

November 2010

# Research Excellence Framework impact pilot exercise: Findings of the expert panels

A report to the UK higher education funding bodies by  
the chairs of the impact pilot panels



Higher Education Funding Council for England  
Scottish Funding Council  
Higher Education Funding Council for Wales  
Department for Employment and Learning, Northern Ireland

# Contents

<b>Executive summary</b>	2	
Key points	2	
Summary of recommendations	3	
<b>Introduction</b>	7	
<b>The pilot submissions</b>	8	
<b>The assessment process</b>	9	
Panel criteria and working methods	9	
The impact profiles	10	
<b>Findings and recommendations</b>	11	
Incorporating impact into the REF	11	
Defining the impact of research	13	
Evidence of impact provided by institutions	15	
The assessment of impact by expert panels	20	
<b>Annexes</b>		
Annex A	Participating institutions and units of assessment	27
Annex B	Membership of the impact pilot expert panels	29
Annex C	Summary of guidance on submissions	37
Annex D	List of case studies submitted	39
Annex E	Impact profiles	49
Annex F	Clinical Medicine panel: additional feedback	51
Annex G	Physics panel: additional feedback	56
Annex H	Earth Systems and Environmental Sciences panel: additional feedback	60
Annex I	Social Policy and Social Work panel: additional feedback	65
Annex J	English Language and Literature panel: additional feedback	71

# Executive summary

## Key points

1. The four UK higher education (HE) funding bodies are developing new arrangements for the assessment of research in UK higher education institutions (HEIs), known as the Research Excellence Framework (REF). As part of the REF, the funding bodies aim to identify and reward the impact that excellent research has had on society and the economy, and to encourage the sector to build on this to achieve the full potential impact across a broad range of research activity in the future.
2. The REF team ran a pilot exercise which aimed to test the feasibility of assessing research impact, and to develop the method of assessment for use in the REF. The pilot exercise was undertaken in five units of assessment (UOAs):
  - Clinical Medicine
  - Physics
  - Earth Systems and Environmental Sciences
  - Social Work and Social Policy
  - English Language and Literature.
3. Twenty nine UK HEIs took part in the exercise. Each participating HEI made an impact submission to two of the five pilot UOAs. The REF team then recruited an expert panel for each of the five pilot UOAs to assess the impact submissions and report their findings on the assessment method. Each pilot panel included a broadly even mix of leading researchers in the discipline and experts from outside academia who engage with the use or benefits of research from the discipline, from across the private, public and third sectors.
4. This report to the UK HE funding bodies by the chairs of the pilot expert panels sets out our findings and recommendations.
5. The pilot showed that it is possible to assess impacts arising from research in these disciplines. Our key findings were:
  - a. HEIs in the pilot provided evidence of a wide variety of impacts arising from their research. This provided a unique collection of evidence that made explicit the social and economic benefits of research from each of these disciplines.
  - b. Expert review of case studies is an appropriate means for assessing impact. Using expert judgement the panels were able to assess and differentiate between case studies and to produce impact profiles of the kind that would be useable in the REF.
  - c. The case study approach should be developed further for use in the REF and the panels recommend a number of improvements to the process to ensure the assessment will be sufficiently robust for full implementation. These include changes to the template for case studies, changes in the use of the wider 'impact statement', improvements to the guidance provided to HEIs and improvements in the quality of evidence provided by HEIs.

d. Although the pilot covered five disciplines with very different kinds of impacts, the broad findings in terms of the feasibility and method of assessing impact were similar. A common broad approach for all disciplines based on case studies should be possible, with generic criteria and the same weighting for impact. Within this common approach REF panels should develop guidance as appropriate to the nature of impacts arising from research in their discipline.

e. A robust assessment of impact should carry a weighting in the REF sufficient to ensure it is taken seriously by all stakeholders. A lot has been learned from the pilot exercise about how to assess impact robustly, but the assessment in the first full REF will still be developmental, and it will be important to carry the confidence of the academic community. In light of this the weighting of impact in the REF should be considered carefully. One option would be for impact to have a lower weighting than 25% for the 2014 REF, with a clear intention to increase this for future exercises as the method beds down.

6. We make a number of recommendations for improving the assessment of impact for the REF. These are summarised below and explained in more detail throughout the report.

## Summary of recommendations

### Defining research impact

Rec 1. It is essential that impact should be defined broadly to include social, economic, cultural, environmental, health and quality of life benefits. Impact purely within academia should not be included in this part of the REF.

Rec 2. Impacts from research typically develop over extended periods of time and institutions should be able to submit impacts at any stage of development, so long as some change or benefit beyond academia has taken place:

- a. The REF should only assess the impact that has taken place during the assessment period and not attempt to anticipate future or potential impact.
- b. In selecting case studies, institutions should focus on those impacts that are more fully developed or significant 'interim' impacts.
- c. Institutions should be permitted to submit impacts that evolve over long time-frames to successive REF exercises, with each REF assessing the specific impacts that have taken place during the assessment period.

Rec 3. The REF should include benefits arising from engaging the public with research. Submissions should:

- a. Show a *distinctive contribution of the department's research* to that public engagement activity.
- b. Make a case for the *benefits* arising from the public engagement activity. This must go beyond showing how the research was disseminated.

Rec 4. REF panels should develop more detailed guidance on what constitutes impact in their disciplines. This should include guidance about the types of impacts and indicators anticipated from research in their disciplines, expanding on the initial list provided by the funding bodies, and guidance on what constitutes 'interim' impact. The guidance should

be flexible enough to allow for a wide variety of impacts and indicators, including impacts that panels may not anticipate.

### **Evidence of impact provided by institutions**

Rec 5. The case studies and wider 'impact statements' were appropriate forms of evidence for the panels to assess. This format for submissions should be revised to ensure the assessment will be sufficiently robust for implementation in the REF.

Rec 6. To ensure that institutions provide case studies that enable panels to make robust judgements:

- a. The case study template requires significant revision to encourage a coherent narrative, explaining what research was undertaken, what the claimed benefits or impacts were, and how the research was linked to the benefits.
- b. Case studies should contain all the relevant information and evidence required by panels to come to a judgement; panel members should not be expected to make assumptions or undertake further work to gather evidence required in making these judgements. References should be provided only for verification purposes, not as a means for panels to seek further information.
- c. Indicators of impact should be included within the narrative as supporting evidence where relevant. REF panels should develop guidance about the kinds of indicators they would expect to see, but this guidance should not be restrictive. Case studies should include indicators that are meaningful, contextualised and relevant in demonstrating the particular case.
- d. Individual case studies in the pilot varied in terms of the breadth of research and/or range of benefits covered by each. This flexibility should be retained, but the highest scoring cases in the pilot were those that provided a *coherent narrative with evidence of specific benefits*. Case studies should not cover a series of disconnected activity or list a wide range of benefits without providing details and evidence.

Rec 7. By providing a total of one case study per ten staff, submitted units generally provided sufficient evidence of impacts from across the broad areas of their research, and enabled panels to differentiate between submissions. This approach would be appropriate for the full REF, but it raises issues regarding smaller units that require further consideration.

Rec 8. In addition to assessing case studies, REF panels should assess the unit's strategic approach to impact and how the institution supports researchers in achieving impact. A clear explanation of this should be assessed as a distinct part of the 'environment' element of the REF and this will replace the separate impact statement as used in the pilot. This information, and details of how the case studies fit into the unit's research activity as a whole, should also be provided as contextual information to those members of the panel assessing the impact case studies.

## The assessment of impact by REF panels

- Rec 9. The two criteria for assessing impact – ‘reach’ and ‘significance’ – are appropriate and should be broadly applicable across all panels. The REF panels should have scope to elaborate on how these criteria may be interpreted at discipline level. REF panels should apply judgements holistically to each case study, and there should be no simple ‘hierarchy’ of reach based on a geographic scale.
- Rec 10. Broad generic definitions of the starred levels in the impact profile are workable across the range of disciplines, and there should be flexibility for panels to interpret these as appropriate to their disciplines.
- Rec 11. A distinction should be made between those case studies graded as ‘unclassified’ because they are not eligible, and those that fail to demonstrate significant impact had been achieved.
- Rec 12. Given that REF panels will need to interpret the criteria in ways that are appropriate to research in their respective UOAs, the assessment of impact in the REF can only be used to compare the impact achieved by submitted units within each UOA. The REF cannot make comparisons of the impact of research units submitted to different UOAs, nor provide a mechanism for comparing the relative impact of disciplines.
- Rec 13. Case studies should explain clearly how the research contributed to the benefits, regardless of whether this was direct or indirect and whether there were other factors beyond the institution’s influence:
- a. In all cases there should be a distinctive contribution of the unit’s research to the impact or benefits.
  - b. It should not be necessary that the institution was involved in exploiting or applying the research.
  - c. Panels should give full credit to the submitting unit so long as the research made a distinctive contribution to the impact. Where the impact also depended on a wider body of research the case study should acknowledge this. Panels are likely to take into account the relative contribution of research from different institutions to an impact where these are clearly of a different order.
- Rec 14. It is vital to ensure that the research underpinning the case studies is of high quality. For the pilot, research quality broadly equivalent to 2\* or greater was regarded as sufficient. It should remain the responsibility of submitting institutions to justify the quality of underpinning research, so that panels can be assured about this with minimal need to review the cited research outputs. REF panels should develop guidance about appropriate forms of evidence of quality, and case studies should only cite research outputs and grants that are directly relevant to the case, rather than provide lengthy lists of references.
- Rec 15. A timeframe of up to 15 years between the impact and the underpinning research is broadly appropriate, provided that the institution remains active in the relevant area of research. REF panels should have flexibility to extend this timeframe for disciplines where time-lags between research and its impact are often more lengthy.

Rec 16. Robust mechanisms will be required to verify the submitted evidence. Case studies should normally include details of key 'users' who could potentially be contacted, and/or references to other independent sources. These should be for audit purposes only, to be followed up on a sample basis to verify specific claims made in the case study. Where the panel judges that claims have not been sufficiently verified through an audit, the case study should be awarded a grade of 'unclassified'.

Rec 17. It is essential to include research users on all REF panels to provide the right balance of expertise in assessing impact and to ensure stakeholder confidence in the outcomes.

Rec 18. The pilot tested some examples of cross-referring case studies between panels. While this should remain a possibility in the REF, in general it is preferable for panels to assess the material submitted to them and for which they are responsible for developing the profiles. Where case studies are cross-referred, advice on specific issues should be sought by the panel.

Rec 19. The REF team will need to consider the operational and workload implications for REF panels of scaling up from the pilot to full implementation.

## Introduction

7. In developing the new arrangements for the assessment of research in UK higher education institutions (HEIs) – the Research Excellence Framework (REF) – the UK funding bodies aim to identify and reward the impact that excellent research has had on society and the economy, and to encourage the sector to build on this to achieve the full potential impact across a broad range of research activity in the future.

8. During 2009 the funding bodies consulted on broad proposals for the assessment of impact in the REF. The REF team then ran a pilot exercise which aimed to test the feasibility of these proposals for assessing research impact, and to develop the method of assessment for use in the REF.

9. With the advice of the REF Impact Pilot Steering Group, the REF team selected five units of assessment (UOAs) to cover a spread of disciplines from across the sciences, social sciences and arts and humanities, and to include a wide variety of impacts relevant to a range of public, private and third sector groups. The five UOAs were:

- Clinical Medicine (hereafter referred to as 'Medicine'). This covered UOAs 1-5 inclusive from the 2008 Research Assessment Exercise (RAE)
- Physics
- Earth Systems and Environmental Sciences (ES&ES)
- Social Work and Social Policy (SWSP)
- English Language and Literature (hereafter referred to as 'English').

10. This sample was selected to test and develop a generic approach to assessing impact, and also identify the extent to which the approach would need to be tailored by REF panels to take account of disciplinary differences in the nature of research and its impacts.

11. In August 2009 HEFCE, acting on behalf of the four UK funding bodies, invited HEIs to take part in the impact pilot exercise and received 75 expressions of interest from across the UK. With the advice of the Impact Pilot Steering Group, the REF team selected 29 of these HEIs to achieve a spread of institutional types and characteristics and involvement from across the UK. The 29 HEIs were broadly representative of the HE sector, although the sample was weighted towards the distribution of research activity and funding.

12. Each pilot HEI was invited to make submissions to two of the five pilot UOAs (with some exceptions where only one UOA would be relevant). Within each of the pilot UOAs, the REF team aimed to include a mix of submitting units of differing sizes and levels of research performance. The list of HEIs and their UOAs selected for the pilot is at **Annex A**.

13. The REF team then recruited an expert panel for each of the five pilot UOAs to test the process of assessing impact submissions and report their findings. On each panel, the REF team sought to include a broadly even mix of practising academic researchers, and research 'users' from the public, private and third sectors as appropriate to the anticipated types of impact from each discipline. The membership of the pilot panels is at **Annex B**.



## The pilot submissions

14. The REF team developed guidance on submissions for HEIs taking part in the impact pilot exercise, based on the proposals set out in the funding bodies' consultation on the REF (HEFCE 2009/38), and taking account of feedback from the REF consultation events that took place from 28 October – 13 November 2009.

15. The impact pilot tested a case study-based approach to assessing the impact of research. Pilot institutions were invited to submit evidence of the social and economic impacts of their research through a number of case studies detailing specific examples of impact, as well as a broader 'impact statement', describing the impacts and related activity of the department or as a whole.

16. Detailed guidance was discussed with the pilot institutions at pilot briefing events in October and November 2009, and with the REF Impact pilot Steering Group, before being finalised and issued to the pilot institutions in November 2009. The guidance document is available on the REF website, [www.ref.ac.uk](http://www.ref.ac.uk) under 'Impact pilot exercise'. (This includes some supplementary guidance provided in February 2010 to clarify some aspects of the process.)

17. The guidance set out general background information and aims of the pilot exercise; what information should be submitted by institutions for the pilot exercise; templates for the case studies and impact statements; guidance on scope, definitions and criteria; and information on how the pilot submissions would be reviewed. A summary of the guidance, including an outline of the content of submissions, is at **Annex C**.

18. All 29 HEIs completed their submissions by the deadline of 15 March 2010. A list indicating the nature of all the case studies submitted to the pilot is provided at **Annex D**. The REF team has also published some selected examples of case studies that scored highly and were considered good practice in the pilot exercise. These have been reformatted to reflect recommended changes to the case study template. These are available on the REF website at [www.ref.ac.uk](http://www.ref.ac.uk) under 'Impact pilot exercise'.

19. Pilot HEIs were also invited to submit 'supplementary' case studies in order to test unusual examples of impact or to explore the boundaries of what would be eligible. A range of supplementary case studies was received, testing in particular issues of attribution, impact through public engagement, and early stage impacts. These issues were also raised by the main body of case studies assessed by panels, and informed the panels' conclusions on these issues.

# The assessment process

## Panel criteria and working methods

20. Following discussion with the pilot panel chairs and the Impact Pilot Steering Group, the REF team provided the pilot panels with guidance about assessing the submissions. The guidance document is available on the REF website at [www.ref.ac.uk](http://www.ref.ac.uk) under 'Impact pilot exercise'. In summary:

- The panels were asked to review submissions and produce an 'impact profile' for each submission by scoring the submitted case studies, and then considering the 'impact statements' to moderate the profiles.
- The panels were provided with initial criteria – 'reach' and 'significance' – for scoring the case studies, and initial definitions of the levels in the impact profile:

<b>Four star</b>	<b>Exceptional:</b> Ground-breaking or transformative impacts of major value or significance with wide-ranging relevance have been demonstrated
<b>Three star</b>	<b>Excellent:</b> Highly significant or innovative (but not quite ground-breaking) impacts relevant to several situations have been demonstrated
<b>Two star</b>	<b>Very good:</b> Substantial impacts of more than incremental significance or incremental improvements that are wide-ranging have been demonstrated
<b>One star</b>	<b>Good:</b> Impacts in the form of incremental improvements or process innovation of modest range have been demonstrated
<b>Unclassified</b>	The impacts are of little or no significance or reach; or the underpinning research was not of high quality; or research-based activity within the submitted unit did not make a significant contribution to the impact.

21. As this was a pilot exercise, the guidance deliberately gave the panels flexibility to refine the criteria and level definitions, to determine their working methods, and decide how to make use of the impact statements in producing the impact profiles.

22. At their first round of meetings, each panel reviewed a sample of the submitted case studies and, through discussion of these, refined the criteria and the level definitions to be used in assessing the pilot submissions. This process also helped members calibrate their standards of assessment.

23. The panels agreed to use 'reach' and 'significance' as the criteria for assessment, and made some minor revisions to the level definitions for the purpose of assessing the pilot submissions, but also felt that further consideration of these would be needed at the end of the pilot process.

24. The panel chairs allocated each case study to four individual panel members (three for the SWSP panel) to be reviewed, based on the relevance of members' expertise and ensuring that case studies were reviewed by members with both research and 'user' expertise. Generally case studies were allocated to the two researchers and two research 'users' with the most relevant expertise for each case study.

25. Each panel then assessed the pilot submissions, through two or three rounds of meetings, and agreed the outcomes for each submission, as follows:

- Panel members scored the case studies they were allocated and at each meeting the case studies were discussed in turn and a single score was agreed for each. (In discussing the scores, members highlighted a number of issues they wish to report on – these are set out in the sections below.)
- Through scoring the case studies, the panels built up an initial profile for each submission, showing the proportion of case studies meeting each starred level.
- After assessing the case studies, the panels considered the ‘impact statements’ and the data about research income from ‘users’. In reviewing the impact statements, all panels considered what kind of information they contained that would be valuable to the future REF panels, and what role an ‘impact statement’ should have in the REF. For the purposes of the pilot, it was left open to panels to decide how to use the impact statements to inform the scores, and they did so as follows:

---

Medicine panel:	scored the impact statements but decided they did not materially change the profiles awarded to submissions.
Physics panel:	scored the impact statement on a four point scale and weighted them at 15 per cent of the impact profiles.
ES&ES panel:	reviewed the impact statements and decided not to use them in their current form to influence the profiles.
SWSP panel:	scored each impact statement on a four point scale and applied a weighting of 25 per cent.
English panel:	scored each impact statement on a four point scale and applied a weighting of 20 per cent.

---

26. Panels followed procedures to maintain the confidentiality of submissions and their discussions of them, and to avoid conflicts of interest, as set out in the guidance document.

27. The panels also tested procedures for cross-referring case studies between panels; and for auditing information and seeking corroboration from the external contacts provided in case studies. These are discussed further below.

### **The impact profiles**

28. The profiles awarded by the panels to the pilot submissions are set out at **Annex E**. The pilot was an experimental exercise and the main aim of the panels was to test and identify lessons from the process in general, not to produce assessments that could be taken as an indication of institutions’ performance in a real REF exercise. Therefore the impact profiles are reported in anonymous form. They show the spread of scores awarded and the degree of differentiation between submissions that has resulted from the assessment process.

# Findings and recommendations

## Incorporating impact in the REF

29. Having gone through the process of assessing the pilot submissions, the panels considered the overall feasibility of assessing impact for the REF. We concluded that:
- a. The panels were able in the pilot to assess and differentiate between case studies and to produce impact profiles of the kind that would be useable in the REF. Thus the pilot showed it is possible to assess impacts arising from research in these disciplines, through a process of expert review and using a case study approach.
  - b. The case study approach needs refinement and should be developed further for use in the REF. We recommend a number of improvements to the process to ensure the assessment will be sufficiently robust for full implementation. These include changes to the template for case studies, revisions to the use of a wider 'impact statement', improvements to the guidance given to HEIs and improvements to the quality of evidence provided by institutions.
  - c. Although the pilot covered five disciplines with very different kinds of impacts, the broad findings in terms of the method of assessing impact were similar. A common broad approach for all disciplines based on case studies should be possible, with the same weighting for impact. Within this common approach REF panels must be able to develop guidance and apply the assessment criteria as appropriate to reflect the nature of impacts from research in their disciplines.
30. We also considered the wider consequences of incorporating impact in the REF:
- a. Institutions in the pilot provided evidence of a wide variety of impacts. For each discipline this provided a unique subject-wide view of the socio-economic benefits of research. We believe that incorporating impact in the REF will help the sector to make explicit the benefits of research, communicate these more publicly, provide compelling evidence to the Government, and improve public understanding of research and its benefits to society.
  - b. The impact element in the REF has the potential to create a number of positive incentives, including:
    - i. Encouraging collaboration between HE and industry, the public sector and the third sector.
    - ii. Encouraging institutions to support their researchers in more fully realising the wider benefits of the research they undertake. This should include support for realising the benefits from 'pure' or 'basic' research, as well as supporting research with more immediate potential application.
    - iii. Providing a level playing field in the REF for all types of research.
  - c. We considered the potential unintended consequences of introducing the impact assessment. Some care will need to be taken to avoid the following:

- i. Inadvertently encouraging researchers to focus on research with more direct short-term impact, as opposed to curiosity-driven research with uncertain or longer-term impact. Institutions will need to guard against adopting a short-term strategy.
- ii. Potential discouragement of collaborative research. There are mechanisms for avoiding this problem when assessing research outputs, which it should be possible to apply to the impact element.
- iii. Early career researchers are less likely to have achieved impact, given the time-lags involved, and departments or units with a very high proportion of early career researchers could therefore be at a disadvantage.
- iv. Small departments or units may face difficulties in responding either because they would have fewer examples to draw on, or because the results could be more variable than for larger units. These issues need further consideration.
- v. Newly established departments or units could find it difficult to demonstrate impact historically.

31. In the light of all these considerations, we discussed the funding bodies' proposal that impact should be weighted at 25% of the overall outcomes of the REF, and identified the following issues:

- The assessment of output quality is well established and commands widespread confidence, and should remain the dominant factor in the assessment.
- A significant weighting for impact is important to ensure it is taken seriously by all key stakeholders and to make the benefits of research explicit to the government and public.
- The assessment process in the first REF is likely to be developmental as institutions learn how to provide the evidence and panels gain experience. This suggests a lower weighting initially with a clear intention to raise it in future exercises.
- If the weighting is set too high, each case study would count for a disproportionately high component of the overall outcomes, compared to individual outputs.
- Too high a weighting risks undermining the credibility of the REF, and of distorting behaviours.
- If the impact element of the REF is based wholly on case studies and the 'impact strategy' is assessed as part of the 'environment' element, some of the weighting could move with it, resulting in a more even weighting between the impact and environment elements.

32. The funding bodies should consider the weighting of impact carefully, taking all these factors into account. Some of the pilot panels recommend a lower weighting than 25% for the 2014 REF, with a clear intention to increase this for future exercises as the method beds down.

## Defining the impact of research

33. Panels received a diverse range of case studies reflecting a wide variety of types of impact:

- Medicine: Impacts primarily related to improvements to healthcare (including improved quality of life for patients, better health outcomes, lives saved, changes to clinical guidelines and practices, improved public awareness, and changes to healthcare policy); and economic benefits (through start-up companies and medical technology, contributing to the pharmaceutical industry and reducing the costs of healthcare).
- Physics: impacts primarily related to the development of products and services, although a significant number reflected impact deriving from public engagement, and some focused on policy impact.
- ES&ES: impacts included influence on policy development and implementation relating to the environment and climate change (often with international scope); development of processes, services and technologies relating to conservation, environmental management, monitoring and risk assessment; and product and service development (particularly in the oil, energy and utilities sectors).
- SWSP: case studies primarily centred on influencing policy development, improving public services, and impacts on practitioners. Most of these impacts were within the UK nationally, locally or within one of the devolved nations, and some related to impact in other countries or on international agencies.
- English: impacts included contributing to the creative economy, contributing to national cultural enrichment, extending the global/national knowledge base beyond academia, contributing to civil society, and influencing policy development.

34. Some further information about the diverse types of impacts submitted to each panel, and some of the issues these raised for the assessment, are at **Annexes F-J**.

35. Given this diversity it will be essential that impact in the REF should be defined broadly to include social, economic, cultural, environmental, health and quality of life benefits.

36. The panels felt it would be helpful to develop an overarching broad 'typology' of impacts for the REF, and for the REF panels to develop more detailed definitions and guidance for their communities about the kinds of impact and indicators that they would anticipate from research in their disciplines. The initial list of impacts identified by HEFCE will need to be developed further, especially for the arts and humanities. At the same time, the guidance developed by panels is unlikely to be able to anticipate all potential types of benefits that may arise from research in their disciplines, and it should not therefore be restrictive.

37. In defining impact in more detail, the REF panels could do so in terms of changes that have come about, public benefits, or the contribution that research has made to the economy and society. This terminology should be used as appropriate in addition to 'impact'.

38. Impacts from research typically develop over extended periods of time, and many of the impact submissions received by the panels were at a relatively early stage of development ('interim impacts'). We concluded that:

- HEIs should be able to submit impacts at any stage of development, so long as some change or benefit beyond academia has taken place.
- These should only be assessed in terms of impacts or benefits that have taken place during the REF assessment period; the REF should not attempt to anticipate future or potential impact.
- Institutions remain responsible for selecting their case studies, and if they wish to include impacts that are at an early stage, are advised to do so only where these are significant.
- REF panels should provide further guidance on what would count as ‘interim’ impacts, as appropriate to their disciplines.
- It should be possible for institutions to submit impacts that evolve over long time-frames to successive REF exercises, but in each REF they should only be assessed for the specific impacts that have taken place during that assessment period, and where the institution remains active in that area of research.

39. For the first REF exercise only, a longer window for impact could be considered, to include impact that has taken place in the years leading up to the REF assessment period.

40. The panels agreed that impact purely within academia should not be included in this part of the REF. Some case studies raised questions about the boundary between academic and extra-academic impact and there are some ‘grey areas’ where the distinction between these is less clear. Guidelines will need to be developed to provide further clarity about these.

41. Panels received a number of case studies of benefits arising from engaging the public with research and we consider that this should be included as an appropriate kind of ‘impact’ in the REF. Some of these case studies were impressive and scored as highly as any other kind of impact. However, some also raised challenges in the assessment, and to overcome these in the REF all case studies claiming impact from public engagement should:

- Show what *distinctive contribution the department’s research* made to the public engagement activity.
- Make a case for the *benefits* arising from the public engagement activity. This must go beyond showing how the research was disseminated.

42. Further detailed discussion of these issues (interim impacts, impact through public engagement, and ‘grey areas’) is included in **Annexes F-J**.

### **Recommendations: Defining research impact**

*Rec 1. It is essential that impact should be defined broadly to include social, economic, cultural, environmental, health and quality of life benefits. Impact purely within academia should not be included in this part of the REF.*

*Rec 2. Impacts from research typically develop over extended periods of time and institutions should be able to submit impacts at any stage of development, so long as some change or benefit beyond academia has taken place:*

- a. *The REF should only assess the impact that has taken place during the assessment period and not attempt to anticipate future or potential impact.*
- b. *In selecting case studies, institutions should focus on those impacts that are more fully developed or significant 'interim' impacts.*
- c. *Institutions should be permitted to submit impacts that evolve over long time-frames to successive REF exercises, with each REF assessing the specific impacts that have taken place during the assessment period.*

*Rec 3. The REF should include benefits arising from engaging the public with research. Submissions should:*

- a. *Show a distinctive contribution of the department's research to that public engagement activity.*
- b. *Make a case for the benefits arising from the public engagement activity. This must go beyond showing how the research was disseminated.*

*Rec 4. REF panels should develop more detailed guidance on what constitutes impact in their disciplines. This should include guidance about the types of impacts and indicators anticipated from research in their disciplines, expanding on the initial list provided by the funding bodies, and guidance on what constitutes 'interim' impact. The guidance should be flexible enough to allow for a wide variety of impacts and indicators, including impacts that panels may not anticipate.*

## **Evidence of impact provided by institutions**

### **Case studies: good practice**

43. Although there were many strong examples, the quality and clarity of evidence provided in a number of the pilot case studies was not as high as panels would have hoped. Panels recognised that pilot institutions were experimenting to some extent, that they had prepared the submissions in a short timescale, that the process was unfamiliar and that the guidelines were unclear in some respects. This section outlines general features of good practice as well as shortcomings found in the pilot case studies.

44. The following features were identified as good practice:

- All material required to make a judgement about the impact was contained within the case study and no additional information gathering was required by panel members.
- Clear identification of who the beneficiaries were or which groups/organisations had changed something as a result of the research. (This could include 'intermediary' organisations as well as 'end users' or audiences.)
- A coherent narrative which explained clearly the relationship between the research and the impact, and the nature of the impact or benefits arising.
- Indicators that were meaningful and contextualised to support the case being made, not used as a substitute for a clear narrative. The indicators included precise information that was relevant to the case study.



- A brief explanation of what was original or distinctive about the research insights that contributed to the impacts.
- Specific details about the names of researchers, their position in the HEI and dates and locations of the research activity.
- Focused and concise evidence, without generalised or overblown statements or unexplained lists of publications or references.
- Specific and appropriate independent sources of corroborating information were provided.
- Where the research was carried out in collaboration with other HEIs, or was part of a wider body of research that the impact depended on, this was clearly acknowledged.
- For case studies claiming impact through engaging the public with research:
  - i. There was a clear link between the department's research and the engagement activity.
  - ii. Evidence was provided about dissemination (such as audience or visitor numbers) *as well as* a clear explanation of the significance or benefits to the audiences.
  - iii. The activity went beyond 'business as usual' engagement (such as public lectures), and attracted widespread interest or involved a programme of activity which was often innovative and was sustainable or created 'legacy' resources.
  - iv. In some cases there were additional, clearly identified benefits to 'intermediaries' (such as cultural institutions or curators), local communities or to the economy.

45. Selected examples of case studies that scored highly and were considered good practice in the pilot exercise are available on the REF website at [www.ref.ac.uk](http://www.ref.ac.uk) under 'Impact pilot exercise'. These have been reformatted to reflect recommended changes to the case study template.

46. Panels also identified a number of weaknesses in case studies:

- Generalised, vague statements provided about key claims without sufficient evidence, requiring panel members to undertake further investigation to gather information or rely on expert or prior knowledge.
- Lack of clarity about the link between the underpinning research and the specific impacts claimed.
- Excessively long lists of unexplained publications or web references, making it laborious for panels to identify salient information.
- Reliance on indicators that lacked context or meaning, for example, numbers of hits on a website, without benchmarks or further contextual explanation; or relying on anecdotal evidence such as personal correspondence or quotes from individual members of the public as evidence of impact. (Panels felt that the value of anecdotal evidence was

limited if used in isolation, but that it could offer a useful illustration of impact on individuals when used alongside other evidence.)

- A lack of quantitative indicators where these should have been possible to provide; or not providing contact details where there were clearly identified organisations that were key 'users' or beneficiaries.
- Claiming potential impact rather than benefits already achieved – any indication of future potential should be treated as contextual, for example to help explain the significance of what has been achieved, but not claimed as actual impact.
- Lack of coherence – some weaker case studies covered the research of large research groups or centres or the career history of an individual, leading to a disparate variety of impacts, each of which were not properly evidenced. (This is discussed further at paragraph 49.)
- Lack of necessary information to enable judgements to be made because this was seen to be too sensitive for commercial reasons or relating to national security. Panels, particularly the user members, were confident that it should be possible to provide the necessary evidence in a suitably generic form.

47. Panels stress that more developed guidance should be given to institutions. In particular, HEIs have an obligation to ensure that case studies contain all the relevant information and evidence required by panels to make a judgement about the impact. Panel members should not be expected to make assumptions, rely on prior knowledge or undertake further work to gather evidence to make judgements. References and web-links should not be used as a substitute for clear statements of the evidence of impact, and should only be used for verification purposes.

48. A small number of case studies were 'unclassified' by the panels, for one of the following reasons:

- a. Case studies that were deemed ineligible. This could be because they were judged not to be underpinned by high quality research; the impact or research took place outside of the pilot timescale; there was not enough information to tell what contribution the submitting unit had made; or no clear link between the research and the impact was demonstrated.
- b. Case studies that displayed no substantive impact, impact only within academia, only potential impact (rather than impact already achieved), or made vague claims about impact without sufficient supporting evidence.

49. We received individual case studies that varied greatly in terms of the breadth or narrowness of activity covered by each. They ranged from case studies of a very specific impact on a single organisation underpinned by a single piece of research; through to cases covering a diffuse variety of benefits or impacts arising from an area of research; or impacts from a broad range of related research activity. We found that case studies could score highly regardless of whether they had a narrow or broad focus, so long as the case was set out in a coherent narrative, and specific benefits or impacts were properly evidenced. Case studies were not convincing where they covered a series of disconnected activity or listed a wide range of benefits without providing details and evidence.

## **The case study template**

50. Panels felt that the template for case studies did not encourage a clear narrative, and the associated guidance did not elicit some of the details required to make judgements. The following revisions to the template and guidance are recommended:

- a. The sections in the template should be reversed, starting with a clear description of the research and justification that it is of high quality, followed by explanation of how it had led to the impact and what that impact was. This should help encourage institutions to provide a clearer line of argument and evidence from the research through to the claimed impacts. At the same time, we recognise that the process of research having impact is often non-linear, and the template should not imply any particular model of impact realisation.
- b. Focussed prompts should be included to elicit specific information required for the assessment, including prompts about who undertook the research, where and when, evidence of research quality, how the research led to the impact, what that impact was, on whom, and when it took place. At the same time the template should be flexible enough to enable the submission of a wide variety of impacts and different ways in which research is linked to the impacts.
- c. References to the underpinning research should be separated from references to 'user contacts' and external sources of corroboration. Only references to research outputs and grants that are directly relevant to the impact should be sought.

## **Number of case studies in submissions**

51. By providing a total of one case study per ten staff, submitted units generally provided sufficient evidence of impacts from across the broad areas of their research, and the number of case studies provided enabled panels to differentiate effectively between submissions.

52. Some panels raised issues about smaller units and whether they should be permitted to submit more case studies, and this requires further consideration:

- With a very small number of case studies for a submission it can be more difficult to produce a profile that reflects the breadth of the unit's research activity.
- The results can be more variable, given that the score for each individual case study has a large effect on the impact profile.
- A small unit may have very few examples of impact to draw on, depending on the focus of its research.

53. Some panels felt the number of case studies should be reconsidered for very large submissions and suggest that a sliding scale or banded approach to determining the number of case studies should be considered, as an alternative to the linear approach used in the pilot.

## **Impact statements**

54. Panels considered the impact statements, the other contextual information and research income data, and the extent to which they provided additional useful evidence to the case studies in making the assessments. The panels recognised that the template and guidance for the impact statements was undeveloped, and found that the impact statements they received were

often overly descriptive and lacking in evidence or repeated information held within the case studies. Where impact statements provided useful additional information, this focused on the strategic approach to impact of the unit or department, and the support provided by the institution to their researchers in realising impacts from their research.

55. While the panels took different approaches to using the impact statements in the pilot exercise, we agreed that in the REF it will be important for panels to consider and assess the unit's strategic approach to impact and the institutional support provided for impact, in addition to case studies. We recommend that these factors should be assessed as a distinct part of the environment element of the REF, and carry some weight in the overall assessment. This should replace the 'impact statements' as they were used in the pilot exercise.

56. We considered whether the impact strategy and institutional support should be assessed alongside the case studies as part of the impact element, but felt that it fits more coherently within environment; a high quality research environment should underpin high quality research outputs and support impact.

57. When assessing case studies, panel members – especially users – would also find it useful to have information about the wider context for the individual case studies. They should be provided with relevant sections of the 'environment' part of the submissions, and information about how the case studies fit within the overall research activity of the submitted unit, as contextual information.

### **Recommendations: Evidence of impact provided by institutions**

*Rec 5. The case studies and wider 'impact statements' were appropriate forms of evidence for the panels to assess. This format for submissions should be revised to ensure the assessment will be sufficiently robust for implementation in the REF.*

*Rec 6. To ensure that institutions provide case studies that enable panels to make robust judgements:*

- a. The case study template requires significant revision to encourage a coherent narrative, explaining what research was undertaken, what the claimed benefits or impacts were, and how the research was linked to the benefits.*
- b. Case studies should contain all the relevant information and evidence required by panels to come to a judgement; panel members should not be expected to make assumptions or undertake further work to gather evidence required in making these judgements. References should be provided only for verification purposes, not as a means for panels to seek further information.*
- c. Indicators of impact should be included within the narrative as supporting evidence where relevant. REF panels should develop guidance about the kinds of indicators they would expect to see, but this guidance should not be restrictive. Case studies should include indicators that are meaningful, contextualised and relevant in demonstrating the particular case.*
- d. Individual case studies in the pilot varied in terms of the breadth of research and/or range of benefits covered by each. This flexibility should be retained, but the highest scoring cases in the pilot were those that provided a coherent*

*narrative with evidence of specific benefits. Case studies should not cover a series of disconnected activity or list a wide range of benefits without providing details and evidence.*

*Rec 7. By providing a total of one case study per ten staff, submitted units generally provided sufficient evidence of impacts from across the broad areas of their research, and enabled panels to differentiate between submissions. This approach would be appropriate for the full REF, but it raises issues regarding smaller units that require further consideration.*

*Rec 8. In addition to assessing case studies, REF panels should assess the unit's strategic approach to impact and how the institution supports researchers in achieving impact. A clear explanation of this should be assessed as a distinct part of the 'environment' element of the REF and this will replace the separate impact statement as used in the pilot. This information, and details of how the case studies fit into the unit's research activity as a whole, should also be provided as contextual information to those members of the panel assessing the impact case studies.*

## **The assessment of impact by expert panels**

### **Criteria and scoring case studies**

58. We found that the two criteria for assessment of impact, 'reach' and 'significance', were meaningful and workable across all the pilot panels. We were able to interpret and apply them in ways that were appropriate to the nature of research in each discipline.

59. Panel members' were able to score the case studies individually and reach a consensus view on each case through discussion at panel meetings. Often this was readily achieved, but some cases required more discussion.

60. In assessing case studies, we discussed in more detail the application of the criteria; for example, whether 4\* 'reach' necessarily meant international, and whether a 4\* case study would need to demonstrate extensive reach as well as major significance. Panels made holistic judgements on the merits of each case, and we found that case studies could achieve the highest grade with either exceptional significance, or exceptional reach; it was not essential to have both. We also found there was no simple 'hierarchy' of reach based on a geographic scale.

61. Where case studies were graded as 'unclassified' it was useful to make the distinction between those that were judged to be ineligible, and those that failed to demonstrate significant impact had been achieved.

62. We applied the same criteria to 'early stage' impacts as to more mature impacts, and agreed that 'early stage' impacts were generally similar to more modest impacts and hence could be assessed using the existing criteria.

63. We conclude that the generic criteria of 'reach' and 'significance' should be applicable across the REF, and REF panels should elaborate on how they may interpret the criteria as appropriate to their UOAs.

64. The pilot panels made some minor revisions to the definitions of the starred levels in the impact profile and found these to be appropriate and workable across the pilot panels. We found

that by applying and interpreting the criteria and level definitions as appropriate to each discipline we were able to produce impact profiles that differentiate between submissions in a way that would be useable in the REF. We conclude that, with some refinements, the generic level definitions used in the pilot should be applicable across the REF, with flexibility for panels to interpret these as appropriate to their disciplines.

65. Given that each panel interpreted the criteria in ways that were appropriate to research in its UOA, we stress that this process cannot compare the impact of departments or units submitted to different UOAs, nor provide a mechanism for comparing the relative impact of disciplines. The impact assessment outcomes can only be used to compare the impact achieved by submitted units within each UOA. For the purpose of the pilot, broad guidance was provided by the REF team about the overall distribution of scores at panel level.

### **Attribution and contribution**

66. The panels sought evidence that the submitting unit's research made a significant contribution to achieving the impact, and treated this as a 'threshold' criterion. We found this was challenging to judge in a number of cases:

- The link between the underpinning research and the impact was not always clearly explained.
- Key factual details were not always provided (for example about when the research was undertaken and where the researchers were located at the time).
- Where the research of the submitting unit was part of a larger body of research that underpinned the impact, this was often not acknowledged in the case studies, making it more difficult to judge whether the unit's particular contribution was significant.

67. We conclude that the following principles and improvements to the process will enable REF panels to more readily attribute impacts to research:

- a. In all cases there should be a distinctive contribution of the submitted unit's research to the impact or benefits, whether this contribution was direct or indirect and whether or not there were other factors beyond the HEI's influence.
- b. It should not be necessary that the HEI was involved in exploiting or applying the research.
- c. The HEI where the research was undertaken should be credited with the impact; and impacts should not 'travel' with researchers if they move to a different institution. However, if staff have moved on since the research was undertaken, we consider that the HEI should only claim credit for the impact if it still remains active in the relevant area of research. Clear and simple guidance should be provided about these criteria for 'ownership' of impacts.
- d. Case studies should provide specific details about where and when the research was undertaken, and explain clearly how the research led or contributed to the impact. The template should be revised to elicit this information.
- e. While we treated 'contribution' as a threshold criterion, to some extent we also took account of the relative contribution made by the submitted unit in cases where the

research was undertaken in collaboration with other institutions. We expect that REF panels will apply their judgement about this, and case studies should therefore explicitly acknowledge other research that underpinned the impact. This should not be taken as a discouragement of collaborative research; genuine research collaboration was valued by the panels, especially where the role of the submitting HEI was clearly set out.

### **Underpinning research quality**

68. Panels were clear that they wished to see impact arising only from high quality research and for the pilot, research quality broadly equivalent to 2\* or greater was regarded as sufficient. A simple and robust mechanism will be needed in the full REF for HEIs to justify the quality of underpinning research, and panel members should not be expected to review significant numbers of the outputs to assure this:

- HEIs should be responsible for justifying the quality of research by citing independent evidence.
- Panels should develop guidance about what kinds of evidence would be appropriate.
- Case studies should only include references to research outputs and grants that are directly relevant to the impacts.

69. Case studies should be able to cite all types of research outputs so long as they are of high quality and meet the general definition of research for the REF. This includes academic publications as well as commissioned reports, systematic reviews and other types of outputs.

### **Timeframes**

70. The panels were able to assure the case studies met the required timeframes (impacts during 2005-09, with underpinning research since 1993), although in some cases it appeared that institutions had confused the two different periods, and in some other cases key dates had not been provided requiring some further investigation by panel members. The template and guidance will need to ensure that institutions are clear about the timings of the research and the impacts, including specific information about the names of researchers, their position in the HEI, and dates of the activity.

71. We considered that a period of up to 15 years between the underpinning research and the impact was appropriate. For those subjects where time-lags between research and impact may be more lengthy, this timescale may need to be extended. For example, the Physics panel recommended up to 25 years for their discipline, so long as the HEI has continued with research in the relevant area.

72. Institutions should be permitted to submit an impact that evolves over an extended period to two or more successive REF exercises.

### **Corroborating evidence**

73. The pilot panels tested mechanisms to verify claims made in case studies through the provided references to independent sources and contact details of 'users'. Panel members followed up some of the references and the panel secretaries raised queries with a sample of contacts. This was found to be a useful mechanism.

74. Some case studies had appeared to invite panel members to gather further information about the impacts by following up references and 'user' contacts. The panels were clear that these contacts and references should be used only for the purpose of verifying claims made in the case study.

75. We recommend that case studies should normally include details of key 'users' who could potentially be contacted, and/or references to other independent sources. These should be for verification purpose only, to be followed up on a sample basis to verify specific claims made in the case study. Submissions should indicate which specific aspects of the case study could be verified by each reference or contact. Where the panel judges that claims have not been sufficiently verified through an audit, the case study should be awarded a grade of 'unclassified'.

### **Panel composition**

76. The pilot panels included a broadly even mix of academic and user expertise, and we found this was entirely appropriate to enable well informed judgements about the impacts and to assure the quality of the underpinning research. There were no general differences in the judgements between users and academics and this gave confidence in the outcomes.

77. It will be essential for all REF panels to include user expertise in the assessment of impact. We recognise there will be practical issues in involving users in the assessment, and suggest that:

- Users should be recruited specifically to assess the impact element of the REF, to make best use of their time and expertise.
- Meetings should be scheduled well in advance, and the meetings to review impact should be concentrated over a short period rather than spread across the whole exercise.
- The time commitments for users must be made explicit from the outset.
- Users will need effective induction and briefing.
- Some panels are likely to wish to recruit experts with 'intermediary' roles between academia and other sectors, as they may have a more direct interest in taking part.

78. We found that when assessing case studies user members were able to apply their expertise about the translation or use of research across a wide range of situations.

### **Panel workload**

79. Panels noted the need for scaling up from a pilot to a full REF exercise. For the pilot UOAs, the extent of scaling is indicated in the following table (based on the volume of staff submitted to the 2008 RAE, and assuming the submission of one case study per ten staff):



Unit of assessment	No. of case studies received in pilot	No. of submitting units in pilot	No. of case studies for UOA as a whole	Number of submitting units for UOA as a whole
Medicine	127	9	372	33
ES&ES	43	10	138	42
Physics	69	11	190	42
SWSP	38	11	160	66
English	44	13	228	87

80. The REF team will need to consider the operational and workload implications of scaling up, and how the REF panels can effectively incorporate the assessment of impact into their work plans. We suggest:

- Each case study could be assessed by fewer than four members (as was the case for most of the pilot panels).
- Panels should seek to reduce their workload in other areas, for example by sampling the outputs they review.
- There should be flexibility for panels to determine how they will organise the assessment, and they may for example wish to assess impact through a sub-set of the panel membership.
- It will be important to provide high quality briefing, administrative support and IT systems for panellists.

### **Panel working methods**

81. Most of the panels tested the process of cross-referring some case studies where they felt that expertise on other panels might assist in assessment. Where used, panels suggested that the 'home' panel should retain responsibility for scoring; that the panel should be specific about what it is seeking advice on; and members should be expected to provide sufficiently detailed responses to be useful to the 'home' panel.

82. Academic panel members avoided conflicts of interest by withdrawing from discussion of particular submissions as necessary. The REF team will need to consider how to manage potential conflicts of interest for user members in the REF.

83. Panels made a number of suggestions in terms of future working arrangements:

- Briefing and training events should be provided for panel members prior to them commencing their roles.
- A sample of case studies should be examined prior to assessment to enable calibration of marking standards.
- Panel membership and meeting dates should be established as early as possible to ensure maximum attendance.

- A more user friendly IT system should be developed for exchanging information between the REF team and panel members.
- The 'summary' information provided on case studies should be improved to enable easier allocation of case studies to members.

**Recommendations: The assessment of impact by REF panels**

*Rec 9. The two criteria for assessing impact – 'reach' and 'significance' – are appropriate and should be broadly applicable across all panels. The REF panels should have scope to elaborate on how these criteria may be interpreted at discipline level. REF panels should apply judgements holistically to each case study, and there should be no simple 'hierarchy' of reach based on a geographic scale.*

*Rec 10. Broad generic definitions of the starred levels in the impact profile are workable across the range of disciplines, and there should be flexibility for panels to interpret these as appropriate to their disciplines.*

*Rec 11. A distinction should be made between those case studies graded as 'unclassified' because they are not eligible, and those that fail to demonstrate significant impact had been achieved.*

*Rec 12. Given that REF panels will need to interpret the criteria in ways that are appropriate to research in their respective UOAs, the assessment of impact in the REF can only be used to compare the impact achieved by submitted units within each UOA. The REF cannot make comparisons of the impact of research units submitted to different UOAs, nor provide a mechanism for comparing the relative impact of disciplines.*

*Rec 13. Case studies should explain clearly how the research contributed to the benefits, regardless of whether this was direct or indirect and whether there were other factors beyond the institution's influence:*

- In all cases there should be a distinctive contribution of the unit's research to the impact or benefits.*
- It should not be necessary that the institution was involved in exploiting or applying the research.*
- Panels should give full credit to the submitting unit so long as the research made a distinctive contribution to the impact. Where the impact also depended on a wider body of research the case study should acknowledge this. Panels are likely to take into account the relative contribution of research from different institutions to an impact where these are clearly of a different order.*

*Rec 14. It is vital to ensure that the research underpinning the case studies is of high quality. For the pilot, research quality broadly equivalent to 2\* or greater was regarded as sufficient. It should remain the responsibility of submitting institutions to justify the quality of underpinning research, so that panels can be assured about this with minimal need to review the cited research outputs. REF panels should develop guidance about appropriate forms of evidence of quality, and case studies should only cite research*

*outputs and grants that are directly relevant to the case, rather than provide lengthy lists of references.*

- Rec 15. A timeframe of up to 15 years between the impact and the underpinning research is broadly appropriate, provided that the institution remains active in the relevant area of research. REF panels should have flexibility to extend this timeframe for disciplines where time-lags between research and its impact are often more lengthy.*
- Rec 16. Robust mechanisms will be required to verify the submitted evidence. Case studies should normally include details of key 'users' who could potentially be contacted, and/or references to other independent sources. These should be for audit purposes only, to be followed up on a sample basis to verify specific claims made in the case study. Where the panel judges that claims have not been sufficiently verified through an audit, the case study should be awarded a grade of 'unclassified'.*
- Rec 17. It is essential to include research users on all REF panels to provide the right balance of expertise in assessing impact and to ensure stakeholder confidence in the outcomes.*
- Rec 18. The pilot tested some examples of cross-referring case studies between panels. While this should remain a possibility in the REF, in general it is preferable for panels to assess the material submitted to them and for which they are responsible for developing the profiles. Where case studies are cross-referred, advice on specific issues should be sought by the panel.*
- Rec 19. The REF team will need to consider the operational and workload implications for REF panels of scaling up from the pilot to full implementation.*