



# Consultation on draft panel criteria and working methods

## Part 2A: Draft statement of Main Panel A

Main Panel A covers the following sub-panels:

- 1 Clinical Medicine**
- 2 Public Health, Health Services and Primary Care**
- 3 Allied Health Professions, Dentistry, Nursing and Pharmacy**
- 4 Psychology, Psychiatry and Neuroscience**
- 5 Biological Sciences**
- 6 Agriculture, Veterinary and Food Sciences**

The following sections set out the criteria and working methods that Main Panel A and its sub-panels will apply in assessing submissions. This should be read alongside the guidance provided in REF 02.2011 'Assessment framework and guidance on submissions' (hereafter 'guidance on submissions') and the generic statement of criteria and working methods provided in Part 1 of this document.

### **Section 1: Submissions and units of assessment**

### **Section 2: Assessment criteria: outputs**

### **Section 3: Assessment criteria: impact**

### **Section 4: Assessment criteria: environment**

### **Section 5: Working methods**

## **Section 1: Submissions and units of assessment**

### **Unit of assessment descriptors and boundaries**

#### **Introduction**

1. The units of assessment (UOAs) within Main Panel A's remit cover research into the practices, services, policies, education and underpinning science relevant to these disciplines, and associated methodological and theoretical advancement. The UOAs cover a full spectrum of research approaches ranging from qualitative to quantitative, as well as theoretical and mixed method studies. This includes multidisciplinary research and research that informs these areas from a range of stakeholders' perspectives, including research users and service users.
2. Research that is relevant to the UOAs and has an international or developing country context can be included in submissions.

#### **UOA 1: Clinical Medicine**

3. The UOA includes research into all aspects of Clinical Medicine and its cognate sub-disciplines except for bodies of research more explicitly linked to UOA 2 (Public Health, Health Services and Primary Care), UOA 3 (Allied Health Professions, Dentistry, Nursing, Midwifery and Pharmacy), UOA 4 (Psychology, Psychiatry and Neuroscience), and UOA 5 (Biological Sciences).
4. The sub-panel expects submissions that demonstrate integrated strategies relating to all aspects of medical research. Submissions may cover the full range of research related to medicine from basic underpinning studies through experimental medicine to clinical trials. In view of the breadth of research covered by this UOA, the sub-panel expects some degree of overlap with UOA 4 (Psychology, Neuroscience and Psychiatry) in the fields of neurology and ophthalmology and with UOA 5 (Biological Sciences) in the area of basic biological sciences underpinning medical research.

#### **UOA 2: Public Health, Health Services and Primary Care**

5. The UOA includes research that is focused on public health, health services and/or primary care. The research may be applied, theoretical or methodological research from any relevant health or healthcare discipline.
6. The sub-panel expects submissions in this UOA from all areas of public health and epidemiology (from aetiology to intervention), health services and primary care including clinical trials, health social sciences, health policy research and health care management, and from other related disciplines having a relevance to the research covered by the UOA. It recognises the breadth and diverse range of single, multidisciplinary and/or multi-professional research across public health, health services and primary care.

### **UOA 3: Allied Health Professions, Dentistry, Nursing and Pharmacy**

7. The sub-panel expects to receive submissions from all areas of the disciplines of allied health professions, dentistry, nursing and midwifery, and pharmacy.
8. For allied health professions, the UOA includes research in biomedical and nutritional sciences, vision sciences; optometry (including orthoptics), diagnostic imaging, therapeutic radiography, audiology, podiatry, occupational therapy, physiotherapy, speech and language therapy, clinical linguistics, paramedics, prosthetics/orthotics, music therapy, drama therapy, and arts therapy. For dentistry it includes research in basic and applied dental, oral and craniofacial sciences encompassing all the related clinical disciplines, primary dental care, biomaterials sciences relevant to oral and craniofacial science and other such sciences relevant to dentistry. For nursing and midwifery it includes specialist community and public health nursing, and all the contexts within which they operate. For pharmacy it includes all aspects of the design, synthesis, formulation, action and use of pharmaceuticals (including biological and neutraceuticals), to include medicinal chemistry, pharmaceuticals, pharmacology, clinical pharmacy, and the practice of pharmacy.
9. The UOA also includes research into the clinical and public health practices, health services, health policies, education and underpinning science relevant to these disciplines and psychosocial, philosophical and ethical aspects of health care and health promotion. Submissions may cover the full translational range of research, from basic underpinning studies through to implementation research. It is expected that there will be some overlap with UOA1 (Clinical Medicine), UOA 2 (Public Health, Health Services and Primary Care), UOA 5 (Biological Sciences) in the areas of biomedical sciences and pharmacology, and UOA 6 (Agriculture, Veterinary and Food Sciences) in the areas of nutrition and philosophical aspects of health care and health promotion.

### **UOA 4: Psychology, Neuroscience and Psychiatry**

10. The UOA includes research into all aspects of psychology, neuroscience and its clinical sub-specialities, and psychiatry.
11. For psychology the sub-panel expects submissions in this UOA covering the full range of the discipline, from all areas of applied psychology to basic human and non-human animal research, computational modelling and cognitive neuroscience. For neuroscience the sub-panel expects submissions in this UOA to span topics from the molecular through to whole system behavioural research, genetics and varieties of imaging, incorporating neurodevelopmental as well as adult work. It will include work on the understanding and treatment all types of brain injury, stroke, neurodegenerative and neurodevelopmental disorders. For psychiatry this will include all areas of the discipline, including biological, community, developmental, genetic, and neuropharmacological research.
12. The sub-panel is aware of the breadth of its remit, which will cover submissions that inform or have the potential to inform practice as well as submissions reporting theoretical and methodological advances in basic research.

## **UOA 5: Biological Sciences**

13. The sub-panel expects submissions in this UOA from all areas of biological and biomedical sciences.

14. The UOA includes research that encompasses the full spectrum of the basic and applied biology of all organisms, at all levels of organisation from the molecular to the ecosystem, employing a diversity of approaches including experimental, theoretical, computational and mathematical. The UOA also covers all aspects of the biomedical sciences including biochemistry, physiology, pharmacology and anatomy at the genetic, molecular, cellular, organ system and whole organism level. It includes work relevant to the nervous and cardiovascular systems at all levels of enquiry.

15. Submissions may include work which is on the boundaries of other UOAs in Main Panel A, such as: UOA 1 (Clinical Medicine); UOA 3 (Allied Health Professions, Dentistry, Nursing and Pharmacy); UOA 4 (Psychology, Psychiatry and Neuroscience); UOA 6 (Agriculture, Veterinary and Food Sciences); as well as (but not exclusively) UOAs in other main panels: UOA 7 (Earth Systems and Environmental Sciences); UOA 8 (Chemistry); UOA 9 (Physics); UOA 10 (Mathematical Sciences); UOA 11 (Computer Science and Informatics); UOA 17 (Geography, Environmental Studies and Archaeology) and UOA 26 (Sport and Exercise Sciences, Leisure and Tourism).

## **UOA 6: Agriculture, Veterinary and Food Sciences**

16. The UOA includes all aspects of agriculture, veterinary and food sciences, including food security, sustainability and environmental aspects, basic through to applied research, and interdisciplinary research with a significant content in any of these areas of science.

17. The sub-panel expects submissions in this UOA from all areas of relevant science. For agricultural science, this includes submissions of primary relevance to the animal, plant and crops, soil, water, and atmospheric sciences that are associated with agriculture and related land and water use; also forestry, fisheries, horticulture, mathematical modelling at a range of scales, and related social sciences. It includes production systems, breeding, biotechnology, sustainability and environmental aspects, biofuels, marketing of products, water quality and use, land use, integrated pest and disease management, and waste treatment. For veterinary science this includes submissions of primary relevance to subjects underpinning the practice of veterinary medicine and surgery and the statutory responsibilities of the veterinary profession. It includes all clinical, basic and applied aspects relevant to the normal and abnormal function of animals, their health, welfare, behaviour, productivity and diseases as individuals and populations; and their role in human society as providers of food, companions, participants in sport, models for the human condition, sources of disease, and fellow occupants of the natural environment. For food science this includes submissions of primary relevance to food science and technology (including chemistry, physics, microbiology, engineering and processing), human nutrition, diet and health, food biotechnology, food safety, packaging, sensory science, and food consumer science.

## **Cross-boundary submissions and cross-referral**

18. It is expected that research on medical education and pedagogic research, and research on medical ethics will be submitted in UOA 25 (Education) and UOA 32 (Philosophy) respectively, although applied research which conforms to the UOA descriptor may be submitted in UOA 2 (Public Health, Health Services and Primary Care). If submitted in UOAs within Main Panel A, outputs in medical education, pedagogic research and on medical ethics may be cross-referred to Sub-panel 25 (Education) or Sub-panel 32 (Philosophy), as appropriate.

19. The main panel recognises the diverse nature of the disciplines that it covers and that aspects of research in those areas are naturally multidisciplinary or interdisciplinary. The main panel and all sub-panels welcome the submission of multidisciplinary and interdisciplinary research, which spans the boundaries between the areas of research set out in the UOA descriptor and one or more other UOAs, whether within Main Panel A or other main panel areas. Institutions will not be penalised if submissions contain work that overlaps UOA boundaries.

20. The main and sub-panels' arrangements for assessing multidisciplinary and interdisciplinary work and work that spans UOA boundaries are described in paragraphs 86 to 88.

21. Sub-panels expect the working methods to allow them to assess the majority of multidisciplinary and interdisciplinary work submitted in their UOAs, and therefore they expect the need for cross-referral to be minimal. Exceptionally, parts of submissions may be cross-referred to other sub-panels in Main Panel A or to sub-panels outside the main panel. Both the submitting HEI and the sub-panel receiving the submission may make a request to cross-refer parts of submissions. The final recommendations to the main panel on assigning quality profiles will remain with the sub-panel for the UOA in which the submission was originally made.

## **Multiple submissions**

22. 'Guidance on submissions' (paragraphs 50 to 52) sets out the generic criteria where institutions may exceptionally, and only with prior permission from the REF manager, make more than one submission (multiple submissions) in the same UOA. Institutions may request a multiple submission where a sub-panel considers there is a case for multiple submissions in its UOA, given the nature of the disciplines covered. The criteria are:

- the bodies of research to be listed in each proposed submission fall within the scope of the UOA but are clearly academically distinct from each other, and
- the research environments of each proposed submitted unit are clearly separate and distinct, without significant overlap in their research or staffing strategies, infrastructure, facilities or other aspects to be described in the textual parts of submissions.

23. The main panel encourages institutions to structure their submissions using research groups, noting that there is no expectation that submissions will necessarily comprise a single coherent body of research. Where submissions are structured using research groups, the sub-panels will provide written qualitative feedback to institutions at research group level where feasible. In light of this, the main panel expects single submissions to be submitted in its UOAs, thereby enhancing opportunities for demonstrating the connections between the diverse bodies of research within these UOAs.

24. The main panel advises institutions that it does not expect requests for multiple submissions in its UOAs. Should a request be made, it will only be granted where, in addition to the generic criteria, the institution makes a convincing case that it is not feasible for a single submission to be presented by research group.

25. Where an exceptional case is approved for a multiple submission there should be no duplication between the submissions of co-authored outputs and impact case studies. Outputs and/or impact case studies that are duplicated in multiple submissions (from an HEI in one UOA) will have duplicate occurrences of the output and/or impact case study graded as 'unclassified'.

26. In addition to the arrangements above, requests for multiple submissions will be granted in any UOA where one of the submissions is joint with another HEI, or where HEIs have merged after 1 July 2011, as set out in 'guidance on submissions' (sub-paragraphs 50a and 50c).

## **Section 2: Assessment criteria: outputs**

### **Criteria and level definitions**

27. The main panel expects to receive outputs submitted in accordance with 'guidance on submissions' (Part 3, Section 2).

28. In relation to the assessment of outputs, the sub-panels will look for evidence of the quality of the output in its originality, significance and rigour, applying the generic level definitions as set out in 'guidance on submissions' (Annex A, Table A2).

29. The sub-panels will look for evidence of one or more indicators of quality across the following as appropriate:

- scientific rigour and excellence, with regard to design, method, execution and analysis
- significant addition to knowledge and to the conceptual framework of the field
- potential and actual significance of the research
- the scale, challenge and logistical difficulty posed by the research

- the logical coherence of argument
- contribution to theory-building
- significance of work to advance knowledge, skills, understanding and scholarship in theory, practice, education, management and/or policy
- applicability and significance to the relevant service users and research users
- potential applicability for policy in the UOAs of Main Panel A, for example health, healthcare, public health, animal health and welfare.

30. Unless there is evidence of at least one of the above, research outputs will be graded as 'unclassified'.

### **Types of eligible output**

31. A research output is the outcome of a research process that is presented in the public domain (unless it is a confidential output for a designated readership). In judging outputs, the sub-panels will be guided by their assessment of the research quality.

32. Equal recognition will be given to all forms of research that meet the REF definition of research, whether basic or applied. All types of output that are made publicly available within the publication period, and that embody research as defined in 'guidance on submissions' (Annex C), will be eligible for submission, including:

- original research findings
- research reports
- evidence synthesis, including systematic reviews, analyses, meta-analyses, meta-syntheses
- review articles that add significant new perspective in a way that is paradigm-changing
- research-based clinical case studies that add new knowledge or understanding of disease processes or contribute to advancement in patient care in adding significant new knowledge
- clinical case study reports where they change concepts or identify new diseases
- methodological and theoretical work
- technology appraisals.

33. Outputs may be published in formats including, but not limited to:

- papers published in peer-reviewed journals
- papers published in conference proceedings

- research reports to government departments, charities, the voluntary sector, professional bodies, industry or commerce
- monographs
- books and book chapters
- intellectual property (whether granted as patents, published patent applications or other forms of intellectual property)
- other applied research outputs, including but not limited to: new materials, software packages, images and devices research derived from analysis and interpretation of bio-informatic databases, work published in non-print media.

34. The following outputs do not normally embody original research and should be submitted only where, exceptionally, it is evident that they do embody original research:

- work that comprises outputs that disseminate the findings of other researchers, without significant contribution to the knowledge base
- non-research care studies/case studies
- bio-informatic databases
- textbooks and similar scholarly work
- doctoral theses
- editorials and discussion papers
- standard review articles or textbook chapters that survey previously published work without a significant, novel, intellectual contribution
- abstracts (refereed or otherwise).

35. Where an output does not meet the definition of research for the REF, it will be graded as 'unclassified'.

## **Co-authored outputs**

36. The main panel will give equal weighting to individual and collaborative/team efforts. In assessing multi-authored or co-authored outputs, sub-panels will assess the quality of the output and will not assess the contribution of the author against whom it is listed. It is expected that staff against whom co-authored outputs are listed will have made a material contribution to that output and that this will be clearly identifiable.

37. For each co-authored output submitted, institutions are required to provide details in REF2 (maximum 50 words) of the material contribution to the research of the author against whom it is listed. Once the sub-panel has determined that the author's contribution is a material contribution to the research content of the output, it will assess the quality of the output taking no further regard of the individual author's contribution.



38. Where a sub-panel judges that an author against whom a co-authored output is listed has not made a material contribution to it, the sub-panel will grade the output as 'unclassified' for that author.

39. The main panel considers that the fullest and most favourable impression of research will normally be gained when each co-authored output is only listed once in a submission. However, the main panel recognises that there may be exceptional circumstances where there are substantial pieces of co-authored work, reflecting collaborative research, that institutions wish to submit for more than one member of staff returned within the same submission. Therefore, co-authored outputs from substantial pieces of research that reflect collaborative research at the same institution may exceptionally be listed against a maximum of two members of staff in a submission.

40. Where a co-authored output is listed against two members of staff returned within the same submission, this must be identified and a justification must be provided in REF2 (maximum 50 words). This should indicate the scale of the research and describe the distinct and substantive contribution to the research of each author the output is listed against.

41. If a sub-panel is not persuaded by the justification for listing the output twice, one occurrence of the output will be graded as 'unclassified'.

### **Double-weighted outputs**

42. The main panel recognises that there may be exceptional cases where the combined scale of academic investment in the research activity and the intellectual scope of the research output are considerably greater than the disciplinary norm, thereby limiting the capacity of an individual researcher to produce four outputs within the assessment period. Therefore, sub-panels will consider requests for single authored monographs or other such outputs to be double-weighted in the assessment; in other words for the output to count as two outputs in both a submission in a UOA and in the calculation of the outputs sub-profile.

43. Institutions may request that single-authored monographs or other such outputs are treated as double-weighted outputs using a statement to justify their claim in REF2 (maximum 50 words).

44. In requesting double-weighting of an output, institutions should reduce the number of outputs submitted for that individual by one per double-weighting request. As the number of outputs assessed cannot sum to more than four per staff member returned, no more than two outputs per individual may be submitted for double-weighting.

45. No 'reserves' may be submitted in the UOAs within Main Panel A. Where the sub-panel does not accept the case for an output to be double-weighted, the output will be assessed as one output and the 'missing' output will be graded as 'unclassified'.

46. Sub-panels will only double-weight outputs identified by the submitting institution, and will not double-weight any output that has not been so identified in the submission.

### **Additional information on outputs**

47. For non-text or practice-based outputs (including patents, software and standards documents), all sub-panels welcome the submission of a description of the research process and research content, in REF2 where this is not evident within the output (maximum 50 words), as described in 'guidance on submissions' (paragraph 127a).

48. The sub-panels do not wish to receive additional information about the significance of outputs ('guidance on submissions', paragraph 127b) and, if received, will take no account of any statement beyond those that have been requested in Main Panel A criteria (as outlined in paragraphs 37, 40 and 43).

49. Where the output includes significant material published prior to 1 January 2008, all sub-panels welcome details of how far the earlier work was revised to incorporate new material in REF2 ('guidance on submissions', paragraph 127c).

### **Citation data**

50. In accordance with 'guidance on submissions' (paragraphs 133 to 136), all sub-panels within Main Panel A will make use of citation data, where it is available, as an indicator of the academic impact of the outputs, to inform its assessment of output quality. The REF team will provide citation counts (at a pre-determined date) for outputs, where available, as additional information for each output submitted.

51. Citation data will be used where available and appropriate, and only as a minor component to inform peer-review judgements. Sub-panels will only use citation data that has been provided by the REF team, at a pre-determined date in a standard format. Where used, citation data will be considered as a positive indicator of the academic significance of the research output. This will only be one element to inform peer-review judgements about the quality of the output, and will not be used as a primary tool in the assessment.

52. The sub-panels recognise that the citation count is sometimes, but not always, a reliable indicator of the quality of an output. They are also aware that such data may not always be available, and the level of citations can vary across disciplines and across UOAs. Therefore, for some forms of output (for example relating to applied research) and for recent outputs, they acknowledge that citation data may be an unreliable indicator.

## Section 3: Assessment criteria: impact

### Range of impacts

53. The impact of research within Main Panel A is broad. The main panel welcomes case studies describing impacts that have provided benefits to one or more areas of the economy, society, culture, public policy and services, health, production, environment, international development or quality of life. An impact case study may describe more than one type of impact arising from a single activity, for example, a new drug can generate both health and economic impact.

54. Impacts can be manifested in a wide variety of ways including, but not limited to: the many types of beneficiary (individuals, organisations, communities, regions, and other entities); impacts on products, processes, behaviours, policies, practices; and avoidance of harm or the waste of resources. Examples of impacts are provided in Table 1 as a guide to the range of impacts that may be eligible as case studies. The list is not exhaustive or exclusive, and does not rank examples in any way. The main panel acknowledges that within its remit impact may take many forms and occur in a wide range of spheres. Therefore, the sub-panels will consider any impact that meets the general definition of impact given in 'guidance on submissions' (Annex C).

55. The main panel does not necessarily expect a correlation between the number of impact case studies and the proportion of a discipline in a single, multidisciplinary submission. However, as part of the impact template, institutions are requested to describe how they have sought to enable and/or facilitate the achievement of impact arising from their research and describe the relationship between this support and the case studies submitted (see paragraph 69).

**Table 1 Types of impact**

	Examples of impact <sup>1</sup>
<b>Economic impacts:</b> Impacts where the beneficiaries are usually the NHS or private health care	<ul style="list-style-type: none"><li>• Policies that have an impact on economic growth or incentivising productive activity.</li><li>• The costs of treatment or healthcare have reduced.</li><li>• Changing the roles and/or incentives for health professionals and organisations, resulting in improved service delivery.</li></ul>
<b>Commercial impacts:</b> Impacts where the beneficiaries are usually companies, either new or established, or other types of organisation which undertake	<ul style="list-style-type: none"><li>• A spin-out or new business has been created and established its viability by generating revenue or profits</li><li>• Industry (including overseas industry) has invested in research and development.</li><li>• The performance of an existing business has been</li></ul>

<sup>1</sup> This is not an exhaustive or exclusive list, and submitted case studies may relate to more than one category.

activity that creates wealth	<p>improved.</p> <ul style="list-style-type: none"> <li>• A business or sector has adopted a new technology or process.</li> <li>• The strategy, operations or management practices of a business have changed.</li> <li>• A new product or service is in production or has been commercialised.</li> <li>• Highly skilled people have taken up specialist roles (including academic consultancy) in companies or other organisations.</li> <li>• Jobs have been created or protected.</li> <li>• Social enterprise initiatives have been created.</li> </ul>
<p><b>Impacts on public policy and services:</b></p> <p>Impacts where the beneficiaries are usually government, public sector, and charity organisations and societies, either as a whole or groups of individuals in society, through the implementation of policies</p>	<ul style="list-style-type: none"> <li>• Policy debate has been stimulated or informed by research evidence.</li> <li>• Policy decisions or changes to legislation, regulations or guidelines have been informed by research evidence.</li> <li>• The implementation of a policy or the delivery of a public service has changed.</li> <li>• A new technology or process has been adopted.</li> <li>• The quality, accessibility or cost-effectiveness of a public service has been improved.</li> <li>• The public have benefitted from public service improvements.</li> <li>• Control measures for infections have improved.</li> </ul>
<p><b>Impacts on society, culture and creativity:</b></p> <p>Impacts where the beneficiaries are individuals, groups of individuals, organisations or communities whose knowledge, behaviours or practices have been influenced</p>	<ul style="list-style-type: none"> <li>• Public understanding has improved through their collaborative involvement with research.</li> <li>• Public debate has been stimulated or informed by research.</li> <li>• Changes to social policy have been informed by research.</li> <li>• Changes to social policy have led to improved social welfare, equality or social inclusion.</li> </ul>
<p><b>Health and welfare impacts:</b></p> <p>Impacts where the beneficiaries are individuals and groups (both human and animals) whose quality of life has been enhanced (or potential harm mitigated)</p>	<ul style="list-style-type: none"> <li>• Public health and well-being has improved.</li> <li>• A new clinical or lifestyle intervention (for example, drug, diet, treatment or therapy) has been developed, trialled with patients, related or other groups (for example, prisoners, community samples), and definitive (positive or negative) outcome demonstrated.</li> <li>• A new diagnostic or clinical technology has been adopted.</li> <li>• Disease prevention or markers of health have been enhanced by research.</li> </ul>

	<ul style="list-style-type: none"> <li>• Changes to care practices.</li> <li>• Improvements in outcomes for patients or related groups.</li> <li>• Clinical, dietary or healthcare guidelines have changed.</li> <li>• Healthcare training guidelines have changed.</li> <li>• Decisions by a health service or regulatory authority have been informed by research.</li> <li>• Public awareness of a health risk or benefit has been raised.</li> <li>• Public behaviour has changed.</li> <li>• The user experience has improved.</li> <li>• Animal health and welfare has been enhanced by research.</li> <li>• The control of zoonotic diseases has changed.</li> </ul>
<b>Production impacts:</b> Impacts where the beneficiaries are individuals (including groups of individuals) whose production has been enhanced	<ul style="list-style-type: none"> <li>• Research has increased production, yields or quality or reduced waste.</li> <li>• Decisions by regulatory authorities have been influenced by research.</li> <li>• Costs of production have been reduced.</li> <li>• Husbandry methods have changed.</li> <li>• Change in management practices in production businesses.</li> </ul>
<b>Impacts on practitioners and services:</b> Impacts where beneficiaries are organisations or individuals, including service users involved in the development of and delivery of professional services	<ul style="list-style-type: none"> <li>• Changes to professional standards, guidelines or training have been influenced by research.</li> <li>• Practitioners/professionals have used research findings in conducting their work.</li> <li>• The quality or efficiency of a professional service has improved.</li> <li>• Work force planning has been influenced by research.</li> <li>• Forensic methods have been influenced by research.</li> </ul>
<b>Impacts on the environment:</b> Impacts where the key beneficiary is the natural or built environment	<ul style="list-style-type: none"> <li>• Policy debate on climate change or the environment has been influenced by research.</li> <li>• Environmental policy decisions have been influenced by research evidence.</li> <li>• Planning decisions have been informed by research.</li> <li>• The management or conservation of natural resources has changed.</li> <li>• The management of an environmental risk or hazard has changed.</li> </ul>

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<b>Impacts on international development:</b>	<ul style="list-style-type: none"> <li>• International policy development has been influenced by research.</li> </ul>
Impacts where the beneficiaries are international bodies, countries, governments or communities	<ul style="list-style-type: none"> <li>• International agencies or institutions have been influenced by research.</li> <li>• Quality of life in a developing country has improved.</li> </ul>

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### **Commercially sensitive and highly confidential impacts**

56. All panel members, advisers, observers and others involved in the assessment process are bound by a confidentiality agreement. Therefore, institutions may submit evidence for an impact including commercial and other forms of confidential information. If institutions believe that there are main or sub-panel members who would have a commercial conflict of interest in assessing confidential reports, institutions should name such individuals when making submissions. For impacts with highly sensitive commercial data, it may be necessary, in addition to the panel members' confidentiality arrangements, for a specific one-way non-disclosure agreement (NDA) to be signed by the institution, the company concerned and the panel members or assessors who are selected to undertake the assessment. In such cases, institutions should seek prior permission from the REF manager to enable the appropriate NDA to be put in place.

57. The main panel recognises there may be some rare instances where research has had impacts of a highly confidential nature – for example, in relation to defence, national security or highly sensitive policy developments – about which only very limited information could be disclosed to the panel. For case studies with a high level of confidentiality, submitting institutions should submit a statement to the REF manager that provides outline information together with the security or other clearance required by assessors and contact details for additional information for the case study to be assessed. This statement would not contribute to the quality assessment of the case study to which it relates. Permission to submit such cases would be granted where the REF team is able to identify and/or recruit panel members or assessors with appropriate clearance (who would also take part in the sub-panel's impact calibration exercises and assess other (non-confidential) case studies). Institutions should allow sufficient time for proposed statements to go through the organisation's internal release processes.

58. In all of the above cases, institutions may indicate which parts of the case study should be omitted from the published data, as set out in 'guidance on submissions' (paragraph 36).

## **Case studies: evidence**

### **Evidence of impact**

59. Each case study must include evidence appropriate to the type(s) of impact that supports the claims, including who or what has benefitted, been influenced or acted upon. Relevant indicators of the extent of the impact, in terms of its reach and

significance, should also be included. Evidence and indicators may take many different forms depending on the type of impact.

60. The sub-panels within Main Panel A recommend that institutions refer to the following list of characteristics when preparing case studies:

- All the material required to make a judgment is included – no further reading is required.
- There is a clear definition of who the non-academic beneficiaries were, or what had changed as a result of the research.
- The narrative is coherent, clearly explaining the relationship between the research and the impact, and the nature of the changes or benefits arising.
- Indicators used are meaningful, contextualised and precise in support of the case study and the evidence is focused and concise.
- Supporting evidence and claims can be independently checked and are verifiable.
- There is a brief explanation of what is original or distinctive about the research insights that contributed to the impact.
- The case study includes details of the names of researchers, their position in the institution, and the dates and locations of the research activity.
- Specific and appropriate independent sources of corroborating information are supplied.
- Where the research was carried out in collaboration with other institutions, or was part of a wider body of research, the institution must distinguish the submitting institution's input and subsequent impact.
- For case studies claiming impact from public engagement:
  - There is a clear link between the research and the engagement activity.
  - Evidence is provided about dissemination as well as a clear explanation about the significance or the benefits to audiences.
  - The activity goes beyond 'business as usual' engagement (for example, by the active involvement of service users and/or the public in creating interest, the activity created widespread interest, was particularly innovative, or created legacy resources).

61. The list of examples in Table 2 provides a guide to potential evidence or indicators that may be most relevant to the type of impact claimed; however, it is not intended to be exhaustive or rank any indicators in any way. Some indicators may be relevant to more than one type of impact.

62. The main panel will consider any appropriate evidence that is verifiable. Wherever possible, quantitative indicators should be included. Verifiable sources for key evidence and indicators should be provided in section 5 of the impact case study template, and

must be available on request. The main panel does not welcome testimonials offering individuals' opinions as evidence of impact. Factual statements from external, non-academic organisations would be acceptable as sources to corroborate claims made in a case study.

63. Institutions may submit case studies that describe impacts at any stage of development or maturity. However, the assessment will be solely on the impact achieved during the assessment period, regardless of the stage of maturity. No account will be taken of anticipated or future potential impact. Consequently, early stage or interim impacts might not score as highly as more mature impacts.

**Table 2 Types of evidence and indicators of impact**

	<b>Examples of evidence or indicators<sup>2</sup></b>
<b>Economic impacts</b>	<ul style="list-style-type: none"> <li>• Cost-effectiveness measures.</li> <li>• Evidence of service change.</li> </ul>
<b>Commercial impacts</b>	<ul style="list-style-type: none"> <li>• Sales of new products/services.</li> <li>• Business performance measures (for example, turnover/profits; trends in key technical performance measures underlying economic performance).</li> <li>• Employment figures.</li> <li>• Licences awarded and brought to market; market authorisation.</li> <li>• Demonstrable collaborations with industry (including knowledge transfer partnerships, and contracts).</li> <li>• Commercial adoption of a new technology, process, knowledge or concept.</li> </ul>
<b>Impacts on public policy and services</b>	<ul style="list-style-type: none"> <li>• Documented evidence of policy debate (for example, at a parliamentary Select Committee, material produced by non-governmental organisations).</li> <li>• Documented evidence of changes to public policy/legislation/regulations/guidelines.</li> <li>• Measures of improved public services.</li> <li>• Documented evidence of influence on health policy and/or advisory committees.</li> <li>• Evidence of use of process/technology.</li> </ul>
<b>Impacts on society, culture and creativity</b>	<ul style="list-style-type: none"> <li>• Documented evidence of improved public understanding through their collaborative involvement with research.</li> <li>• Critical reviews in the media.</li> <li>• Evidence of public debate.</li> </ul>

<sup>2</sup> This is not an exhaustive or exclusive list. Other evidence or indicators related to impact described are eligible.



	<ul style="list-style-type: none"> <li>• Documented evidence of changes to social policy.</li> <li>• Measures of improved social equality, welfare or inclusion.</li> <li>• Increased uptake of scientific training through public engagement.</li> <li>• Documented shift in public attitude (for example, to sexual behaviour, or social factors in health).</li> </ul>
<b>Health and welfare impacts</b>	<ul style="list-style-type: none"> <li>• Measures of improved clinical outcomes, public behaviour or health services (lives saved, reduced infection rates).</li> <li>• Documented changes to clinical and public health guidelines (documented references to research evidence in guidelines).</li> <li>• Evidence from audit, change in guidelines.</li> <li>• Documented changes to animal welfare codes or guidelines.</li> <li>• Evidence of enhanced awareness of health risks and benefits by consumers.</li> <li>• Evidence of enhancement of patient experience.</li> </ul>
<b>Production impacts</b>	<ul style="list-style-type: none"> <li>• A new product has been recommended for use or adopted.</li> <li>• Development of a new plant variety or crop protection product which has entered the appropriate national or international regulatory testing system.</li> <li>• Published rights for animals and plants.</li> <li>• Evidence of improved sustainability.</li> <li>• Documented changes to working guidelines.</li> <li>• Documented evidence of improved working practices and/or level of production.</li> </ul>
<b>Impacts on practitioners and services</b>	<ul style="list-style-type: none"> <li>• Literature/web information from practitioners and advisers, including the research findings and how they are applied in practice.</li> <li>• Evidence of adoption of best practice.</li> </ul>
<b>Impacts on the environment</b>	<ul style="list-style-type: none"> <li>• Sales of new products, or improvements in existing products, that bring quantifiable environmental benefits.</li> <li>• Verifiable influence on particular projects or processes which bring environmental benefits.</li> <li>• Evidence of generic environmental impact across a sector, confirmed by independent authoritative evidence.</li> <li>• Traceable reference to inclusion of research into government policy papers, legislation and industry guidance.</li> </ul>

	<ul style="list-style-type: none"> <li>• Traceable reference to the influence of research in planning decision outcomes.</li> </ul>
<b>Impacts on international development</b>	<ul style="list-style-type: none"> <li>• Documented evidence of changes to international development policies.</li> <li>• Measures of improved international equality, food security, welfare or inclusion.</li> <li>• Evidence of take-up and use of new or improved products and processes that improve quality of life or animal welfare in developing countries.</li> </ul>

### **Distinctiveness of research contribution**

64. There is an expectation that institutions submitting a case study will have produced research that made a material and distinct contribution to the impact described in the case study. The sub-panels within Main Panel A recognise that several groups or institutions may have made distinct research contributions to an impact, and they advise submitting institutions to ensure that their own contribution is specified clearly and that the contributions of others are acknowledged. Where an impact arises from a wider body of research, the sub-panels may take account of the specific contribution made by the submitted unit's research when judging the impact.

65. There will be many cases where researchers have moved institutions during the period in which a body of research underpinning a case study was produced. Where this is the case, the submitting institution should make clear that the research output from the period the researcher spent with it made a material and distinct contribution to the impact claimed.

### **Underpinning research**

66. In order for a case study to be eligible for assessment, it must include references to one or more key research outputs produced by the submitted unit that underpinned the impact, and provide evidence of the quality of the research. It will be eligible only if the sub-panel determines that the underpinning research is predominantly of at least two star quality (internationally recognised). The sub-panels will assess the outputs referenced in section 2 of the case study template, where necessary, to make this judgement. Since this is a threshold judgement, submitting institutions should only cite the outputs that demonstrate the threshold has been met.

### **Impact template**

67. 'Guidance on submissions' (paragraphs 149 to 155) sets out the requirement to submit a completed impact template. Submitting institutions are required to describe how they have sought to enable and/or facilitate the achievement of impact arising from their research, and how they are shaping and adapting their plans to ensure that they continue to do so in the future. This is distinct from evidence provided in the environment template, which should describe how a unit supports the production of excellent research. Where

possible, the main panel welcomes examples with traceable references rather than broad, general statements.

68. The main panel believes that excellent impact can be achieved from within a wide variety of research contexts and resulting from a wide diversity of approaches, and it has no pre-formed view of the ideal context or approach.

69. The sections of the impact template should provide explanation of and evidence for:

a. **Context.** Institutions should describe the main non-academic user groups, beneficiaries or audiences for the unit's research, the main types of impact specifically relevant to the unit's research, and how these relate to the range of research activity or research groups in the unit.

b. **Approach to impact.** Institutions should describe the unit's approach to interacting with non-academic users, beneficiaries or audiences and to achieving impacts from its research, during the period 2008 to 2013. This could include details of, for example:

- how staff in the unit interacted with, engaged with or developed relationships with key users, beneficiaries or audiences to develop impact from the research carried out in the unit<sup>3</sup>
- evidence of the nature of those relationships and interactions
- evidence of follow-through from these activities to identify resulting impacts
- how the unit specifically supported and enabled staff to achieve impact from their research
- how the unit made use of institutional facilities, expertise or resources in undertaking these activities
- other mechanisms deployed by the unit to support and enable impact.

c. **Strategy and plans.** Institutions should describe how they are developing a strategy for achieving impact, including goals and plans for supporting and enabling impact from current and future research.

d. **Relationship to the case studies.** Institutions should describe how the selected case studies relate to their approach to achieving impact. This could include details of, for example, how particular case studies exemplify aspects of the approach, or how particular case studies informed the development of the unit's approach.

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<sup>3</sup> Note that within the environment template, submissions should explain research collaborations with users, and how their relationships/interactions inform the development of the unit's research activity/strategy.

## Impact criteria and sub-profiles

70. The sub-panels will apply the following criteria to assess impact:
- **Reach:** the spread or breadth of influence or effect on the relevant constituencies.
  - **Significance:** the intensity of the influence or effect within the period 1 January 2008 to 31 July 2013.
71. The sub-panel will make an overall judgement about reach and significance to assess impact. In applying the criteria, the panels will use the level definitions in 'guidance on submissions' (Annex A, Table A3).
72. The criteria will be applied in the assessment of the research impact regardless of the domain to which the impact relates. Reach will not be assessed in purely geographic terms, nor in terms of absolute numbers of beneficiaries, but rather based on the spread or breadth to which the potential constituencies have been affected.
73. Case studies will be assessed by groups comprising user and academic panel members. As with other components of the assessment, arrangements will be made to ensure that appropriate expertise is available for the assessment of interdisciplinary submissions. The case studies will collectively contribute 80 per cent to the impact quality sub-profile.
74. Each impact template will be assessed. An overall assessment will be made based on a judgement of the evidence provided in each section of the template. The impact template will contribute 20 per cent to the impact quality sub-profile.

## Section 4: Assessment criteria: environment

### Environment template

75. Main Panel A believes that outstanding research can be undertaken in a wide variety of research structures and environments. The main panel has no pre-formed view of the ideal size or organisational structure for a research environment, and will judge each submission on its merits.
76. In this context, using the information provided in the environment template (REF5) and the environment data (REF4), sub-panels will assess the vitality and sustainability of the submitting unit and its contribution to the health of its discipline; recognising that the health of the discipline requires appropriate infrastructures and activity at HEI level to maintain and develop individuals and groups of researchers, and to train new generations of researchers.
77. Given that for the REF there is no expectation that the environment element of submissions relates to a single coherent organisational unit, submissions may define groups and their members. Groups may be departments/research groups or units which

may or may not be cognate. This gives an opportunity to explicitly state how enhanced multi- and/or interdisciplinary research is being encouraged. Institutions should define their prime activities, how they operate and their main achievements. It is recognised that submissions may consist of a single group which may or may not relate to a unitary coherent organisational unit.

78. To facilitate analysis of submissions, institutions defining groups and their members are required to identify groups in both the staff record and research outputs, and use the same groupings in the environment template (REF5). The same groups should be referred to in the impact template (REF3a) where relevant.

79. Evidence and indicators for environment may include, but are not limited to, the indicators listed below under each of the section headings in the environment template (REF5):

- a. **Overview:** This section should briefly describe the organisation and structure of the unit to set the context for sub-panels assessing the submission. It should be used to describe which research groups or units are covered by the submission, and how research is structured across the submitted unit.
- b. **Research strategy:** This section should provide evidence of the achievement of strategic aims for research during the assessment period; details of future strategic aims and goals for research; how these relate to the structure described above; and how they will be taken forward. Evidence and indicators may include, but are not limited to, the following:
  - details of significant changes, if any, to the research environment over the assessment period
  - evidence of strong research plans: a statement of the main objectives and activities in research over the next five years, including capacity building, research student recruitment, the involvement of service users, and any ongoing research work that is not producing immediately visible outcomes; balance sought between long-term and short-term research; the development of infrastructure to facilitate research; and ongoing work which is not producing immediate visible outcomes
  - responsiveness to national and international priorities and initiatives
  - effective mechanisms for the development, promotion and dissemination of research
  - research groupings, their activities, their rationale, how they operate and their main achievements
  - mechanisms and practices for promoting research, and sustaining and developing an active and vital research culture
  - evidence of multi- and/or interdisciplinary developments.

**c. People:**

**i. Staffing strategy and staff development** within the submitted unit.

Evidence and indicators may include, but are not limited to, the following:

- evidence of how the staffing strategy relates to the unit's research strategy and physical infrastructure
- implementation of the Concordat to Support the Career Development of Researchers
- evidence of how the submitting unit supports equalities and diversity
- effective integration of clinical academics and NHS-employed active researchers
- sustainable staff structure
- arrangements for the effective development and support of the research work of staff
- a description of how the unit has been developing the research of early career researchers and support for integrating them into a wider, supportive research culture
- research career development of both non-clinical and clinical researchers
- role of clinical researchers where relevant.

**ii. Research students:** The training and supervision of postgraduate research (PGR) students. Evidence and indicators may include, but are not limited to, the following:

- effective and sustainable doctoral research training
- evidence of a strong and integrated research student culture
- evidence of CASE awards and application of technology generated by research students.

**d. Income, infrastructure and facilities:** Information about research income, infrastructure and facilities. Evidence and indicators may include but are not limited to the following:

- the nature and quality of the research infrastructure and facilities, including significant equipment, research facilities and facilities for research students
- evidence of cross-HEI shared or collaborative use of research infrastructure
- significance of major benefits-in-kind (including, for example, donated items of equipment, sponsorships secured, or other arrangements directly

related to research)

- policy and practice in relation to research governance.

e. **Collaboration and contribution to the discipline:** Contributions to the wider research base, including work with other researchers outside the submitted unit whether locally, nationally or internationally; support for research collaboration; and interdisciplinary research. Evidence and indicators may include but are not limited to the following:

- indicators of wider influence or contributions to the discipline or research base
- participation in the peer review process (for example, national and international grants committees, editorial boards)
- fellowships and relevant awards
- journal editorships
- effective academic collaboration
- extent of collaboration or integration with external bodies, such as NHS R&D, and/or with industry, government agencies, where appropriate
- responsiveness to national and international priorities and initiatives
- effective mechanisms to promote collaborative research and collaboration at national and international level within the academic community and/or with users of research (whether with industry or the public sector).

## Environment data

80. 'Guidance on submissions' (Section 3, Part 4) sets out quantitative data relating to the research environment to be included in submissions (REF4a/b/c). Research doctoral degrees awarded (REF4a) will be used to inform sub-panel assessment of the research environment template (section c. ii) 'research students'. Research income (REF4b/c) will be used to inform sub-panel assessment of (section d) 'income, infrastructure and facilities'. Sub-panels within Main Panel A do not require quantitative data provided by institutions in REF4a/b/c to be reported by research group.

## Environment criteria and sub-profiles

81. In relation to the assessment of environment, the criteria of sustainability and vitality will be interpreted as follows:

- **Vitality** will be considered as the extent to which a unit provides an encouraging and facilitating environment for research, has an effective strategic plan, is engaged with the national and international research community, is able to attract excellent postgraduate and postdoctoral researchers through a worldwide

reputation and, where appropriate for the subject area, is supported by a portfolio of research funding.

- **Sustainability** will be understood as a shared vision for the future, and investment in people and infrastructure.

82. In applying both criteria, panels will interpret ‘environment’ as relating to both the research environment within the submitting unit, and its participation in and contribution to its academic discipline and community.

83. In applying the criteria, the panels will use the level definitions in ‘guidance on submissions’ (Annex A, Table A4).

84. Sub-panels will combine ‘overview’ and ‘research strategy’, and will assess the environment template sections as four components of equal weighting:

- overview and research strategy
- people
- income, infrastructure and facilities
- collaboration and contribution to the discipline.

## **Section 5: Working methods**

### **Main panel working methods**

85. Main Panel A will have oversight of sub-panel procedures through a variety of mechanisms, such as requiring reports from sub-panel chairs, the attendance of the main panel chair (and other members) at sub-panel meetings. The main panel has also agreed a broad common approach across its sub-panels to its working methods.

### **Arrangements for interdisciplinary research and cross-referrals**

86. The main panel recognises the diverse nature of the disciplines that it covers, and that aspects of research in those areas are naturally multidisciplinary or interdisciplinary. The main panel and all sub-panels welcome the submission of multidisciplinary and interdisciplinary research that spans the areas of research set out in the UOA descriptor and one or more other UOAs, whether within Main Panel A or other main panels. The standards of excellence defined by the starred quality levels will be applied equally to research in new interdisciplinary areas and in established disciplines.

87. Across all UOAs, the sub-panel memberships have experience of multidisciplinary and interdisciplinary work and of work which spans UOA boundaries. Sub-panels are confident that they can assess such work, and their memberships have been deliberately selected to embrace broad-ranging experience in order to enable this. In addition, specific arrangements to support the assessment of interdisciplinary and multidisciplinary work, and work at UOA boundaries include:



- a. When required, additional assessors will be used to extend the breadth and depth of expertise on sub-panels. Assessors may be appointed to work with an individual sub-panel or across sub-panels, according to their expertise.
- b. Main panel international and user members have a range of multidisciplinary and interdisciplinary expertise and, where their expertise is relevant and additional to that on a sub-panel, they will provide assessment advice, across a number of sub-panels if appropriate.
- c. Sub-panels expect the arrangements outlined at a and b above to allow them to assess the majority of multidisciplinary and interdisciplinary work submitted to them. However, exceptionally, parts of submissions may be cross-referred to other sub-panels in Main Panel A or to sub-panels outside the main panel. Both the submitting HEI and the sub-panel receiving the submission may make a request to cross-refer parts of submissions.

88. The main panel will oversee the process for making cross-referral requests, with main and sub-panel chairs advising the REF manager who will decide on the requests. Where parts of submissions are cross-referred, advice will be sought and given on the basis of the assessment criteria for the UOA in which the work was originally submitted. The final recommendations to the main panel on assigning quality profiles will remain with the sub-panel for the UOA in which the submission was originally made.

### **Appointment of assessors**

89. Upon receipt of institutions' submission intentions by early 2013, each sub-panel will seek to identify across all submissions:

- a. Potential interdisciplinary research that cannot be assessed within the sub-panel's existing expertise.
- b. Disciplinary areas where there may be gaps in the sub-panel's expertise or where the volume of outputs and/or impact case studies expected is such that it may lead to potential workload issues.

90. The sub-panel may then make a case to the main panel for the appointment of assessors, for either outputs or impact case studies, or both. In judging all such requests, the main panel will consider whether a demonstrable case has been made that the work could not be robustly assessed within the sub-panel. Assessors will participate in the assessment process; will receive appropriate briefings, including undertaking calibration exercises; will attend meetings as required; and will contribute to the development of the relevant assessment sub-profiles.

## **Adherence to assessment criteria and standards**

91. Main Panel A will work with its sub-panels to ensure adherence to assessment criteria and the consistent application of assessment standards, by employing the following mechanisms:

a. The main panel chair and panel advisers will engage with sub-panel discussions throughout the assessment process.

b. Sub-panel chairs will make regular reports to the main panel which may include, but will not be limited to the following:

- staff with clearly defined individual circumstances
- impact case studies generally
- cross-referrals and appointment of assessors
- assessment progress.

Sub-panel chairs will seek advice from the main panel should they be unsure about how to handle specific instances.

c. Members of Main Panel A will attend meetings of the sub-panels regularly as follows:

- The international members of Main Panel A will in particular be engaged in the calibration process and in the confirmation of final profiles, to ensure consistency with international standards.
- Sub-panel chairs will attend a selection of other sub-panel meetings across Main Panel A as agreed with the main panel.
- The main panel chair will attend a selection of all the sub-panel meetings.

d. A calibration process will be undertaken at sub-panel level covering both outputs and impact case studies.

e. The main panel will make use of expertise across the full range of its sub-panels for the assessment of interdisciplinary work at the boundary of UOAs and/or work that requires cross-referral, as well as to support the assessment of impact case studies.

f. The sub-panels will adopt a common sequence for the assessment of each of the elements, outputs, impact and environment, and will generate interim profiles that will be reviewed by the main panel for consistency. They will make full use of the international members' knowledge of the international standards within the disciplines.

- g. The main panel will require that any substantial differences in the average overall profiles for each UOA are investigated and understood before finally approving the quality profiles recommended by its sub-panels.

## **Sub-panel working methods**

### **Use of appropriate expertise to assess submissions**

92. The sub-panels will ensure that submissions are assessed using appropriate expertise through the following approaches:
- a. The examination of submission intentions and the appointment of assessors, if required, during 2013 for the assessment of outputs and/or impact case studies.
  - b. The examination of the actual submissions early in the assessment phase in 2014 in order to confirm that the sub-panel and its appointed assessors have the expertise to assess the work submitted; or whether, exceptionally, a case needs to be made to the main panel for the appointment of one or more further additional assessors, or for the cross-referral of one or more outputs or impact case studies.
  - c. The sub-panel chair, consulting with sub-panel members as appropriate, will manage the allocation of outputs, environment submissions and impact submissions to sub-panel members and appointed assessors.

### **User members and assessors involvement in the assessment**

93. Some panel members and assessors will be users of research. User members and user assessors will contribute significantly to the assessment of impact. All members and assessors involved in assessing impact will take part in an initial sub-panel calibration exercise of the assessment of impact submissions, including both case studies and the impact statement.
94. The sub-panel chair will allocate the assessment of each impact case study to a balanced mix of academic and user members or assessors with appropriate expertise.
95. The sub-panel chair may allocate some outputs to user members, in particular areas where their expertise may be appropriate.
96. User assessors will play a full part in the process of the assessment of impact, will attend meetings of the sub-panel to discuss impact assessments, and will be fully involved in the development of the impact profile for the submissions they have assessed.

### **Consistency of assessment within sub-panels**

97. To ensure internal consistency of assessment, each sub-panel will adopt the approaches outlined below.
98. Calibration exercises, to ensure a common understanding of the starred quality levels:
- a. In December 2013, consideration of a sample of outputs across the range of submissions and across a range of output types.
  - b. Early in the assessment period, following the sub-panel calibration exercise and before the commencement of the sub-panels' assessment of impact and environment:
    - consideration of a sample of submitted impact case studies, across a range of submissions and across a range of types of impact
    - consideration of a sample of impact templates across a range of submissions across UOAs in Main Panel A
    - consideration of a sample of environment templates across a range of submissions across UOAs in Main Panel A.

### **Proportion of outputs to be examined in detail**

99. The main panel intends to examine all outputs in a level of detail sufficient to form robust judgements and to inform the formation of a reliable quality profile.
100. All submitted evidence in relation to environment and impact will be examined in sufficient detail to form judgements and to contribute to the formation of a quality profile.