33.4	10.4 [18.2]	7626
b) Concordat for Engaging the Public with Research	13.5 [10.9]	28.5 [26.0]	58.0 [63.1]	7612
c) Concordat on Open Research Data	17.3	32.0	50.7	7362
d) Concordat to Support the Career Development of Researchers	15.7	25.6 [23.7]	58.8 [60.9]	7598
e) Concordat to Support Research Integrity	8.8 [7.1]	23.9 [19.9]	67.3 [73.0]	7586
f) European 'HR Excellence in Research' Award recognition	9.4 [8.0]	30.6 [29.3]	59.9 [62.7]	7603
g) National Co-ordinating Centre for Public Engagement (NCCPE)	5.2 [3.9]	18.7 [16.8]	76.1 [79.2]	7591
h) ECU Race Equality Charter	7.7	23.2	69.2	7321
i) RCUK 'Pathways to Impact'	29.8 [24.2]	34.8	35.4 [41.2]	7544
j) Research Excellence Framework (REF)	72.4 [70.2]	19.2	8.3 [10.3]	7614
k) Vitae	26.5 [23.7]	30.2 [28.9]	43.2 [47.4]	7558
l) Vitae Researcher Development Framework (RDF)	23.2 [19.5]	27.8 [26.2]	49.0 [54.2]	7597
m) UK Professional Standard Framework for teaching and supporting learning	15.6	24.8	59.6	7367

17. Please provide any additional comments on how you are recognised and valued by your institution, what more it could do to recognise and value your contributions, and your knowledge about research staff initiatives.

SECTION 3 - RECRUITMENT AND SELECTION

18. Have you been recruited into your current post in the last two years? N=7657

Yes	54.0 [55.7]
No	46.0 [44.3]

19. [If recruited into your current post in the last two years] How did you find out about your current post? (Select all that apply) N=4135

By word of mouth	16.4 [17.5]
I am the grant/fellowship holder	3.2
I saw it advertised/listed	28.1
I was named on the grant	4.0
I was redeployed (e.g. to avoid redundancy)	2.2
I don't know/can't remember	0.1
My previous contract was extended	4.2
Other (Please specify)	2.0

20. During the application process, which of the following were you provided with?

	Yes	No	I don't remember	N
A written description summary of what the job entailed (job description)	92.4 [89.0]	5.6 [8.1]	2.0	4110
Details of the qualifications required of the post-holder	92.6 [89.8]	5.0 [7.5]	2.3	4105
Details of the specialist research skills required of the post-holder	88.3	7.9	3.9	4100
Details of the transferable/personal/management skills required of the post-holder	76.6 [72.8]	11.2 [14.0]	12.2	4098

21. When you started with your current employer how useful did you find the following?

	Very useful	Useful	Not very useful	Not at all useful	Not offered	Offered but not taken	N
a) Institutional-wide induction programmes	8.6 [6.3]	29.3 [27.4]	22.0 [20.4]	6.7	24.1 [29.1]	9.3 [10.8]	4101
b) Departmental/Faculty/Unit induction programme	10.8	35.0 [33.0]	15.7	4.1	29.9 [33.9]	4.5	4106
c) The local induction to your current role	21.9	41.3	9.9	2.5	21.9 [24.0]	2.3	4098

22. Please provide any additional comments on your experience of being appointed and inducted into your current post.

SECTION 4 – SUPPORT AND CAREER DEVELOPMENT

In this section we invite you to think about your professional development. By ‘continuing professional development’ (CPD) we mean an on-going and reflective approach to improving one’s knowledge, attitudes and behaviours through a variety of formal and informal activities, such as developing your research techniques, presentational skills, project management skills, leadership capabilities, maintaining a record of professional development etc.

23. To what extent do you agree that ...

	Agree strongly	Agree	Disagree	Disagree strongly	N
a) You are encouraged to engage in personal and career development?	24.0	52.3	19.2	4.6	7613
b) You take ownership of your career development?	34.8	53.2	10.0	2.0	7608
c) You have a clear career development plan?	14.6 [13.1]	39.1	37.8 [39.1]	8.5	7592
d) You maintain a formal record of your continuing professional development activities?	15.6 [13.6]	44.7 [42.3]	33.4 [37.0]	6.3	7603
e) You use the Vitae Researcher Development Framework to support your continuing professional development activity	2.1	9.7	47.5 [46.1]	40.7 [43.6]	7571

24. In which areas have you undertaken, or would you like to undertake, training and other continuing professional development activities?

	Undertaken	Not undertaken but I would like to	This is of no interest to me currently	N
a) Career management	18.6	56.7	24.7	7497
b) Collaboration and teamworking	23.9 [22.7]	42.5	33.6	7491
c) Communication and dissemination	31.4	44.7	23.8	7477
d) Equality and diversity	45.6 [37.6]	20.0	34.4 [42.8]	7487
e) Ethical research conduct	34.8 [29.8]	28.4	36.8 [42.7]	7463
f) Interdisciplinary research	20.5	53.5	26.0	7466
g) Knowledge exchange	17.5 [15.4]	54.2	28.2 [29.9]	7429
h) Leadership and management	21.6 [19.9]	54.0	24.4 [26.1]	7477
i) Personal effectiveness	20.0	50.4	29.6	7453
j) Public engagement	25.0 [21.8]	49.2	25.9 [28.1]	7481
k) Research impact	25.9 [20.3]	57.6 [61.5]	16.5 [18.3]	7487
l) Research skills and techniques	43.6 [40.7]	38.8 [40.1]	17.6 [19.1]	7492
m) Supervision of doctoral/masters students	36.0 [30.5]	45.9 [49.7]	18.1 [19.8]	7523
n) Teaching or lecturing	37.3 [30.9]	41.5 [46.4]	21.2 [22.7]	7522
o) Being mentored	23.5 [20.7]	45.4	31.1 [34.1]	7470

25. During the past 12 months (or since taking up your current position if that is more recent) approximately how many days have you spent on training and other continuing professional development activities? N= 7535

None	13.8 [16.6]
Less than 1 day	8.5
1 day	9.3 [10.4]
2 days	14.8
3 days	11.8
4 days	7.4
5 days	10.7
6 days	3.4
7 days	4.8
8 days	1.8
9 days	0.5
10 days	3.5
More than 10 days	9.6 [7.9]

26. In what other areas would you like to undertake training or other continuing professional development activity?

27. In which area do you aspire and expect to work in the long term? (Select one option in each column)

	Aspire	Expect
Career in higher education – primarily research and teaching	43.0	36.7 [33.6]
Career in higher education – primarily research	34.4	24.2 [25.7]
Career in higher education – primarily teaching	1.4	2.4
Other role in higher education	1.6	2.1
Research career outside higher education	8.3	10.9
Self-employment/running your own business	2.6	2.1
Teaching career outside HE	0.2	0.5
Other occupations	3.6	6.8
Don't know	4.9	14.3
N	7564	7457

Which of the following have you done, or would you like to do as part of your current research activities?

	I have done this	I would like to do this	I currently have no interest in this	N
28. Working with others				
a) Collaborate with colleagues outside the UK	68.8 [66.8]	28.0 [29.6]	3.1	7607
b) Collaborate in research with businesses or other non-academic research users	47.7 [43.8]	37.6 [39.6]	14.6 [16.5]	7589
c) Interdisciplinary research projects	59.6 [58.5]	35.4	5.0	7597
d) Mentor and support other researchers	41.7 [39.2]	41.6 [43.4]	16.7	7583
e) Supervise undergraduate or postgraduate research projects	62.6 [59.2]	28.4 [30.8]	9.0 [10.1]	7594
f) Undertake an internship/placement outside higher education research	10.8 [8.6]	43.7	45.5 [47.8]	7576
g) Work as part of a cross-disciplinary team	52.6	40.0	7.4	7597
29. Research and financial management				
a) Manage a budget	42.1 [37.6]	41.6 [43.9]	16.2 [18.5]	7573
b) Plan and manage a project	54.9 [51.1]	38.9 [41.8]	6.2	7575
c) Write a grant/funding proposal	57.4 [53.4]	36.7 [38.7]	5.9 [7.8]	7571
30. Engagement and impact				
a) Engage with policymakers and end users	33.4 [28.3]	45.4 [47.0]	21.1 [24.7]	7575
b) Knowledge exchange	35.9 [31.6]	49.6 [52.1]	14.5 [16.4]	7559
c) Participate in public engagement activities	50.2 [43.5]	34.7 [38.7]	15.1 [17.9]	7579
d) Teach or lecture	59.2 [51.5]	26.6 [31.5]	14.2 [17.0]	7575
31. Communication and dissemination				
a) Present work at a conference orally	84.3 [80.7]	13.1 [15.8]	2.6	7592
b) Write up research for publication as first author	81.2 [79.1]	17.6 [19.3]	1.3	7596

32. Please provide any comments you have about the training and career development you have undertaken as a researcher.

33. Please provide any comments about the training and career development you would like to have the opportunity to undertake, and any barriers to participation.

SECTION 5 – EQUALITY AND DIVERSITY

In this section we are interested in your views on equality of opportunity and whether equality and diversity is promoted in all aspects of the recruitment and management of research staff.

34. Please indicate your level of agreement or disagreement with the following statements

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	N
a) I believe my institution is committed to equality and diversity	38.4 [37.2]	48.1	6.7	2.3	4.5	7619
b) I am satisfied with my work-life balance	19.8	47.6 [50.3]	21.4	9.6 [8.2]	1.6	7619
c) My institution promotes better <u>mental</u> health and well-being at work	13.3	37.2	21.7	9.9	17.9	7607

35. I think that staff at my institution are treated fairly, regardless of personal characteristics such as age, ethnicity, disability or gender, in relation to...

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	N
a) Access to training and development	34.1	48.7	4.7	1.7	10.9	7594
b) Career progression / promotion	21.0 [22.9]	36.1 [38.3]	18.1 [16.3]	7.2 [6.1]	17.7 [16.4]	7584
c) Day to day treatment at work	29.2 [30.6]	49.1 [50.3]	9.5 [8.1]	3.2	8.9	7587
d) Participation in decision making	21.1 [22.8]	38.4 [40.3]	17.0 [15.4]	6.1	17.4	7580
e) Recruitment and selection	23.1 [24.5]	42.6	11.0	4.5	18.8 [17.7]	7589
f) Reward	18.5 [20.9]	33.4 [35.9]	15.2 [13.4]	6.7 [5.2]	26.2 [24.6]	7573

36. Overall, I think that staff at my institution are treated fairly irrespective of their...

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	N
a) <u>Adoption and parental leave</u>	23.2	33.8	5.4	1.6	36.0	7326
b) Age	26.3 [29.9]	45.5 [47.7]	8.3	2.5	17.4 [11.8]	7572
c) <u>Caring responsibilities</u>	22.4	36.5	7.7	2.2	31.2	7515
d) Disability	25.6 [31.0]	43.8	3.0	1.1	32.3 [22.0]	7557
e) Ethnicity	30.1 [33.3]	43.6 [46.9]	3.7	1.6	20.9 [14.8]	7559
f) Gender	28.7 [30.3]	44.1	11.5	3.2	12.5 [10.3]	7566
g) Gender identity	26.1 [28.7]	36.1 [38.8]	2.4	1.1	34.3 [28.9]	7553
h) Nationality	30.9 [32.6]	46.4 [47.9]	5.3	2.1	15.4 [12.6]	7557
i) Pregnancy and maternity	23.7 [26.3]	36.5 [38.7]	6.9 [8.7]	2.2	30.8 [23.5]	7558
j) Religion/belief	29.4 [32.1]	43.1 [45.5]	1.3	0.8	25.3 [20.2]	7562
k) Sexual orientation	29.4 [31.6]	41.6 [43.2]	1.0	0.5	27.4 [23.4]	7557

37. Have you ever felt that you have been discriminated against in your post? N=7481

Yes	11.9 [10.1]
No	88.1 [89.9]

If YES, please explain in what way you were discriminated against?

38. Please provide any additional comments you have about diversity and equality.

[Institution-specific questions here]

SECTION [6] – ABOUT YOU

39. What is your age? N=7560

25 and under	2.1
26 – 30	20.4 [22.9]
31 – 35	28.9 [31.2]
36 - 40	19.4 [18.0]
41 – 45	11.2 [10.1]
46 - 50	7.2
51 – 55	5.6
56 – 60	3.3
61 or older	2.1

Information about gender identity is considered sensitive personal data under the Data Protection Act. We want to make sure that we have permission to store this data for the purposes of monitoring and advancing equality and diversity in higher education. Please indicate if you give us permission to store this information and use it in this way.

Yes	92.1
No	7.9
N	6737

40. What is your sex? N=7311

Female	53.0
Male	42.2
Other	0.2
Prefer not to say	4.7

42. What is your sexual orientation? N=7291

Bisexual	2.9
Gay man	2.0
Gay woman/lesbian	1.3
Heterosexual	83.1
Other	0.7
Prefer not to say	10.0

41. Is your gender identity the same as the gender you were assigned at birth? N=7293

Yes	95.5
No	0.5
Prefer not to say	3.9

43. Do you consider yourself disabled? N= 7515

Yes	3.3
No	91.8 {95.0}
Prefer not to say	4.8 {2.5}

44. What is your religion? N = 7203

No religion	55.8
Buddhist	1.1
Christian	26.4
Hindu	1.7
Jewish	0.7
Muslim	2.1
Sikh	0.0
Spiritual	1.3
Other religion or belief	1.7
Prefer not to say	9.0

45. What is your nationality? N=7657

UK/British national	58.9
National of another European Union member state (not the UK)	26.0
National of a country outside of the European Union	15.1

46. As a UK/British national, how would you classify your ethnic group and cultural background? N=4335

Asian	
Asian or Asian British - Indian	1.3
Asian or Asian British - Pakistani	1.4
Asian or Asian British - Bangladeshi	0.4
Other Asian background	0.2
Black	
Black or Black British - Caribbean	0.2
Black or Black British - African	0.4
Other Black background	0.0
Mixed	
Mixed White and Black Caribbean	0.1
Mixed White and Black African	0.1
Mixed White and Asian	0.9
Other Mixed background	0.8
Chinese	1.2
White	83.0
Other White background	3.9
Prefer not to say	5.4
Other	1.0

APPENDIX 3 | PRINCIPAL INVESTIGATORS AND RESEARCH LEADERS SURVEY (PIRLS) 2017

Results from PIRLS 2015 are shown [x] only where questions are comparable and where there is a difference between 2017 and 2015 result. Underlined text is used to indicate where wording within a question or option is different from PIRLS 2015. All results shown as percentages except N (number of responses). n/a – not applicable

A - YOUR EXPERIENCE AS A PRINCIPAL INVESTIGATOR/RESEARCH LEADER

In this section we are interested in your experience as a principal investigator (PI)/research leader in higher education.

- How long have you been a PI/research leader?
- How long have you been a PI/research leader at this institution?

%	< 1 yr	1 yr	2 yrs	3 yrs	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs	More than 10	N
Q1	4.7	3.2 [4.6]	6.1	6.4	6.0 [4.9]	6.6	3.9	4.4	3.9	2.8	6.3	45.6	3956
Q2	8.1 [6.5]	5.7	9.0 [11.0]	8.9	8.6 [6.7]	7.9	4.7	4.2	3.8 [4.9]	3.0	5.4	30.8	3930

- What is your main subject specialism? (Select only one) N=3950

A1	Clinical Medicine	4.1	C19	Business and Management Studies	5.3
A2	Public Health, Health Services and Primary Care	5.6 [4.0]	C20	Law	1.3
A3	Allied Health Professions, Dentistry, Nursing and Pharmacy	5.5	C21	Politics and International Studies	1.3
A4	Psychology, Psychiatry and Neuroscience	7.3	C22	Social Work and Social Policy	1.9
A5	Biological Sciences	14.2	C23	Sociology	1.6
A6	Agriculture, Veterinary and Food Science	2.0	C24	Anthropology and Development Studies	0.7
B7	Earth Systems and Environmental Sciences	3.8	C25	Education	2.9
B8	Chemistry	3.4	C26	Sport and Exercise Sciences, Leisure and Tourism	2.0
B9	Physics	4.7	D27	Area Studies	0.3
B10	Mathematical Sciences	2.6	D28	Modern Languages and Linguistics	1.4
B11	Computer Science and Informatics	4.8	D29	English Language and Literature	1.6
B12	Aeronautical, Mechanical, Chemical and Manufacturing Engineering	2.0	D30	History	2.3
B13	Electrical and Electronic Engineering, Metallurgy and Materials	2.7	D31	Classics	0.5
B14	Civil and Construction Engineering	0.9	D32	Philosophy	0.5
B15	General Engineering	1.8	D33	Theology and Religious Studies	0.3
C16	Architecture, Built Environment and Planning	1.6	D34	Art and Design: History, Practice and Theory	2.0
C17	Geography, Environmental Studies and Archaeology	3.3	D35	Music, Drama, Dance and Performing Arts	0.9
C18	Economics and Econometrics	1.4	D36	Communication, Cultural and Media Studies, Library and Information Management	1.2

4. For how many people are you responsible?

	None	1	2-3	4-6	7-10	11-20	>20	N
Academic staff	58.4 [61.2]	8.2	11.6	7.6 [6.2]	3.4	3.6	7.2 [6.3]	3428
Postgraduate research students	8.4 [7.2]	13.4	37.2	26.4 [28.3]	9.3	2.6	2.7	3728
Research staff	30.6 [29.5]	24.0 [26.6]	28.2 [27.0]	10.1	3.3	2.0	1.9	3421
Technical support staff	74.3 [70.6]	13.6 [16.0]	8.0	2.1	0.7	0.7	0.7	2855
Administrative support staff	72.1	15.3	7.9	2.2	1.1	0.6	0.9	2901

B – RECOGNITION AND VALUE

This is your opportunity to consider how much you feel your contributions are valued and recognised by your institution and how important these activities are in being a successful research leader.

Please use the dropdown lists to indicate the extent to which you agree with the following two statements, in relation to a range of activities.

My institution recognises and values the contribution I make to:

	Agree strongly	Agree	Disagree	Disagree strongly	n/a	N
5. Research activity						
Academic collaborations (including interdisciplinary and international)	23.8 [22.1]	50.9 [52.3]	17.9	5.6	1.7	3953
Advancing your research area	22.3	50.8	19.7	6.5	0.8	3946
Collaborations outside HE (with other sectors, research users)	23.9 [22.3]	49.3 [50.6]	14.5	4.3	7.9	3913
Good research conduct (ethics, intellectual property, etc)	27.6 [25.4]	52.1 [54.1]	12.7	3.1	4.4	3941
Research outputs, including publications	45.4	40.1	10.5	3.5	0.6	3952
Securing research funding	50.0 [47.3]	34.8 [37.5]	9.5	3.6	2.2	3943
6. Inspiring/leading other researchers						
Building a research group	17.3 [15.9]	46.6 [47.9]	24.1	6.0	6.0	3921
Leading a research group	16.9	46.5	22.2	5.6	8.7	3896
Motivating individuals	13.6	45.6	29.5 [31.0]	7.8	3.5	3779
Providing career development advice to others on careers in HE	10.1	44.4 [42.5]	30.8 [32.7]	6.9	7.8	3912
Providing career development advice to others on careers outside HE	5.1	30.6	35.4	7.9	20.9	3912
7. Management activity						
Appraisal/review of staff	11.0	42.9	19.8	4.1	22.3	3922
Budget/finance management	8.2	39.7	29.3	6.5	16.3	3915
Developing research staff	10.8	45.3 [43.3]	27.0 [28.9]	6.2	10.7	3877
Managing research staff performance	9.1	43.0	25.1 [26.3]	4.6	18.2 [17.0]	3899
Managing/supervising other staff	7.5	38.9	23.9	4.7	25.0	3918
Supervising research students	22.7	51.9	16.2	5.5	3.8	3923

	Agree strongly	Agree	Disagree	Disagree strongly	n/a	N
8. Engagement and impact						
Demonstrating the impact of research	29.9 [27.3]	46.3 [48.0]	15.2 [16.3]	4.4	4.2	3915
Knowledge exchange (through collaborative training, people exchange, commercialisation and development)	17.8 [16.4]	47.0	18.8	4.2	12.3	3917
Management and administration within the institution	13.2	47.6	24.7	7.2	7.2	3920
Public engagement and outreach activities	15.3 [13.6]	50.6	22.8	5.2 [6.3]	6.1 [7.3]	3922
Teaching and lecturing	21.1 [18.8]	50.9	16.6	6.3	5.0	3920

I think this activity is very important in being a successful PI/research leader:

	Strongly agree	Agree	Disagree	Strongly disagree	n/a	N
5b. Research activity						
Academic collaborations (including interdisciplinary and international)	79.6 [76.1]	19.2 [22.9]	0.9	0.1	0.3	3950
Advancing your research area	80.5	18.7 [20.0]	0.3	0.1	0.4	3931
Collaborations outside HE (with other sectors, research users)	47.0	42.6	6.6	0.6	3.2	3931
Good research conduct (ethics, intellectual property, etc)	63.9 [61.5]	33.6 [35.2]	0.9	0.1	1.5	3942
Research outputs, including publications	77.5 [79.4]	21.9 [20.1]	0.4	0.1	0.2	3945
Securing research funding	61.7	32.8	4.3	0.7	0.5	3934
6b. Inspiring/leading other researchers						
Building a research group	66.6 [65.2]	29.7 [31.1]	2.3	0.1	1.3	3909
Leading a research group	62.5	32.4	3.1	0.2	1.9	3877
Motivating individuals	67.7 [66.7]	30.6 [31.7]	0.8	0.0	0.9	3806
Providing career development advice to others on careers in HE	41.6 [37.7]	50.5 [52.2]	4.6 [6.3]	0.4	2.9	3904
Providing career development advice to others on careers outside HE	22.4 [20.3]	47.5	17.2	1.3	11.5	3899
7b. Management activity						
Appraisal/review of staff	29.0	53.0	9.9	1.3	6.8	3898
Budget/finance management	30.9	55.0	8.0	0.9	5.2	3892
Developing research staff	58.2 [56.2]	37.3 [39.0]	1.0	0.1	3.4	3875
Managing research staff performance	40.7	49.5	3.5	0.6	5.7	3890
Managing/supervising other staff	28.6	50.3	8.4	0.9	11.8	3890
Supervising research students	67.2	30.1	1.0	0.1	1.6	3906
8b. Engagement and impact						
Demonstrating the impact of research	49.7	42.3 [40.7]	5.8 [7.3]	1.3	0.8	3900
Knowledge exchange (through collaborative training, people exchange, commercialisation and development)	34.5	50.5	9.6	1.0	4.4	3900
Management and administration within the institution	19.7	51.6 [50.5]	21.4 [23.3]	3.8	3.5	3902
Public engagement and outreach activities	32.6	55.5	9.2 [10.4]	0.9	1.7	3903
Teaching and lecturing	30.9	48.6 [46.9]	14.8 [16.0]	2.9	2.8	3910

9. Please provide any comments about the importance of research-related activities and how your contributions are recognised and valued by your institution.

C – WHAT MAKES A GOOD RESEARCH LEADER?

This section asks you to consider what are the most important behaviours for excellent research leaders and your confidence in undertaking a range of leadership activities.

10. How important do you consider the following statements to be in the behaviours of an excellent research leader?

	1 (very important)	2	3	4	5 (not important at all)	Don't know	N
Advances significantly the discipline/ research area	73.1 [74.6]	22.3 [20.9]	2.8	0.6	1.0	0.3	3943
Appreciates and demonstrates the impact of research	42.7 [41.2]	37.8	13.8	3.5	1.8	0.4	3942
Creates opportunities and nurtures researchers' careers	59.7 [55.7]	31.5 [34.4]	6.4 [7.8]	1.1	1.0	0.3	3944
Engages in income generation and advises and supports applications led by others	42.3	38.2	13.5	3.8	1.9	0.3	3938
Exemplifies the highest standards of research integrity and conduct	78.1	17.2	2.8	0.5	1.2	0.3	3935
Influences, leads and manages researchers and groups using a range of leadership styles effectively	50.6	35.3	9.8	2.2	1.4	0.6	3940
Models exemplary continuing professional development behaviour to inspire others	41.6 [40.0]	35.9	15.1	4.3	2.1	1.0	3938

11. Please use the dropdown lists to indicate your level of confidence in relation to the following aspects of leading researchers, and where you would benefit from more support/training/development.

Level of confidence

	Fully confident	Confident	Not confident	Not at all confident	n/a	N
Conducting appraisals	35.7	34.4	11.9	3.9	14.1	3920
Leading your people/group	41.9	44.0 [45.1]	8.1	1.3	4.8	3914
Managing group/project finances	26.9	40.1	21.5	5.7	5.8	3916
Managing staff performance	21.0	46.6	18.7 [17.6]	2.8	10.9	3913
Motivating individuals	43.0	46.1	8.1	1.3	1.5	3910
Personal effectiveness (time management etc)	37.0	44.1	15.4	2.9	0.5	3914
Providing research staff with advice on the range of career opportunities	26.3	43.8 [42.0]	20.0 [21.6]	3.8	6.0	3916
Recruiting and selecting group members	37.8	43.4	10.9	1.8	6.1	3913
Supervising research students	57.5	35.3	4.4	1.0	1.8	3911

Would you benefit from more support/training/development?

	No - I do not need additional development	Yes - I would benefit from further development in this area	N
Conducting appraisals	59.4	40.6	3621
Leading your people/group	55.4	44.6	3705
Managing group/project finances	47.2	52.8	3711
Managing staff performance	49.4	50.6	3645
Motivating individuals	63.7 [65.9]	36.3 [34.1]	3722
Personal effectiveness (time management etc)	64.2	35.8	3756
Providing research staff with advice on the range of career opportunities	60.3 [62.1]	39.7 [37.9]	3701
Recruiting and selecting group members	69.8	30.2	3687
Supervising research students	72.1	27.9	3732

12. Please provide any comments about good research leadership or any aspect of training, support or other development activities.

SECTION D – HOW YOUR INSTITUTION SUPPORTS YOU AS A PRINCIPAL INVESTIGATOR/RESEARCH LEADER

This section asks you to consider how your institution supports you as a principal investigator/research leader.

13. Have you been appraised/reviewed in the past two years?
N=3970

Yes	90.7 [89.3]
No	9.3 [10.7]

14. You have not participated in appraisal because... N=367

You are on probation?	9.3 [8.1]
You've only recently been appointed?	22.1
You haven't been invited to do so?	46.6 [44.9]
You haven't arranged this?	3.3 [4.8]
You are not eligible?	2.7
Other	16.1

15. How would you rate the usefulness of your institution's staff review/appraisal scheme...

	Very useful	Useful	Not very useful	Not at all useful	n/a	N
Overall?	11.0 [9.7]	46.9	29.2 [30.4]	12.3	0.5	3570
For highlighting issues?	10.9	49.8	27.4	10.6	1.2	3563
In identifying your strengths and achievements?	12.8	46.6	28.0 [29.3]	11.9	0.7	3570
In leading to training or other continuing professional development opportunities?	6.3	31.9 [29.3]	39.2 [41.5]	20.7	1.9	3576
In leading to changes in work practices?	3.4	20.9	44.3	29.0	2.5	3578
In helping you focus on your career aspirations and how these are met by your current role?	10.6	38.3 [36.9]	30.3 [31.8]	19.4	1.4	3577
In reviewing your personal progress?	15.5 [13.8]	48.3 [49.5]	23.1 [24.4]	12.3	0.7	3578

16. During the past 12 months (or since taking up your current position if that is more recent) approximately how many days have you spent on training and other continuing professional development activities? N=3502

None	12.2
Less than 1 day	8.9
1 day	10.3
2 days	16.5
3 days	13.0
4 days	7.4
5 days	10.1
6 days	3.2
7 days	3.3
8 days	2.1
9 days	0.3
10 days	3.4
More than 10 days	9.3

17. Please indicate your level of agreement or disagreement with the following statements

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	N
I am appropriately rewarded for my contributions to the institution	11.7 [10.3]	42.1	27.5 [28.8]	15.2	3.5	3953
I am satisfied with my work-life balance	6.5	38.7	32.7	21.1	1.0	3951
I believe I am well led by institutional senior management	8.7 [7.1]	34.2	28.1	24.9	4.1	3951
I feel integrated within the institution	16.7 [13.6]	51.8	19.8 [22.1]	9.9	1.8	3947
I have a good level of job satisfaction	20.5 [19.4]	54.5 [57.0]	17.4	6.4	1.2	3946
I understand how my research activities are aligned with my institution's strategic priorities	21.4 [20.3]	48.4 [47.1]	17.3 [19.0]	9.5	3.4	3949

18. Please provide any comments about review, appraisal and engagement.

E – EQUALITY AND DIVERSITY

In this section we are interested in your views on equality of opportunity and whether equality and diversity is promoted in all aspects of the recruitment and management of staff.

19. Please indicate your level of agreement or disagreement with the following statement:

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	N
I believe my institution is committed to equality and diversity.	38.3 [36.6]	47.7 [49.2]	8.1	3.3	2.6	3952
My institution promotes better mental health and wellbeing at work	11.4	36.8	27.8	11.0	13.1	3944

20. Overall, I think that staff at my institution are treated fairly, regardless of ethnic background, gender, gender identity, religion or belief, sexual orientation, disability or age with regard to...

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	N
Recruitment and selection	34.5 [38.8]	49.9 [47.6]	6.9	2.3	6.4	3939
Career progression / promotion	24.7 [26.5]	42.3	18.1	6.6	8.3	3936
Reward	22.0 [23.9]	40.0 [41.1]	19.2 [17.4]	6.8 [5.7]	12.0	3928
Day to day treatment at work	28.3 [31.8]	51.6	10.9 [8.8]	3.8	5.5	3933
Access to training and development	35.7 [39.2]	51.3 [49.9]	4.1	1.8	7.1	3926
Participation in decision making	22.0 [24.5]	40.0 [42.0]	19.0 [16.8]	9.9 [8.5]	9.1	3934

21. Overall, I think that staff at my institution are treated fairly irrespective of...

	Agree strongly	Agree	Disagree	Disagree strongly	Don't know	N
Adoption and parental leave	25.6	39.5	5.6	1.8	27.5	3917
Age	27.1 [32.0]	50.2 [48.4]	8.2	2.4	12.1 [7.6]	3924
Caring responsibilities	22.5	40.6	10.9	2.5	23.5	3928
Disability	28.8 [34.4]	43.2 [44.6]	4.6	1.7	21.6 [15.4]	3916
Ethnicity	31.6 [37.1]	46.6	4.9	1.9	15.0 [10.5]	3928
Gender	29.3 [31.4]	44.9 [43.6]	13.2 [14.5]	4.3	8.4 [5.7]	3928
Gender identity	26.6 [31.2]	37.6	3.4	1.3	31.2 [26.8]	3914
Nationality	33.1 [36.1]	47.8	5.0	2.3	11.8 [9.6]	3929
Pregnancy and maternity	27.5 [32.0]	43.4	6.1 [8.2]	2.0	20.9 [14.5]	3920
Religion/belief	31.5 [35.7]	45.0 [43.4]	1.8	0.8	20.9 [18.6]	3907
Sexual orientation	30.9 [34.1]	43.5 [40.8]	1.7	0.5	23.3	3897

22. Have you felt unfairly discriminated against in your current post? N=3870

Yes	14.4
No	85.6

23. Please provide any additional comments you have about aspects of diversity and equality

If YES, please explain in what way you felt discriminated against?

F – ABOUT YOU

These questions will allow us to do cross-tabular analysis of the UK results by different demographic characteristics of respondents

24. What is your age? N=3867

25 and under	0.1
26 – 30	0.8
31 – 35	5.9 [7.3]
36 – 40	16.1 [14.6]
41 – 45	17.4 [20.0]
46 – 50	19.4 [18.2]
51 – 55	17.7 [16.6]
56 – 60	12.4
61 or older	10.1

25. What is your sex? N=3885

Female	34.1 [36.7]
Male	56.5 [63.3]
Other	0.2
Prefer not to say	9.1

26. Is your gender identity the same as the gender you were assigned at birth? N=3874

Yes	91.8
No	0.4
Prefer not to say	7.8

Information about gender identity is considered sensitive personal data under the Data Protection Act. We want to make sure that we have permission to store this data for the purposes of monitoring and advancing equality and diversity in higher education. Please indicate if you give us permission to store this information and use it in this way. N=3620

Yes	89.1
No	10.9

27. What is your sexual orientation? N=3866

Bisexual	2.0
Gay man	1.6
Gay woman/lesbian	1.3
Heterosexual	78.6
Other	0.7
Prefer not to say	15.9

28. Do you consider yourself disabled? N=3867

Yes	3.7
No	88.0 [92.8]
Prefer not to answer	8.3 [3.8]

29. What is your religion? N=3886

No religion	51.9
Buddhist	0.6
Christian	27.5
Hindu	1.0
Jewish	1.0
Muslim	1.0
Sikh	0.2
Spiritual	1.1
Other religion or belief	1.3
Prefer not to say	14.5

30. What is your nationality? N=3952

UK/British national	75.5 [76.8]
National of another European Union member state (not UK)	17.4 [16.1]
National of a country outside the European Union	7.0

31. As a UK/British national, how would you classify your ethnic group and cultural background? N=2953

Asian	
Asian or Asian British - Indian	1.7
Asian or Asian British - Pakistani	0.4
Asian or Asian British - Bangladeshi	0.0
Other Asian background	0.7
Black	
Black or Black British - Caribbean	0.1
Black or Black British - African	0.4
Other Black background	0.0
Mixed	
Mixed White and Black Caribbean	0.1
Mixed White and Black African	0.2
Mixed White and Asian	0.4
Other Mixed background	0.6
Chinese	1.6
White	78.1
Other White background	5.7
Prefer not to say	8. [5.6]
Other	1.1

32. Please provide any final, additional comments

► APPENDIX 4 | CROS/PIRLS STEERING GROUP

Vitae leads the implementation of the Concordat on behalf of the Concordat Strategy Group, whose membership includes RCUK, the UK Funding Bodies, other research funders and Universities UK. It also provides managerial support to the CROS/PIRLS Steering Group and manages the operation and publication of CROS and PIRLS.

The Careers in Research Online Survey and Principal Investigators and Research Leaders Survey (CROS/PIRLS) Steering Group exists to ensure the appropriateness and sustainability of CROS and PIRLS and their associated activities in collecting and reporting the views and experiences of research staff, principal investigators and research leaders employed in higher education.

TERMS OF REFERENCE

1. Ensure that CROS meets the needs of the HE sector in collecting research staff views of their career development needs and opportunities and in making these views available to the sector
2. Ensure that PIRLS meets the needs of the HE sector in collecting the views and experiences of principal investigators in developing research leaders in HE and in making these views available to the sector
3. Provide sector and key stakeholder input to the on-going development of CROS and PIRLS, consulting with the sector where appropriate
4. Promote the value of CROS and PIRLS to the sector, encouraging institutional engagement and the sharing of practice
5. Responsible for the control and coordination of CROS and PIRLS, including the timings and frequency of operation
6. Work with the University of Bristol and Vitae to ensure availability of sufficient resources, administrative support and appropriate protection of CROS and PIRLS data
7. Be the custodian of the CROS and PIRLS data, including overseeing the specification and production of any reports of the aggregate CROS and aggregate PIRLS results by Vitae and responding appropriately to requests for access to the results
8. Work with Vitae to ensure appropriate links with the implementation of the Concordat principles and other relevant policy developments

CURRENT MEMBERSHIP

Mascia Amici, UKRSA and University of Bristol

Ian Archer, Aberystwyth University

Frank Chambers, University of Gloucestershire

Darren Colquhoun, University of Bristol

Kieran Fenby-Hulse, Coventry University

Richard Freeman, Institute of Education,
University College London

Patricia Gray, University of Leeds

Naomi Irvine, University of Leicester

Sarabajaya Kumar, London School of Economics

Janet Metcalfe, Vitae

Rui Pires Martins, Queen Mary University of London

Bonnie Steves, Glasgow Caledonian University

Lisa Vincent, JISC

THE CONCORDAT

Vitae leads on the management and implementation of the Concordat to Support the Career Development of Researchers.

The Concordat is an agreement between the funders and employers of researchers in the UK. Sitting alongside a range of local, UK and European initiatives, this agreement represents a significant policy development to support good management of researchers and their careers. Through the implementation of its principles it aims to enhance the researcher workforce and thereby sustain research excellence bringing benefits to the health, economy and well-being of the UK.

The high level Concordat Strategy Group oversees strategy and progress in the UK. Its membership consists of Concordat signatories, key stakeholders and representative bodies.

[www.vitae.ac.uk/
concordat](http://www.vitae.ac.uk/concordat)



HR EXCELLENCE IN RESEARCH

Vitae manages the UK process for the HR Excellence in Research Award, which recognises an institution's commitment to implementing the principles of the UK Concordat to Support the Career Development of Researchers.

The HR Excellence in Research Award is an important policy instrument of the European Union (EU) Human Resources Strategy for Researchers (HRS4R) to make research careers more attractive to EU and international researchers.

[www.vitae.ac.uk/
policy/hr-excellence-in-research](http://www.vitae.ac.uk/policy/hr-excellence-in-research)



HR EXCELLENCE IN RESEARCH

ABOUT US

Vitae is the global leader in supporting the professional development of researchers, experienced in working with institutions as they strive for research excellence, innovation and impact

We are a non-profit programme, part of **the Careers Research & Advisory Centre (CRAC) Ltd** with over 45 years' experience of enhancing the skills and careers of researchers. We strengthen our members' institutional provision for the professional development of their researchers through research and innovation; training and resources; events; consultancy and membership.

Vitae has four aims:

- Influence the development and implementation of effective policy relating to researcher development
- Enhance higher education provision to train and develop researchers
- Empower researchers to make an impact on their careers
- Evidence the impact of professional and career development support for researchers

Our partners include governments, funders of research, academies, professional bodies, trusts and foundations, universities and research institutes.

CRAC provides research intelligence and innovation for all those who support career development for people of all ages and in all sectors. We work in partnership with government agencies, education organisations and providers and employers and professional bodies.

CRAC is a registered charity No 313164 established in 1964.



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of researchers