

# REPORT OF THE RESEARCH QUALITY REVIEW

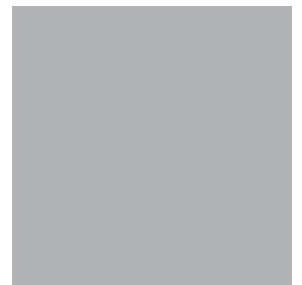
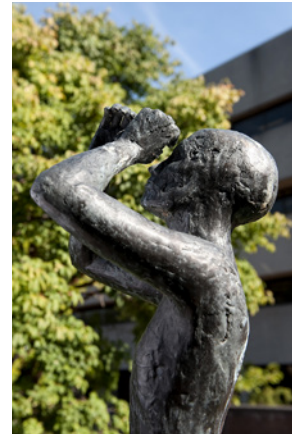
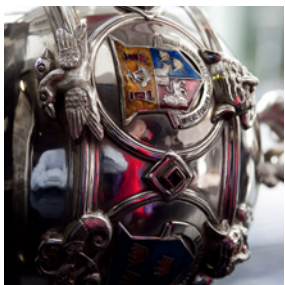
UNIVERSITY COLLEGE CORK 2015

## PANEL B REPORT EPIDEMIOLOGY & PUBLIC HEALTH



# UCC

University College Cork, Ireland  
Coláiste na hOllscoile Corcaigh



## Panel B Report

### Epidemiology & Public Health

#### Units in Panel B

- Gerontology & Rehabilitation
- Epidemiology & Public Health
- General Practice
- Paediatrics & Child Health
- Obstetrics & Gynaecology
- INFANT

#### Panel B members

Chair: **Professor Eric Steegers**, Erasmus MC, Rotterdam, The Netherlands

DVC for Gerontology: **Professor Peter Crome**, University College London

DVC for Epidemiology: **Professor Mark McCarthy**, University College London

DVC for Paediatrics: **Professor Vineta Fellman**, Lund University, Sweden

DVC for Obstetrics: **Professor Fiona Lyall**, University of Glasgow

DVC for INFANT: **Professor Mark D. Kilby**, University of Birmingham

#### How the Panel went about the business of the review

The UCC RQR Steering Committee provided advice on the structure of this Report.

The Disciplinary Vice Chair (DVC) for General Practice was unable to attend. His work was covered by the DVC for Epidemiology & Public Health.

During the first day, after the input by the steering committee, initial draft reports of the units prior to the visits that afternoon were discussed. In particular, substantial mutual agreement was achieved on scoring the Research Activity Indicators.

The second day was used to individually adapt the draft reports according to the input provided during the visits and to discuss those between the members of the Panel.

During the evening of the second day and early morning of the third day, final reports were drafted by the individual DVCs to be discussed and agreed later in the morning by the Panel. These reports were guided by disciplinary norms. Furthermore, summary slides were prepared for each unit as well as some general introductory and concluding remarks of the Panel as a whole, for the individual exit preparations that afternoon.

#### General observations and comments

The members of the Panel were impressed by the hospitality and professionalism of the Quality Promotion Unit and the RQR Steering Committee. UCC shows a remarkable ambition in performing such RQR for the second time. Furthermore, we recognised the ambition in transforming the health service to an Academic Health Centre. We experienced generally good, enthusiastic engagement from the units during the visits.

As set out in the Guidelines, the units were assessed and scored as a whole and to international disciplinary standards rather than local or national standards.

There seemed to be some diversity on how units presented their material for the RAIs and not all researchers provided their top five peer-reviewed publications for assessment. Forwarded publications may be the best cited, the most important for their careers or grants achieved or important for their national field in being societally relevant.

The Panel recognised the limitations put upon UCC by the national budget cuts and the moratorium on fixed terms of academic personal and the opportunities for promotion to Professor.

#### Introduction

The Department has its origins within the Medical School for teaching undergraduate medical students. Since 2008, the Professor/Lecturer staff number has risen from seven to 12 FTE equivalents, and the Department has been relocated in high-quality offices within the campus, funded through the PRTL1-5 capital programme.

The Department has a core group of established and emerging research leaders in diet and health research, cardiovascular disease and diabetes epidemiology, occupational health, health services research (currently assessing emergency departments) and work on the causes and prevention of suicide and self-harm.

The Department has also gained strength through developing new teaching (including an important BSc in Public Health which now graduates 30 students a year, and a 'feeder' into the research programme), support for young career scientists (through the Health Research Board-funded Scholar Programme entitled SPHeRE) and enabling contacts between the Department and other researchers both within UCC and externally. The Department now offers teaching for around 200 students a year in undergraduate, masters and postgraduate certificate courses (some taught on-line), as well as contributing elsewhere across the university.

#### RAI 1 - Selected published output

The main fields of research publication include epidemiology (diet and health), occupational disease, health services research (including accident services) and broader public health (including suicide prevention). There are also significant collaborations with college departments within UCC.

The submitted publications were refereed by three sub-unit assessors (one requested assessor did not provide a response). Where two reports were available, there was high consistency.

The referees indicated strong support for the quality of publications. Overall, the publication output of six researchers was considered to be excellent. For Category A researchers, 10 out of 15 achieved ratings across the five papers of excellent or very good. For Category B researchers, four out of seven achieved average ratings of excellent or very good.



The selected published output of the Department has been demonstrated to be of a very good standard.

### **RAI 2 – Total published output**

The Research Statement reported that there had been 892 “unique research outputs” published over the review period. 434 were journal articles and 417 were published in international journals and high impact journals including Nature, Lancet, PLOS Medicine, International Journal of Epidemiology, Diabetes, as well as Diabetes Care, The Journal of Clinical Endocrinology and Metabolism, PLOS One, Journal of the American Geriatric Society, Journal of Child Psychology and Psychiatry, Preventive Medicine, Journal of Epidemiology and Community Health, BMJ Quality and Safety and Cochrane Reviews.

Two of the three referees quantified this metric. Of the 19 researchers assessed, 11 were considered to be excellent or very good, while eight were considered good or fair. All the PIs appeared to be successful in this metric.

The total published output of the Department has been demonstrated to be of an excellent standard.

### **RAI 3 – Peer esteem**

A high level of scoring was gained for peer esteem, perhaps reflecting the longer time needed for epidemiological research from initiation to final publication than in laboratory sciences.

The Department’s members have created studies that link internationally (European-wide) and with national bodies, including the Health Research Board (Centre for Health and Diet), HRB Research Leaders award, HRB Interdisciplinary Enhancement Award, HRB Clinical Health Professional Award. Members have gained funding for the health services research training programme, in association with two partners in Dublin, towards a forthcoming collaborative National Health Services Research Institute. The Department has also worked closely since 1999 with the National Suicide Research Foundation.

Two of the three referees provided this metric, and assessed the staff members highly: of the 19 assessed, the peer esteem activity of 15 researchers, including all PIs,

was considered to be ‘excellent’ or ‘very good’, while the peer esteem activity of four was considered to be ‘good’.

The peer esteem activity of the Department has been demonstrated to be of a very good standard.

### **RAI 4 – Research-related activity**

Department members have contributed to international research activities including coordination of the TRUST EU-wide clinical trial, the DEDIPAC EU Joint Programming Initiative on diet and physical activity, the CASE WHO/Euro Multicentre study on Suicidal Behaviour, Child and Adolescent Self Harm, the European Network of Cancer Registries, and consultation on the disciplinary review of the EU Seventh Framework programme.

The Centre for Health and Diet contributed to the 2014 McKinsey Global Institute report “Overcoming obesity: An initial economic analysis”. There are student and staff exchanges and collaborative funding with the UK, other European countries and North America.

Staff members hold senior positions in national health and research advisory organisations. There has been strong collaboration with national groups, including ongoing major national cohort studies (the Growing up in Ireland Children’s cohort study and the Irish Longitudinal Study on Ageing [TILDA]). The National Self Harm Registry developed a new Suicide Support & Information System (SSIS) in collaboration with Coroners’ courts, providing data on suicide clusters in Ireland and support for bereaved families. There has been collaboration with commercial companies on applications from the Centre for Health & Diet Research.

There are internal UCC collaborations with the Science Foundation Ireland (SFI)-funded Alimentary Pharmabiotic Centre, the SFI-funded Infant Centre and the Health Research Board-funded Clinical Research Facility.

The Department holds regular departmental meetings with presentations from international and national speakers, as well as UCC and internal staff members.

The research-related activity of the Department has been demonstrated to be of a very good standard.



## **RAI 5 - Postgraduate research education**

There has been a progressive increase in post-graduate and post-doc activities in the Department. Development of the public health BSc has provided strong first-degree training for postgraduate studies and a competitive field for applications.

The Department currently has over 20 PhD research students, working with senior staff members across a range of public health fields: both PhD students and selected Masters' students contribute to the planning and conduct of fieldwork for major studies led by the Department.

Postgraduate students have a strong publishing record of research papers during their studentship: PhD students are generally required to submit up to five papers (and a minimum of three) for publication before submission of their thesis for examination. Students contributed to 35 papers published in 2014 and to 34 published in 2013.

Many students have demonstrated merit through awards, including Sheppard Memorial Prize, Horgan Bronze Medal, best poster prize (Infectious Disease Society of Ireland), UCC team in Irish Healthcare Awards, Higher Education Authority competition for communication of research, IEA student poster award, and UK Society of Medicine best poster award.

A monthly research support group, for PhD students, post-doctoral researchers and senior staff, enables discussion of drafts of papers and challenging methodological issues in epidemiology and biostatistics. There is also good attention to career development for younger staff, and many postgraduate students have subsequently achieved further research positions both abroad (Harvard, MRC UK) and within the Department.

The postgraduate research education activity of the Department has been demonstrated to be of an excellent standard.

## **RAI 6 - Research income**

There has been a substantial achievement in gaining research funding across a range of fields and agencies, both national and independent. Apart from the university's funding for teaching, and important research funding support from the Irish Health Research Board and the National Suicide Research Foundation, the Department has developed applications across a wider range including European Union and North American sources. This diversity, which does not depend on a single funding agency, is important for the strategic development of new fields, for example new Professorial appointments in occupational health and health services research.

The UCC Research Statement described grant income to the Department of €8.3 million over the period, although it was difficult to correlate this total with the information provided for individual grants. (Some sums were reported across institutions and some only for UCC, and across various time periods). A second major sum of around €8 million (which included data collection) was gained for the National Study of Self-harm.

The research income activity of the Department has been demonstrated to be of an excellent standard.

## **Areas of good practice**

The Department has been proactive in developing epidemiology and public health research. The field has been identified by UCC as one of five areas for priority, and the Department has benefitted in increased academic appointments and improved physical location.

The Department has a dynamic office setting which matches the laboratories of the biosciences, and ensuring a close relation between all staff and students. A quarterly newsletter, strengthening outreach, describes Department activities both in research work/publications/teaching, and also in community engagement and outreach – a benefit to UCC as a whole.

Departmental leadership has enabled excellence in gaining research grants from a wide range of sources, and this is matched by extensive scientific publication in international journals and significant recognition of senior staff at international and national advisory positions.

## **Recommendations for future development**

The Department has responded well to the recommendations made in the 2009 review. A forward five-year strategy 2015-2019 proposes now to rationalise structures and governance, create an internationally competitive centre for population health sciences and health services research, and continue to provide opportunities for career development and progression for academic staff.

The Department will need to promote the varied themes across epidemiology (including nutrition, CVD and diabetes studies), and health services research (including A&E work and suicide prevention). Equally there is a need to work in depth on methodologies (such as implementation sciences, modelling and collaboration between statistical, social science and policy analyses in complex interventions), and to strengthen the opportunities from clinical joint appointments (such as those already with perinatal epidemiology and Irish cancer registry). Public health infectious disease research remains a significant opportunity for links both in field practice and also laboratory studies. Indeed, a further perspective may be to engage with global public health, where Ireland has some competitive advantage in international relations and can draw on a strong range of national systems for disease control.

There is also evident public engagement for the activities that are of central interest to the departmental leads. There should be strong public health teaching within medical undergraduate and postgraduate practice (both primary care and hospital training), as well as with public health practice at local level – where the results of research must be applied. This is an issue not only for Ireland but internationally, where there is increasing recognition of the population dimension in health as well as clinical sciences and clinical practice.

## **Concluding statement**

The review shows a Department that is developing strongly, is research-focused and nationally influential. There is important cooperation with other research groups within UCC, members of the Department are recognised and contribute internationally across several allied fields of epidemiology and public health. Members

provide important input to national policy as well as linking beneficially at local level with local issues. Despite the fewer opportunities for population research compared with the biosciences and commercial pharmaceutical companies, excellence has been shown both in competitive income for medical research grants and in the major contribution of publications. The Department has appropriately developed links with the Health Research Board for both public health and health services research and has important developing collaborations across Europe and with North America. The strong research activity and high publication rate in international peer-review journals also reflects the Department's excellent performance in attracting and training postgraduate students, who now continue into post-doc careers as well as developing wider links in Ireland and abroad.

The research activity of the Department has been demonstrated to be excellent and of leading international standard.

## Overall comments

### Developing research capacity

The six units considered by the Panel form a significant contribution within the School of Medicine, undertaking research at cellular, disease and population levels. There were three units with primary research focus (Gerontology, INFANT and Public Health) and three with strong clinical responsibilities as well as research (Obstetrics, Paediatrics, Primary Care). Because of the historic structures within the University, there was some overlap in the assessment between Obstetrics, Paediatrics and INFANT.

All units showed strength in undertaking research. There has been substantial progress since the University's research assessment in 2009, with substantial independent research funding, and demonstrating publication and esteem at international level. Performance in some units depended on relatively few leading researchers, and raising performance of further principal investigators is needed for sustainability.

If the University continues to appoint lecturers to only give undergraduate teaching and not require research activities of them, it would be more accurate for research review of the unit if they were not included in the unit's research active staff. A separate education/teaching quality review would be warranted.

### Staff development

Recognising the limitations of the recent financial situation, and the position of universities within the public sector workforce, the process for career progress seemed unclear. This could be addressed through annual formative performance review and development assessment for staff.

UCC is advised to implement a uniform annual review for PhD students, and to set standards in progress, such as upgrading assessments and publications. Post-doctoral staff are encouraged to keep a portfolio for self-reflection. Continued support is needed in progression to principal investigator.

### Assessment process

The guidelines for review by units may need to be clarified, as units provided very variable information. For example, in some staff the 5 submitted publications were not always original research articles. Some units did not provide a summary of RAI 4 data, but referred to information in IRIS. The IRIS data was very variable between individuals and collecting information from the database was not easy for the Panel.

Higher standards of recording on IRIS might be achieved if there was obligatory annual reporting by departments and research centres. The University should also investigate further the use of bibliometry indices for research review and prioritisation.

## Recommendations to the University

UCC may wish to:

Improve the scoring system for papers making those more detailed in future assessments allowing better comparison between reviewers.

Provide more consistent instructions to the units regarding the nature of publications put forward. The instructions on RAI criteria for the external reviewers may also be improved as there are occasional substantial discrepancies between reviewers. Consider how to include all (divisions of) Departments for full review.

Consider how to rate societal impact (both economically as well as societal well-being).

Consider how to avoid double counting between departments and centres in the allocation of funding and publications.

We believe that a greater role for bibliometric indicators in research reviews, both on an individual as a unit level, would be advisable as well as the presentation of SWOT analyses.

Increased focus is advisable on the dispersion of policies on scientific integrity to the level of PhD students and post-docs. This may include the initiation of an auditing process of the practice of scientific work within units.

The effects of the moratorium on the sustainability of human talent and lack of career progression at senior levels should have continuous attention. We compliment University on the attention paid to postgraduate student needs.

One may consider repositioning of units between the Panels. For example, it would have been useful to shift the School of Nursing and Midwifery in Panel C to Panel B.

## Section B: Outline of RQR 2015 Process

The following information outlining the structure of the review process is abridged from the RQR Guidelines 2014.

### Review Structure

1. Fifteen Peer Review Panels will be appointed, based on disciplinary clusters. Peer review teams may vary in size according to the size and complexity of the cluster of academic units and disciplines within the cluster.
2. Peer Review Panels will receive material in advance. The majority of reviewers will work remotely. Chairs will visit the University twice: before the exercise for briefing and to ensure consistency of approach and, together with the disciplinary vice chairs, after the remote review of submissions has taken place.
3. Site visits to include:
  - First site visit (by Chairs)
    - Information and briefing meetings between Panel Chairs and members of the Steering Committee.
    - Briefings with Colleges and RICUs on prevailing research and graduate education conditions.
  - Second site visit (by Chairs and Disciplinary Vice Chairs)
    - Presentation from academic units on research activity.
    - Meetings with staff, researchers and postgraduate research students.
    - Meetings with relevant Officers of the University.
    - Visit to facilities of units.
    - Consideration of the reports of the remote reviewers.
    - Agreement on results.
    - Drafting of report according to guidelines and criteria for assessment.

### Criteria for Assessment

Research performance will be evaluated, relative to international disciplinary norms, under the following headings:

- a. Selected published output
- b. Total published output
- c. Peer esteem
- d. Research-related activities
- e. Postgraduate research environment
- f. Research income

### Definitions

For the purposes of the review the following definitions apply:

1. **Assessment Period:** the period from 1 January 2008 to 31 December 2014. The research described in submissions from academic units and research centres/institutes, including data about research funding and the textual commentary, must relate to this period.
2. **Census Date:** the date determining the affiliation of academic and research staff to a particular academic unit/research centre/institute. All staff should be submitted by the academic unit/research centre/institute that employs them on this date, regardless of previous

or forthcoming changes in their employment status. Note that staff can be associated with an academic unit and a RICU, but will only submit and be reviewed once and the outputs incorporated into the academic unit and the RICU. A staff census will be undertaken during the present academic year on 31 May 2014 to enable planning. An update to the census will be undertaken on 31 October 2014, to account for all staff hired after May 2014 and who will be in post at the time of the review, to provide the final list for the review.

3. **Publication Period:** the period during which research outputs must be placed in the public domain (or in the case of confidential outputs, lodged with the sponsor) if they are to qualify for inclusion in the assessment. The publication period runs from 1 January 2008 to 31 December 2014.

4. **Research:** this definition was approved at the Academic Council meeting of 7 March 2008 and remains unchanged:

'Research' for the purpose of the review is to be understood as original investigation undertaken in order to gain knowledge and understanding. It includes work of direct relevance to the needs of commerce, industry, and to the public and voluntary sectors; scholarship\*; the invention and generation of ideas, images, performances, artefacts including design, where these lead to new or substantially improved insights; and the use of existing knowledge in experimental development to produce new or substantially improved materials, devices, products and processes, including design and construction. It excludes routine testing and routine analysis of materials, components and processes such as for the maintenance of national standards, as distinct from the development of new analytical techniques. It also excludes the development of teaching materials that do not embody original research.

\*Scholarship is defined as the creation, development and maintenance of the intellectual infrastructure of subjects and disciplines, in forms such as dictionaries, scholarly editions, catalogues and contributions to major research databases.

5. **Consultancy:** income and research outputs arising from consultancy contracts should normally be excluded, since consultancy is usually concerned with applying existing knowledge. However, they may be included if the work undertaken or published as a result meets the definition of research, irrespective of the nature of the contract or invoicing arrangement.

6. **Pedagogical Research:** is included in the scope of the RQR and includes research which enhances the theoretical and/or conceptual understanding of:

- teaching and learning processes in higher education
- teacher and learner experiences in higher education
- the environment or contexts in which teaching and learning in higher education take place
- teaching and learning outcomes in higher education
- the relationships between these processes, outcomes and contexts

7. **Applied and Practice-Based Research:** is included in the scope of the RQR and involves a process of systematic investigation within a specific context in order to solve an identified problem in that context. It aims to create



new or improved systems (of thought or production), products, processes, materials, devices, or services which have an impact on society through enhanced wealth-creation and quality of life.

Some characteristics of applied research and practice-based research are that:

- a) They are informed by an intellectual infrastructure of scholarly research in the field.
- b) They apply and/or transfer enhanced knowledge, methods, tools and resources from pure research and developmental research.
- c) They contribute to scholarship in the field through systematic dissemination of the results.
- d) The outcomes may be specific to the situation in which the research has been applied, although the methods/tools evolved are often transferable.

8. Creative Research: encompasses creative work and its outcomes in a range of subject areas, including creative writing, music, drama, dance, theatre, performance, live art, and film. This research may lead to published materials in a variety of forms in any of these subject areas. Such research is also diverse in the range of artistic practices on which it may draw and may extend to any cultural, geographical and historical context. It may include production or performance of creative material which itself results from a process of original creative enquiry. This work may also be collaborative in nature.

9. Research Submission: this is the totality of what will be submitted to review Panels and incorporates contextual information (the research description for each unit which sets out the extent and boundaries of the research carried out in that area), the research statement (see below) and the information required by the six Research Activity Indicators (see below).

10. Research Statement: the research statement will provide contextual information and an overview of the research activity in each unit of assessment during the review period in addition to a critical assessment of progress made since the last RQR, including a response to any recommendations made. A template and further information on submission will be provided. It will be a maximum of 5,000 words (see below for further detail).

11. Research Activity Indicators (RAIs): there are six research activity indicators. The information provided under each of the six headings, together with the research statement and the research description, constitutes the research submission.

12. Unit of Assessment: these are the units reviewed by each Panel as defined in Appendix A. It includes each of the academic units and each of the associated Research Institutes, Centres or units. NB: Not all of the associated Research Institutes, Centres or units will be reviewed separately.

### Assessment Process

1. This is an expert peer review exercise. Panel members will exercise their knowledge, judgement and expertise to reach a collective view on the quality profile of research described in each submission, that is, the proportion of work in each submission that is judged to reach each of five quality levels (see below). The definition of each level relies on a conception of quality (of leading international standard) which is the absolute standard of

quality in each unit of assessment. Each submission will be assessed against absolute standards and will not be ranked against other submissions.

2. External experts nominated by the academic units will be asked to suggest who, from among their list of Panel nominations, might be suitable for the role of Chair. The final decision and approval of chairs will be made by the Steering Committee.

3. Up to five Disciplinary Vice-Chairs will be appointed, with the assistance of the Chair, for each Panel. They will be responsible for the co-ordination of the electronic evaluation of each disciplinary unit by the remote reviewers. They will attend the site visit post-evaluation.

4. Chairs and Disciplinary Vice-Chairs will be responsible for ensuring consistency across and within Panels and the application of international standards in the exercise.

5. Panel reviewers will initially evaluate RAIs 1-3 and elements of RAI 4 at an individual level. They will subsequently review overall performance of the academic unit or RICU drawing on the input of each researcher, recognising that researchers may appear in more than one.

6. First Site Visit. Panel Chairs will visit UCC for one day for briefing purposes and to ensure that the Panels work consistently as far as possible.

7. Second Site Visit. Following the remote review of the submissions, the Chairs and Disciplinary Vice-Chairs of the Panels will visit UCC to conduct site visits. They will meet with staff and officers of the unit and University and will visit the research and other facilities of each unit under review in order to form an assessment of the research environment. At the second site visit, the Chairs and Disciplinary Vice-Chairs will consider the reports from the remote reviewers in order to initiate discussion on each individual submission. A preliminary profile of the quality of outputs will be considered. A profile of the quality of research outputs and peer esteem will be compiled, along with decisions made as to scores for the research-related activities, postgraduate training, the research funding and research environment, taking on board the deliberations of the Panel at large.

8. An overall research evaluation (ORE) will be awarded by the Panel to each unit. This will be achieved through a process of consideration of all scores in the six RAIs along with consideration by the Panel of the Research Statement and other contextual information. The results for the six RAIs will also be produced for each unit, providing anonymous percentiles for RAIs 1, 2 and 3, along with results for the unit in RAIs 4, 5 and 6. The Panel will finally confirm that, in its expert judgement, the overall recommended score is an accurate and appropriate reflection of the research activity in each submission, and that its assessment has taken account of all components of the submission. Further guidance will be provided to Chairs of Panels at the first site visit.

9. Descriptive and evaluative statements. Panels will provide a descriptive statement of their view of the overall quality of research activity for each academic unit. Panels are also asked, within this statement, to comment on the totality of research activity and performance in the context of the research environment in which the unit is working and to make recommendations for improvement.

## Research Excellence

Panels recognise the diverse range of disciplines represented by the units of assessment assigned to them. Set out below are the broad parameters for the assessment of the quality of research for each of the six Research Activity Indicators within which individual Panels may exercise a degree of variation. The quality levels refer to quality standards of scholarship that are the norm within the international academic community.

- Level 5** Quality that is of leading international standard.  
The research work or activity will be excellent, displaying a very high level of originality, significance to the discipline and rigour; it will be innovative and potentially agenda-setting in research and/or policy fields
- Level 4** Quality that is of very good standard in terms of originality, significance and rigour comparable with such work internationally.  
The research work or activity has had or is likely to have a significant impact on research and/or policy agendas
- Level 3** Quality that demonstrates significance to the discipline and rigour to a good standard.  
The research work has had or is likely to have a recognised impact on research and/or policy agendas
- Level 2** Quality that demonstrates significance to the discipline and rigour to a fair standard.  
The research work or activity has only had or is likely to have a marginal impact upon existing paradigms and agendas within the discipline.
- Level 1** Quality that falls below the adequate standard of recognised work within the discipline.  
The research work or activity is poor and has had no impact nor is it likely to have an impact upon existing paradigms and agendas within the discipline.

Because of the differences which exist between the six RAIs, appropriate criteria will be employed in each one:

- RAI 1 will be evaluated against the criteria of originality, significance and rigour.  
RAI 2 and 3 will be evaluated against the criteria of extent, diversity and quality.  
RAI 4 and 5 will be evaluated against the criteria of international disciplinary norms.  
RAI 6 will be evaluated against the criteria of funding levels for the specific unit and cognate disciplines available to researchers in Ireland.

### Definitions of Research Activity Indicators (RAI)

#### Research Activity Indicator 1 (RAI 1): Selected Published Output

Panels will be required to rate each of the five selected research outputs for each Category A and B researcher. Each publication will be rated by two Reviewers. The overall quality profile will be finalised by the Panel.

#### Research Activity Indicator 2 (RAI 2): Total Published Output

Two Panel members will be required to allocate an individual Category A or Category B researcher's total research output in the period, identified on IRIS/CORA to one of five quality categories.

#### Research Activity Indicator 3 (RAI 3): Peer Esteem

The purpose of this metric is to capture the overall scholarly standing of Category A and Category B researchers within the unit, based on information presented in their IRIS profile. Evidence of peer esteem, across the career as a whole, includes publication output, Fellowships, Honours, Invited Plenary Presentations at significant disciplinary conferences, service on appointment Panels at other institutions, external examining, translation of works, refereeing/editing of journals etc., as well as significant research activity which occurred before the review period began (e.g. widely cited publications, international prizes awarded, etc.). The rating given to an individual should reflect the level of the individual's achievements across his or her research career as a whole. The Panel will determine the quality profile for each individual researcher. The overall quality profile will be finalised by the Panel.

#### Research Activity Indicator 4 (RAI 4): Research-related Activities

For the purposes of the RQR 'research-related activity' is intended to capture activity within and beyond the unit by individual or groups of researchers in the unit. This includes seminar series, research-focused public engagement exercises, specialist training provision, collaboration, research mentoring, outreach activities, support for scholarly institutions, evidence of research-led teaching at all levels, etc. The evidence for this will be collated from individual's IRIS profiles, and the contextual information supplied by the unit.

Each member of the Panel is asked to give a single quality level for the collective research-related activities of the unit based on their professional judgement.

The modal (most frequently occurring) rating across reviewers will be taken as the research-related activity score. [The higher rating will be preferred where the distribution of ratings is multimodal.]

#### Research Activity Indicator 5 (RAI 5): Postgraduate Research Education

Panel members are asked to each give a single quality level for the collective activities related to postgraduate training. This rating should reflect the professional judgement of the peer reviewers concerning the quality level descriptors provided, taking into account the number of students studying for research degrees, culture of support (i.e. arrangements for supervision), and research training environment and opportunities available for research students within the unit under review. The evidence considered will include a statement on postgraduate research submitted by the unit, information from published unit web-pages, numerical data from university offices regarding completion rates, completion times, etc. and process used by the unit to ensure that these are satisfactory.

Each member of the Panel is asked to give a single quality level for the collective research-related activities of the unit based on their professional judgement. The modal (most frequently occurring) rating across reviewers will be taken as the research-related activity score. [The higher rating will be preferred where the distribution of ratings is multimodal.]

#### Research Activity Indicator 6 (RAI 6): Research Income

Each member of the Panel is asked to give a single quality level for the collective research-related income of the unit based on their professional judgement of the research area, taking into account the Research Landscape



relevant to researchers in Ireland as described in the briefing documents provided. The modal (most frequently occurring) rating across reviewers will be taken as the research-related activity score. [The higher rating will be preferred where the distribution of ratings is multimodal.]

### List of Panels & Units

#### Panel A

School of Medicine, incorporating:

- Department of Medicine (inc Radiology)
- Department of Surgery (inc Anaesthesia)
- Department of Pathology (inc Med Microbiology)
- Department of Psychiatry
- Medical Education Unit

#### Panel B

School of Medicine, incorporating:

- Centre for Gerontology & Rehabilitation
  - Department of Epidemiology & Public Health
  - Department of General Practice
  - Department of Paediatrics & Child Health
  - Department of Obstetrics & Gynaecology
- Irish Centre for Foetal and Neonatal Translational Research (INFANT)

#### Panel C

School of Clinical Therapies, incorporating:

- Department of Occupational Science & Occupational Therapy
  - Department of Speech & Hearing Sciences
- University Dental School & Hospital  
School of Nursing & Midwifery  
School of Pharmacy  
Oral Health Services Research Centre (OHSRC)

#### Panel D

School of Medicine, incorporating:

- Department of Anatomy & Neuroscience
  - Department of Pharmacology & Therapeutics
  - Department of Physiology
- School of Food & Nutritional Sciences  
Department of Microbiology  
Department of Biochemistry

#### Panel E

Department of Chemistry

School of Biological, Earth and Environmental Sciences (BEES), incorporating:

- Geology
- Plant Science
- Zoology & Ecology

Environmental Research Institute (ERI)

Analytical & Biological Chemistry Research Facility (ABCRF)

#### Panel F

School of Computer Science & Information Technology

School of Mathematical Sciences, incorporating:

- Mathematics
- Applied Mathematics
- Statistics

#### Panel G

School of Engineering, incorporating:

- Department of Civil & Environmental Engineering
  - Department of Electrical & Electronic Engineering
  - Department of Process & Chemical Engineering
- Department of Physics  
Tyndall National Institute

#### Panel H

School of Geography & Archaeology: the Human Environment, incorporating:

- Department of Geography
  - Department of Archaeology
- Cork Centre for Architectural Education

#### Panel I

Department of Accounting Finance & Information Systems (BIS)

Department of Accounting Finance & Information Systems (AF)

Department of Food Business & Development

Department of Management & Marketing

School of Economics

Centre for Policy Studies

#### Panel J

Department of Government

School of Law

School of Sociology & Philosophy, incorporating:

- Department of Sociology
- Department of Philosophy

Study of Religions

School of Applied Social Studies

Institute for Social Science in the 21st Century (ISS21)

#### Panel K

School of Applied Psychology

School of Education

#### Panel L

School of Irish Learning, incorporating:

- Department of Modern Irish
- Department of Early & Medieval Irish
- Béaloideas/Folklore & Ethnology

#### Panel M

School of Languages, Literatures and Culture, incorporating:

- Department of French
  - Department of German
  - Department of Spanish, Portuguese & Latin American Studies
  - Department of Italian
- Asian Studies

#### Panel N

School of History, incorporating:

- Department of History
- History of Art

Department of Classics

School of English

#### Panel O

School of Music & Theatre, incorporating:

- Department of Music
- Drama & Theatre Studies



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