REPORT OF THE RESEARCH QUALITY REVIEW
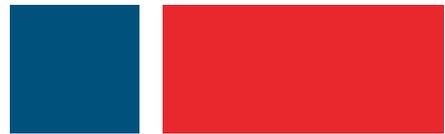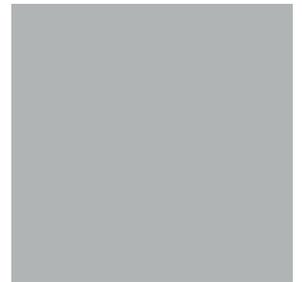
UNIVERSITY COLLEGE CORK 2015

PANEL C REPORT

SPEECH AND HEARING SCIENCES

UCC

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

Panel C Report

Speech and Hearing Sciences

Units in Panel C
School of Clinical Therapies: Occupational Science and Occupational Therapy
School of Clinical Therapies: Speech and Hearing Sciences
University Dental School and Hospital
Oral Health Services Research Centre (OHSRC)
School of Nursing & Midwifery
School of Pharmacy

Panel C members
Chair: **Dr Audrey Bowen**,
University of Manchester
DVC for Occupational Science and Occupational Therapy: Associate **Professor Kate Radford**,
University of Nottingham
DVC for Speech & Hearing Sciences:
Professor Karen Bryan,
Sheffield Hallam University
DVC for Dental School: **Professor Paul Speight**,
University of Sheffield
DVC for OHSRC: **Professor Gail Douglas**,
University of Leeds
DVC for Nursing: **Dr Tony Ryan**,
University of Sheffield
DVC for Pharmacy: **Professor Yvonne Perrie**,
Aston University

Scope and content of the review

On 3 November 2014 the Chair attended the first site visit to UCC with the Chairs of seven other Panels. Issues discussed included the need for Panels to develop discipline specific guidelines and agree fair and transparent means of adjusting expected returns from staff with extenuating circumstances. The latter might include prolonged periods of absence or part-time working. Chairs from the UK raised awareness of the Athena Swan charter.

On appointment, the six DVCs guided and moderated the work of remote reviewers who rated submissions for RAIs 1-3. Two external reviewers reviewed each staff member's submissions. DVCs ensured reviewers had no conflicts of interest. The DVC moderated reviewers' scores paying particular attention to any areas with wide discrepancies. DVCs themselves initially rated RAIs 4-6, based on statements submitted by UCC units and by viewing online profiles and other online sources of information.

The second site visit was attended by the Chair and five of the Panel members from 30 June - 2 July 2015 inclusive. The DVC for Nursing and Midwifery was unable to travel to Ireland for health reasons but participated fully by teleconference and email on each of the three days. Each DVC had prepared and circulated to the Panel in advance of the site visit, a draft report on the unit for which they were responsible. At the site visit the Panel agreed all marks and final reports through discussion, meetings with senior UCC staff and most helpfully through visiting the units and their staff and students. The Chair and the DVC for Pharmacy visited Nursing and Midwifery.

In two separate sessions on 2 July the Panel members gave brief verbal feedback on:
1. The process itself (to members of the Steering Committee and the Quality Promotion Unit).
2. The commendations for each unit and then overarching recommendations for the Panel to representatives from each of the six units reviewed.

Considerable time was spent examining and moderating the marks for RAIs 1-3 provided by the remote reviewers. Where two reviewers had disagreed on marks the DVC reviewed those outputs and sought the Panel's approval for their recommended final mark. A second key concern was the fair and transparent application of discipline specific norms/benchmarking. These related to RAI4-6 but also for RAIs 1 and 2 such as where units were staffed with a large proportion of early career researchers and professions that until recently do not typically have doctoral-level academic staff e.g. nursing and allied health professions. The third main issue concerned agreeing expected outputs for staff with extenuating circumstances. The Panel agreed that where more outputs had been submitted than were required (e.g. if someone submitted five for RAI1 when only required to submit two based on extenuating circumstances) the Panel would select those with the highest ratings. The Panel agreed not to use zeros for legitimately absent scores but instead to enter that person's average. The Panel considered both means and medians but the specific choice made no material difference in any of the ratings considered.

The Panel was satisfied that it had been provided with adequate information to provide a fair report. Following the second site visit, the Chair drafted the current report, which incorporates the following revised individual unit reports.

Introduction

Speech and Hearing Sciences (SHS) is a very small Department which involves provision of a four-year speech and language therapy course leading to professional registration and accreditation by the Irish Association of Speech and Language Therapists. All undergraduate speech and language therapy students undertake a research project. Masters level provision, specialist advanced skills education and PhD programmes are also available. Masters level audiology provision is commencing in September 2015 following a competitive tender for audiology provision in Ireland. It should be noted that staff carry relatively large teaching loads. A clear commitment to research is evident with some significant achievements.

RAI 1 – Selected published output

SHS has achieved all eligible staff having a PhD and being research active. Outputs were reviewed from seven staff. Two staff have extenuating circumstances with one contributing two outputs and one contributing three. In addition, one member of staff is on long term sick leave. Given these staffing pressures within a small team, the outputs achieved represent a considerable achievement.

Thirty outputs were reviewed. The Panel found clear evidence of high quality work that compared favourably with international standards. Ten percent of outputs were considered to be excellent, 50% were considered

to be very good, 26% were considered to be good and 7% were considered to be fair. No outputs were rated as poor. This constitutes a strong output profile.

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

RAI 2 – Total published output

Overall there were no publications rated as poor. Fourteen percent were considered to be excellent, 14% were considered to be very good, 58% good and 14% fair. SHS has achieved all eligible staff having a PhD and being research active. In addition, one member of staff is on long-term sick leave. Given these staffing pressures within a small team this is a considerable achievement.

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

RAI 3 – Peer esteem

A range of scholarly activities was evident. Web pages were consistently presented and up to date. Staff are regularly invited to collaborate, including high quality international collaborations. There are frequent conference presentations but publications often do not follow these. Some staff should consider their commitment to books and book chapters. Whilst these may make a scholarly contribution, they do not constitute new research or new knowledge and it may be useful to focus on peer review outputs. It is entirely accepted that books and book chapters can contribute to research impact.

The peer esteem activity of SHS staff is held in high esteem. No peer esteem activity was rated as fair or poor. Fourteen percent was considered to be excellent, 14% very good, 72% good.

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

RAI 4 – Research-related activity

Overall the research-related activities are strong with much of the research internationally comparable. There is some variation across staff but the range is acceptable. The attention to development of early career researchers is very positive. PGR students are embedded within a vibrant research environment and are well supported.

There is evidence of collaboration across UCC, notably with the Institute for Social Sciences. There is further potential for relatively well resourced areas of UCC such as the Medical School to take steps to positively involve Clinical Sciences in larger grant submissions. There is considerable potential for Clinical Sciences to enhance major health focused research in terms of issues such as public and patient involvement, communication with patients, research compliance, rehabilitation and self-managed care particularly for older people.

There are also significant international collaborations for more senior staff as would be expected. There is evidence of commitment to specialist PG training provided mainly for clinicians. This reflects the Department's strong clinical links but does constitute an added claim on staff time compared to non-clinical areas.

The School gained a capital grant of €690,000 to provide high quality clinical accommodation that is run by Health Services Executive staff. This facility provides clinical placements and supervision for students, which is an asset to the Department. The clinical facilities may have further potential to be utilised as a research facility.

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

RAI 5 – Postgraduate research education

The School of Clinical Therapies registered 26 PhD/MRes students (SHS and OSOT) in the review period and has had six completions. Some MRes students are proceeding to PhD. There are efforts to work with practice and UGs to study at PG level. In addition, two

PhD students have gained externally funded fellowships to support their studies. There is clear evidence of significant development since the last RQR. There are jointly supervised students across SLT and OT and students jointly supervised with practice. There is evidence of high quality supervision and students being satisfied with their experience. PGR students have access to a range of research training modules. There is also evidence of staff gaining PhDs and going on to publish and to gain small grants, which are expected to lead to larger grants over time. In the context of allied health professions where PGR student numbers would be expected to be relatively low, the unit was considered to be good.

The postgraduate research education of the Department has been demonstrated to be of a good standard.

RAI 6 – Research income

The School of Clinical Therapies has had eight major awards over five years to the value of €1,173,597. The Panel estimated that seven of these involve SHS staff. In addition, there are minor awards to the value of €16,000. There are also joint grants with other colleagues listed within CVs. In addition, grant bidding continues to be sustained with at least two significant applications proceeding beyond the early stages of application.

Given the staffing level in the speech and hearing sciences area and the fact that three academics are newly post-doctoral and two are early career, the level of income is more than respectable. It should be noted that internationally, grant levels would be expected to be relatively low compared to dental, pharmacy and medical disciplines.

However, the Panel has considerable concerns about sustainability going forward. Given that the junior staff effectively has the head of SHS and one further Emeritus Professor to support them this represents a very heavy research leadership loading on limited senior staff. Whilst there was clear evidence of willingness to support these staff, the University needs to be aware that there may be risks to the development of these junior staff and that there is no indication of where the next wave of research leaders for the institution will come from.

The research income activity of the Department has been demonstrated to be of a good standard.

Areas of good practice

There is evidence of significant progress in research development since the last Research Quality Review.

There is evidence of a commitment to research and effective research leadership.

Staff are very positive about the benefits of research for both themselves and for the populations that they serve.

Clinical partnership is very strong, locally, regionally and nationally. This is evidenced in terms of research informed teaching, clinicians becoming researchers through MRes and PhD programmes and research projects involving clinical partners. It should be recognised that SHS is making a contribution to research capacity building in the speech and language therapy profession, as well as in the University itself.

There is evidence of effective development of early career staff which is essential to sustain research in a small unit. There is evidence of progression from UG to PG to early career staff, and there is evidence of early career staff gaining income early in their academic careers which is very promising for their later research development.

There is evidence of investment in specialist facilities to support research. This includes clinical facilities that offer further potential to be utilised as research facilities.

There is evidence of a focus on larger grants which is to be commended, and which is starting to evidence success.

International collaboration is evident and should continue to be encouraged.

All eligible staff are research active. This includes the Head of SHS and a very active Emeritus Professor. The remaining staff are early career, relatively newly post-doc and one (of the seven submitted) does not have a substantive post. The issue of sustainability of research having reached the current level requires consideration from the College.

Recommendations for future development

Following this Research Quality Review, the Department may wish to refresh its research objectives. The Department may wish to consider strategic alignment and potential contribution of their research to the five College research themes. There appears to be considerable potential for the Department to contribute to the College research themes, but they may need to be much more assertive in promoting their value to the College's research priorities. Similarly, the College may need to consider increasing efforts to involve non-medical staff in major research initiatives.

The more recent emphasis on 'Impact for Ireland' may provide SHS with an opportunity for the value of their research to be highlighted and developed. Strong clinical links will help to facilitate this. The University might give further consideration as to how the research impact agenda can be supported, and the potential value to UCC's research reputation. Again the researchers need to be confident and assertive in promoting their contribution to research impact.

SHS should continue to shift the emphasis for PhD student funding from internally funded to externally funded students. This may be increasingly possible as the financial situation in Ireland improves. The Department is well placed to capitalise on any funding sources that may become available.

SHS could improve PhD completion levels and may need to review its recruitment strategy and the level of support provided. A formal study leave agreement for part time PhD students who are employed may assist in ensuring that employer demands are not allowed to impact negatively on study time arrangements. SHS should consider how doctoral supervision and post-doctoral support should be funded and supported in the future if sustained growth is to be continued.

SHS might consider how it will grow non-exchequer income. Potential for small numbers of non-EU students to be recruited into UG and specialist PGT areas could be explored. The Department should engage with the College and the University in building a business case for investment in research. Any subsequent income growth should be invested in sustaining core staff.

SHS and the University should consider how to sustain all lecturers and higher grade academic staff being research active. This has been achieved by the use of measures such as: use of teaching fellows, local clinicians and full time PhD students for routine teaching. All of this requires organisation and support and again SHS may need to consider and support more sustainable levels of staffing to ensure that research active staff can sustain their research development.

SHS should review expectations for staff conference attendance and publications. Conference presentations should ideally be peer-reviewed and should result in a high quality peer review publication. It may be helpful to review the application procedure for conference support to ensure that staff link conference attendance to a planned peer review publication.

SHS may need to review its advice to staff on book writing. Increasingly these are not judged to constitute "original research" in peer review exercises in science disciplines (REF in the UK and the Australian equivalent). It is difficult for a junior researcher to refuse an invitation to write a book chapter but achieving a peer-reviewed journal article may enhance their research profile much more. However, "strategic" book chapters may be helpful in enhancing research impact. The University may wish to consider its guidance on the status of books and book chapters.

The strategic move to focus on Cochrane Reviews has clearly been positive. SHS may need to be cautious about update reviews in future as these may not have the same value as the original review, particularly if the new material is limited.

The new MSc Audiology is presented as an enabler in terms of equipment and staff. SHS Department should ensure that there is a realistic plan for research enhancement to ensure that the increased teaching demands do not detract from research time. The University should review resourcing for the Speech and Hearing Sciences Department given this new and prestigious course which is the first for Ireland. There is also considerable potential for considerable 'impact for Ireland' in terms of audiology development to be evidenced. Current resource levels are unlikely to enable the Department to achieve its full research potential in the area of audiology.

The School Business manager should ensure that SHS is deriving maximum benefit from the available IT and specialist equipment support that UCC offers. While there was evidence of constructive engagement by the staff with research support services, SHS might be more assertive in ensuring that research support services are aware of their specific research development needs.

The University should give consideration to how research development and research leadership will be sustained and developed in the future.

Concluding statement

The Panel has been impressed by SHS's overall research performance and rated it as good. It should be noted that selected outputs and research-related activities were scored highly indicating an upward trajectory for SHS. The unit is to be commended for the research development achieved across the review period despite the challenges of financial austerity. The University should review the level of support available at the earliest possible opportunity.

Having combined the six Research Activity Indicators the Panel has rated SHS as good. This indicates an

improvement since the previous Research Quality Review (2009). As SHS and OSOT were rated separately in the current review it is difficult to make direct comparisons of the specific metrics for publications but improvements appear to be across several if not all indicators e.g. 100% of SHS staff peer esteem activity was rated as 'good' or above compared to 24% of Clinical Therapies staff in 2009. The quality of published outputs has also noticeably increased: 86% of SHS outputs for RAI2 were rated as 'good' or above compared to 67% for Clinical Therapies in 2009.

The research activity of the unit demonstrates significance to the discipline and rigour to a good standard.

Overall comments

Panel C is comprised of six units. All six were rated individually although slight differences in how they are configured are described below. As only single integer scores were allowed this time, caution is advised when comparing performance of three units (School of Dentistry, OHSRC, School of Pharmacy) to the 2009 Review. Two units have clearly improved (OTOS, SHS) and the others have at least maintained their scores although SONM is at the low end of 'good' and SOP is at the upper end of 'very good'. The Panel was impressed with this overall rising profile especially given the effects of national austerity measures and congratulates the units for their achievements.

The Schools of Nursing and Midwifery and Pharmacy are standalone units and achieved an Overall Research Evaluation (ORE) rating of 'good' and 'very good' respectively. This compares to ratings of 'good' and 'good to very good' in the 2009 Review, suggesting Nursing and Midwifery has maintained its 'good' (albeit a borderline score at the low end) and Pharmacy achieved a strong 'very good' (bordering on excellent).

The School of Dentistry and the Oral Health Sciences Research Centre were rated individually this time as 'good' and 'very good' respectively. Compared to the 2009 Review, this suggests that the School of Dentistry is now a

definite 'good' and OHSRC a definite 'very good'. Many of the OHSRC staff contributed to the Dentistry score.

Occupational Science and Occupational Therapy and Speech and Hearing Sciences were rated individually this time and both achieved a rating of 'good'. When combined, the ORE for the School of Clinical Therapies is also 'good', which represents an improvement from 'fair' to 'good' since the 2009 Review when the School of Clinical Therapies was rated as 'fair'.

Overall comments and conclusions at Panel level

Across all six disciplines, the Panel was impressed by the quality of overall research activity, which ranged from good to very good. Additionally, at least two units had improved since the 2009 Review. This was especially noted given the following two contextual factors:

1. National austerity measures, the resulting financial constraints faced by the University and the evident reduction, or at best stagnation, of staffing levels in the units over the period under review.

2. Maintaining a high standard in teaching across the units (e.g. several members of OSOT have been awarded UCC President's Award for Excellence in Teaching) including several newly developed programmes, some of which are unique to UCC across Ireland (e.g. MSc Audiology in SHS) and across the British Isles (e.g. MPharm in SOP).

The Panel also noted different strengths between units, where some (e.g. OHSRC and SOP) excelled at RAI 6 (income) and others (e.g. Nursing and Midwifery and SOP) were strongest in RAI 5 (PGR). This appropriately reflected the differing starting positions where some disciplines have a tradition of entry level doctorally trained lecturers (e.g. Pharmacy) and others have to invest time growing their own (e.g. Nursing and Midwifery, Clinical Therapies). The Panel felt confident that these were wise capacity-building investments by the units that will benefit the institution in the near future.

Postgraduate research is very strong within these units. It is provided flexibly through a variety of routes resulting

in an interestingly mix of PGT and PGR students who spoke positively of their experience e.g. opportunities for developing your existing staff but also for attracting more traditional full-time PhD students.

Dentistry was particularly weak in PGR ('fair') but strong ('very good') on income and RAI 4 (Research-related activities). PGR was also OHSRC's weakest area ('good'), whereas it scored above this level in all five other indicators. With the one exception for OHSRC, publications (RAIs 1 and 2) were the weakest areas for the other five units and are key areas to target. It is interesting to note that research income is at least at the level of 'good' across all six units with some substantial recent grants hopefully leading to international leading future publications.

The Panel commends the units and the University for managing to recruit and retain a committed, highly-motivated workforce with some examples of great leadership within these disciplines (e.g. Nursing and Midwifery and Clinical Therapies). Your dedicated workforce and some inspirational and generous leaders have created a research environment rated very highly by the Panel (RAI 4). All six units achieved at least a 'very good' in RAI 4. This should stand you in good stead when opportunities come for attracting new talent and indeed retaining those on temporary contracts.

Recommendations to the University

First, the Panel commended the institution's vision in commissioning this review, and in the efforts made by all staff to provide us with sufficient information for us to have confidence that the results are based on a fair and thorough evaluation. We felt welcomed, enabled and enthused to perform our role.

We appreciated the steering committee's encouragement to develop and apply discipline-specific guidelines in advance of receiving the metrics and to make adjustments for expectations of outputs where staff had exceptional circumstances (e.g. extended leave or part-time working). We appreciated having the discretion to balance the objective metrics and their weightings against discipline-specific benchmarks and to use our judgement to raise an ORE, where the weighting towards publications did not accurately reflect the high quality of other research

indicators given the starting point of certain disciplines. The Panel was disappointed by the move towards single integer scores for the ORE which limited comparability with the 2009 review scores.

In addition to the six sets of unit level recommendations provided above, the Panel wish to add some overarching University level recommendations:

- The Panel is greatly concerned about sustainability, particularly around future leadership in some of the smaller units. Over-dependence on single inspirational leaders is a high risk strategy and the Panel recommends proactive succession planning. The University should consider how to develop the next generation of leaders and remove the relatively flat structure that exists in several disciplines. The University should draw on examples of best practice in leadership e.g. Pharmacy and senior teams in Nursing and Clinical Therapies.

- The Panel recommends capacity-building across the units. The University should engage with units to build business cases for recruiting and retaining the best staff. The Panel was aware of current funding successes for PhDs and impressive progress with growth in the levels of doctorally trained staff too. The University should support units to prepare postdoctoral and higher level funding bids especially in view of the HRB's imminent new strategic plan 2016-2020. Strategically the University should lobby for improved postdoctoral career pathways and more postdoctoral funding opportunities.

- With the aim of increasing the number of publications rated as excellent, the University should consult with departments to identify their research support needs, to agree priorities and to encourage a two-way flow of information such that departments promote themselves more to increase their visibility to college and align themselves to the College and University research themes.

- Across this Panel we saw great potential to develop the impact agenda and enhance the University's reputation. The University needs to raise awareness of Impact for Ireland (some departments seemed unaware of it). The Panel recommends the University provides introductory level training around the meaning, means and value of impact, creates impact champions and a University impact lead.

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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