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This document is for information.

This document sets out the main results of the 2014 Research Excellence Framework.

Research Excellence Framework 2014: The results

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Key facts

154 UK higher education institutions took part.

They made **1,911** submissions including:

52,061 FTE academic staff

191,150 research outputs

6,975 impact case studies

36 expert sub-panels reviewed the submissions, overseen by **4** main panels, comprising:

898 academic members

259 research users

Overall quality was judged, on average across all submissions, to be:

30% world-leading (4*)

46% internationally excellent (3*)

20% internationally recognised (2*)

3% nationally recognised (1*)

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Research Excellence Framework 2014: The results

To

Heads of publicly funded higher education institutions in the UK

Of interest to those responsible for

Research

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Executive summary

Purpose

1. This document sets out the main results of the 2014 Research Excellence Framework (REF).

Key points

2. The REF is the new system for assessing the quality of research in publicly funded UK higher education institutions (HEIs). It replaces the Research Assessment Exercise (RAE), last conducted in 2008.

3. The results of the 2014 REF demonstrate the high quality and enhanced international standing of research conducted in UK HEIs. The results show that the quality of submitted research outputs has improved significantly since the 2008 RAE, consistent with independent evidence about the performance of the UK research base. The results also demonstrate the wide range of outstanding social, economic and cultural impacts that research has contributed to.

4. This document reports the overall quality profiles awarded to the 1,911 submissions made to the REF. Further detailed results and analysis are available at www.ref.ac.uk under 'Results & submissions'.

Action required

5. This document is for information. No action is required by HEIs.

Further information

6. The following material is available at www.ref.ac.uk:

- **Full results:** The overall quality profile and the outputs, impact and environment sub-profiles awarded to each submission.
- **Analysis:** Summary data about each unit of assessment and analysis of the REF results as a whole.

- **Submissions:** The submissions made by all HEIs, including the names of submitted staff, details of the outputs, the impact case studies and information about the research environment (available from January 2015).

In addition, a searchable database and an analysis of the submitted impact case studies will be available from spring 2015.

- **Overview reports:** A report by each main panel and its sub-panels, providing an overview of the assessment and the state of research in their discipline areas (available from January 2015).
- **Background information:** Guidance to institutions and panels, and other material such as the membership of the panels.

Overview of the results

7. The Research Excellence Framework (REF) is the new system for assessing the quality of research in UK higher education institutions (HEIs). It replaces the Research Assessment Exercise (RAE), last conducted in 2008.

8. The REF was undertaken by the four higher education funding bodies for England, Scotland, Wales and Northern Ireland. It was managed by the REF team based at HEFCE on behalf of these bodies, and was overseen by a steering group of representatives from these bodies.

9. The primary purpose of the 2014 REF was to assess research quality and produce results for each submission made by institutions:

- The four UK higher education funding bodies intend to use the REF results to inform the selective allocation of their research funding to HEIs, with effect from 2015-16.
- The assessment provides accountability for public investment in research and produces evidence of the benefits of this investment.
- The results provide benchmarking information and establish reputational yardsticks.

10. The 2014 REF was a process of expert review. Submissions were made by 154 UK HEIs¹ in the 36 REF units of assessment (UOAs). A total of 1,911 submissions were made, including a total of 52,061 full-time equivalent (FTE) staff². The size and scope of each institution's submissions ranged from 3 FTE staff submitted in a single UOA, to more than 2,500 FTE staff submitted in 32 UOAs.

11. During 2014, the submissions were assessed by an expert sub-panel for each UOA. The 36 sub-panels worked under the guidance of four main panels, who were responsible for signing off the results. Each submission was assessed in terms of three elements, which were combined to produce an 'overall quality profile' awarded to each submission:

a. The quality of research **outputs**. This sub-profile contributes 65 per cent of the overall quality profile.

b. The social, economic and cultural **impact** of research. This sub-profile contributes 20 per cent of the overall quality profile. This is a new feature in the assessment framework.

c. The research **environment**. This sub-profile contributes 15 per cent of the overall quality profile.

Overall results

12. The results of the 2014 REF demonstrate the high quality and enhanced international standing of research conducted in UK HEIs. The results show that the quality of submitted research outputs has improved significantly since the 2008 RAE. This is consistent with independent evidence about the international performance of the UK research base. The results also demonstrate that research in all UOAs has led to a wide range of outstanding and very considerable social, economic and cultural impacts.

13. Table 1 shows the average overall quality profile, and the average sub-profiles, for all submissions made to the REF³. To calculate these averages, the results for each submission are weighted according to the number of FTE staff in the submission.

Table 1. Average overall quality profile and average sub-profiles for all submissions

	4*	3*	2*	1*	U
Overall quality	30	46	20	3	1
Outputs (65%)	22.4	49.5	23.9	3.6	0.6
Impact (20%)	44.0	39.9	13.0	2.4	0.7
Environment (15%)	44.6	39.9	13.2	2.2	0.1

14. This overview provides a summary of the REF results at sector level. For further details and analysis see www.ref.ac.uk, in particular the 'Analysis' section under 'Results & submissions' and the main panels' overview reports under 'Publications' (available from January 2015).

¹ 155 institutions made submissions in November 2013. Two of them merged before the results were published, so the results are presented for 154 institutions.

² Unless stated otherwise, all numbers of staff presented in this document refer to Category A full-time equivalent (FTE) staff. See paragraph 28 for a definition.

³ Submissions with 3 or fewer staff (headcounts) are excluded from the calculation of the average sub-profiles. There were 16 submissions with 3 or fewer staff (headcounts).

Outputs

15. The REF expert panels have found significant improvement in the quality of submitted research outputs since the 2008 RAE. The average proportion of the outputs sub-profile judged to be world-leading (4*) has risen from 14 per cent in RAE 2008 to 22 per cent in REF 2014. The average proportion judged to be internationally excellent (3*) has risen from 37 per cent to 50 per cent. These increases are consistent with independent evidence about the improved performance of UK research in international comparative terms. International members of the four REF main panels confirmed that the REF results reflect the international standing of UK research.

16. Excellence was found across all types and forms of research including applied, basic, practice-based and strategic research; and in all forms of research endeavour including collaborative, interdisciplinary and multidisciplinary research. Where institutions identified their outputs as interdisciplinary, analysis of the results shows that these were judged by the REF expert panels to be of equal quality to other outputs.

17. The assessment took account of equality and diversity in research careers. A substantially higher proportion of early career researchers and staff with individual circumstances (such as maternity leave or part-time working) were submitted than in the 2008 RAE. Analysis of the results shows that outputs produced by these staff were judged to be of equally high quality to outputs produced by other staff.

Impact

18. For the first time, the assessment provides evidence of the impact of UK research. The REF has found that a wide range of outstanding (4*) and very considerable (3*) impacts have arisen from research in every UOA. These include diverse impacts on the economy, society, culture, public policy and services, health, the environment and quality of life, within the UK and internationally.

19. The impacts demonstrated through the REF reflect HEIs' productive engagements with a very wide range of public, private and third sector organisations, and engagement directly with the public. Research has contributed to outstanding impacts through numerous pathways, including intended and unanticipated routes.

20. As the impact element is new in the research assessment process, this sub-profile is not comparable with the RAE results.

Environment

21. The 2014 REF has found that a high proportion of submitted staff are working in environments that are conducive to producing research of world-leading (4*) or internationally excellent (3*) quality.

22. For the period 2008-09 to 2012-13, a total research income (and income-in-kind) of £24.1 billion was reported in submissions. Research income was from a range of sources including 38 per cent from the UK Research Councils, 19 per cent from UK government bodies, 19 per cent from UK charities, 6 per cent from UK industry and 9 per cent from EU government bodies. Submissions reported that a total of 95,184 research doctoral degrees were awarded over the period 2008-09 to 2012-13.

23. The expert panels found that the quality of research environments has improved since the 2008 RAE, although the environment sub-profiles are not directly comparable between the two exercises as the criteria and structure of this part of the assessment have changed.

Distribution of excellence

24. The 2014 REF has found research excellence in many diverse institutions across the UK. Through the assessment of each element (outputs, impact and environment) differential levels of excellence have been found across institutions. In terms of the overall quality profiles achieved by the 154 submitting institutions:

- Three-quarters of the institutions had at least 49 per cent of their submitted activity graded as internationally excellent (3*) or above.
- One-quarter had at least 79 per cent of their submitted activity graded as internationally excellent (3*) or above.
- Three-quarters had at least 10 per cent of their submitted activity graded as world-leading (4*).
- One-quarter had at least 30 per cent of their submitted activity graded as world-leading (4*).

25. Excellence was also found in a wide range of individual submissions of all sizes. In terms of the overall quality profiles awarded to the 1,911 submissions:

- Three-quarters of all submissions achieved at least 54 per cent internationally excellent (3*) quality or above.
- One-quarter achieved at least 83 per cent internationally excellent (3*) quality or above.
- Three-quarters achieved at least 10 per cent world-leading (4*) quality.
- One-quarter achieved at least 34 per cent world-leading (4*) quality.

Overview of the assessment



Submissions and criteria for assessment

26. During 2013, institutions made submissions in the 36 UOAs, which between them cover all research disciplines. The UOAs are listed in Annex B. Each submission contained a standard set of information in relation to outputs, impact and environment.

27. An expert sub-panel assessed the submissions made in each UOA, according to a standard set of criteria. A brief description is provided below of each element of the assessment (outputs, impact and environment). For further details including the complete definitions and criteria, see the following REF publications:

- ‘Assessment framework and guidance on submissions’ (REF 02.2011)
- ‘Panel criteria and working methods’ (REF 01.2012).

Staff, equality and diversity

28. Each institution selected staff for inclusion in its submissions. To be eligible for inclusion, Category A staff must have been employed by the submitting institution on the census date of 31 October 2013, to undertake ‘research only’ or ‘teaching and research’⁴.

29. The REF results indicate the number of FTE staff included in each submission. The Higher Education Statistics Agency has published contextual data about the number of staff identified as eligible to be submitted by each institution (see www.hesa.ac.uk/ref2014).

30. To support equality and diversity in submissions, each institution applied a code of practice on the fair and transparent selection of staff, and conducted an equality impact assessment of its REF selection processes.

31. Allowances were made for early career researchers and staff with other circumstances (such as maternity leave or part-time working) to be submitted with fewer than four outputs. Institutions submitted 28 per cent of staff (by headcount) with such circumstances, compared with 13 per cent of staff submitted in the 2008 RAE with fewer than four outputs. Analysis of the REF results shows that outputs produced by these staff were judged to be of equally high quality to outputs produced by other staff.

32. An Equality and Diversity Advisory Panel (EDAP) assisted the REF team and the REF panels in implementing the equality and diversity aspects of the REF. EDAP’s report is available at www.ref.ac.uk under ‘Publications’ (from January 2015).

⁴ A small number of Category C staff were also submitted. These are staff employed by a different organisation to carry out research in the submitting institution. Category C staff are not included in the numbers of FTE staff provided in this document.

Outputs (65 per cent)

Definition for the REF 'Outputs' are the product of any form of research, published between January 2008 and December 2013. They include publications such as journal articles, monographs and chapters in books, as well as outputs disseminated in other ways such as designs, performances and exhibitions.

Information provided in submissions Institutions submitted up to four outputs for each member of staff they selected for inclusion in their submissions.
Submissions could request that an output of extended scale and scope be 'double-weighted' by the sub-panel (that is, counted as two outputs in the assessment).

Assessment criteria The panels assessed the quality of outputs against the criteria of '*originality, significance and rigour*'.
The assessment was based on peer review of the outputs. Some sub-panels considered the number of times the output had been cited, as contextual information to support peer review.

Impact (20 per cent)

Definition for the REF 'Impact' is any effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia.

Information provided in submissions Each submission included:
Impact case studies. These four-page documents described impacts that had occurred between January 2008 and July 2013. The submitting institution must have produced high quality research since 1993 that contributed to the impacts. Each submission included one case study, plus an additional case study for every 10 FTE staff.
An impact template. This document explained how the submitted unit had enabled impact from its research during the period from 2008 to 2013, and its future strategy for impact.

Assessment criteria Impact case studies were assessed in terms of the '*reach and significance*' of the impacts.
Impact templates were assessed in terms of how far the approach and strategy are conducive to achieving impacts.

Environment (15 per cent)

Definition for the REF 'Environment' refers to the strategy, resources and infrastructure that support research activity in the submitted unit and contribute more widely to the discipline.

Information provided in submissions Each submission included:
An environment template. This document describes the submitted unit's research strategy; its support for research staff and students; its research income, infrastructure and facilities; and its research collaborations and wider contributions to the discipline.
Statistical data. Institutions provided data on the amount of research income they received each academic year (from 2008-09 to 2012-13) from different types of sources, and on the number of research doctoral degrees awarded in each of these years. These were based on data that institutions report annually to the Higher Education Statistics Agency.

Assessment criteria The research environment was assessed in terms of its '*vitality and sustainability*'.

Audit and data verification

33. The accuracy of information provided in submissions was checked and verified. A sample of staff submitted by every institution was audited for eligibility. A selection of impact case studies within each UOA were audited, including by consulting third-party sources to corroborate the claimed impacts. Submissions were compared with other available datasets, including bibliographic resources, data held by the Higher Education Statistics Agency, and information held by the Research Councils. Apparent discrepancies were investigated.

34. Panels also drew attention to any areas of concern in submissions, and such concerns were investigated. Where necessary, submissions were amended and panels were supplied with the corrected information⁵.

Expert panels and the assessment process

35. The 36 expert sub-panels assessed the submissions under the guidance of the four main panels. The panels were appointed by the funding bodies, based on nominations from academic and other organisations. The composition of panels and number of people involved was as follows⁶.

4 main panels

4 main panel chairs
23 international members
17 user members

36 sub-panels

36 sub-panel chairs
1,052 members and assessors
(77% academic and 23% users)
25 specialist advisers

36. Each sub-panel assessed each submission in its UOA, and produced a sub-profile for each element of the submission (outputs, impact and environment), using a scale from 4* to 'unclassified'. Annex A sets out the criteria and definitions of the starred levels for each sub-profile, and for the overall quality profile.

37. The four main panels oversaw the assessment, ensuring the criteria and standards were consistently applied. They were responsible for signing off the results recommended by the sub-panels. Each main panel included international members to provide assurance about the international benchmarking of standards.

38. The sub-panels reviewed submissions according to the following common principles and practices:

- Each part of each submission was reviewed by panel members and/or assessors with appropriate expertise.
- Users of research on the sub-panels had a full and equal role in assessing the impact element of submissions, jointly with academic members.
- Where the sub-panel did not contain sufficient expertise to review an output, it was cross-referred to an appropriate sub-panel for advice. In total, 5,248 outputs were cross-referred between sub-panels.
- Where an output was published in a language that the sub-panel was unable to assess, it was referred to a specialist adviser with appropriate expertise.
- All the information in each submission was examined in sufficient detail to contribute to the formation of robust sub-profiles for the submission.
- Judgements were made solely on the basis of the information submitted by institutions (and responses to audit queries), and in accordance with the published criteria.
- Consistency in standards of assessment was assured within and between sub-panels through a range of mechanisms. These included initial calibration exercises, main panel member attendance at sub-panel meetings, and keeping under review the standards being applied within each sub-panel and each main panel.
- Each sub-panel recommended the sub-profiles (for outputs, impact and environment) and the overall quality profiles to the main panel on the basis of its collective judgement.
- No individual played any role in the assessment of any submission in which they had a major conflict of interest, including submissions from any institution(s) they had been employed by since the start of the REF period.

39. The criteria and working methods of the expert panels are set out in more detail in 'Panel criteria and working methods' (REF 01.2012). At the end of the assessment, each main panel and its sub-panels also provided an overview report setting out how they carried out the assessment and commenting on the state of research in their discipline areas (available at www.ref.ac.uk under 'Publications' from January 2015).

⁵ Further details about the audit and data verification procedures will be available in the REF manager's report (available at www.ref.ac.uk under 'Publications' from February 2015).

⁶ The full panel membership is available at www.ref.ac.uk under 'Expert panels'.