

**Institution: University of Aberdeen**

**Unit of Assessment: UoA 23 Education**

### 1. Unit context and structure, research and impact strategy

#### Overview

This submission contains 15.8 full time equivalent (FTE) members of both the School of Education (SoE) and the Centre for Healthcare Education Research and Innovation (CHERI). CHERI's work is presented for assessment together with the SoE for the first time, as CHERI was created in 2017. The SoE is located on the Old Aberdeen campus, while CHERI is housed on the Foresterhill Medical campus two miles away. The SoE and CHERI are both research-led and seek to inform and shape practitioners' work both locally and nationally.

The main research themes of both groups share common features and fall under the University's identified research themes of Inclusivity and Health and Wellbeing (see *REF5a*). They both foster interdisciplinary relationships and pursue research that aligns with the following UN Sustainable Development Goals: 3, Good Health and Wellbeing; 4, Quality Education; 5, Gender Equality; 10, Reduced Inequalities; and 17, Partnerships to Achieve the Goals. This submission details the research environments that apply to each unit as well as highlighting their crossovers. Both the SoE and CHERI have been awarded Athena SWAN Bronze status and support the University's commitment to the Concordat for the Career Development of Researchers, which is identified in the SoE's research strategy as one of the priorities for the next five years.

Since 2014, the SoE has re-focused its research themes, adding to its central commitment to teacher education and professional development an explicit set of commitments to the University's *Aberdeen 2040* strategic plan launched on 10 February 2020. These commitments are inclusivity, interdisciplinarity (IDR), internationalisation and sustainability (see *REF5a*) and are actively mapped onto the UN Sustainable Development Goals.

Activity in this Unit has flourished, with seven monographs, 77 articles and ten book chapters published and more than GBP3.5 million in grant income received since 2014. The SoE has attained Economic and Social Research Council (ESRC) recognition as a Doctoral Training Centre. Consolidating its strong research environment, the SoE has more than doubled its PhD completions, from 14.5 reported to REF2014 to 35.99 in this assessment period.

The SoE's restructuring in support of embedding research has been further strengthened through appointing research-active staff into leadership positions as heads of departments: Mynott, Initial Teacher Education; Bain, Postgraduate Taught; McGeorge, Counselling, Wellbeing and Educational Psychology; and McDonald, Early Years. The SoE has strengthened its administrative structure to support its research ambitions, with a dedicated administrative officer.

Staff within the SoE make a significant contribution to the governance and leadership of the University; for example, **Curtis** chairs the University's Board for Research Ethics and Governance in Arts, Social Sciences and Business, and **Shanks** is convener of the Scottish Graduate School of Social Science Doctoral Training Partnership within the University, which includes a number of research areas (Health Economics, Education, Human Geography, Business; Divinity, History and Philosophy (DHP); Linguistics; Psychology; and Sociology).

Housed within the Institute for Education in Medical and Dental Sciences, one of five institutes that make up the School of Medicine, Medical Sciences and Nutrition (SMMSN), CHERI was launched in 2017. It is a centre supporting academic excellence in healthcare education research by producing high-quality, important research focusing on relevant issues and developing tomorrow's researchers. CHERI has the only endowed chair in Medical Education research in the UK and has awarded 6.9 doctoral degrees in the assessment period. CHERI has developed a postgraduate research (PGR) course in clinical education at the Cert, Dip and MSc levels. It is accredited by the Association of Medical Educators.

### Research Structure

The SoE's Director of Research (DoR) - **Gray** (former), **Ravet** (current) - chairs the research committee twice a semester. The DoR sits on the University's Research Policy Committee and is a member of the SoE's executive board, reporting to the head of School. The Research Committee devises the research strategy, oversees research activity, and allocates research funding. It also advises the head of School on individual research leave decisions. An allocation of GBP21,000 is administered by the DoR and monitored by the Research Committee. Staff can apply to the Research Committee for funding to support research and dissemination activities, ranging from costs associated with conference attendance to seed funding for research projects. A maximum of GBP1,200 is available per annum per applicant with a clear commitment to contribute to the research activities of the School if funding is approved; usually through presenting a research seminar.

The DoR meets with all staff members individually for an annual research support interview. All staff have a designated research mentor who meets with them to provide collegiate support for research and scholarship activities. The School also operates a supportive system of internal peer review of all grant applications and has a designated ethics officer (**Curtis, Darling-McQuistan** and **Mtika** have served in this role in the period since 2014) to promote research integrity. The ethics officer is allocated work hours and sits on the Board for Research Ethics and Governance in Arts, Social Sciences and Business. As noted previously, **Curtis** is the chair of the board and provides advice across 12 Units of assessment.

CHERI reports to and is a member of the Research Committee of SMMSN. It has regular internal training sessions to discuss research and share expertise. All CHERI staff provide support for the PhD students.

### Research Strategy

Following the REF2014 submission, the Unit's strategy has been to build on its successes and strengthen its research base. Initially working within the three identified research themes of Pedagogy and Innovation, Professional Learning and Teacher Education and Communities and Partnerships, the SoE has re-assessed its research structure to align itself explicitly with staff expertise and with the University's *Aberdeen 2040* strategy (see **REF5a**). In particular, the SoE has identified four key themes:

- A. Teacher Education and Professional Development
- B. Educational Inclusion and Wellbeing
- C. Pedagogy and Digital Learning
- D. International Studies of Social and Educational Development

To support this, a research lead has been appointed for each theme, and they are provided with a discretionary budget of GBP1000 to enable activity. They take a lead role in organising theme related seminars, identifying research funding opportunities and seeking opportunities for IDR, and public/policy engagement. The four research themes involve staff in each of the four SoE departments, enabling interdepartmental and interdisciplinary collaboration.

CHERI's research programme currently centres on three broad themes supporting research that has an immediate impact on practice and policy:

- E. Selection, Assessment and Performance
- F. Education and Healthcare System Reform
- G. Health Careers Decision-Making

To support these themes, there has been active recruitment of staff with relevant expertise to strengthen these areas, including **Ali** for Selection, Assessment and Performance and **Walker** and **Wass** for Education and Healthcare System Reform and Careers Decision-Making.

Strategic renewal in the SoE was supported by ensuring all staff had a trained research mentor and that mentors met regularly to share experiences. This support was particularly important for

the new appointments made during this assessment period, which consisted of five early-career researchers. In addition, annual research support meetings were arranged with the Director of Research (DoR) to enable a clear overview of emerging research agendas and identify support required. Staff are encouraged to engage with professional development opportunities provided by the Centre for Academic Practice and the Grants Academy and are made fully aware of the support available from the University's Office of Research and Innovation (see **REF5a**). Staff are further supported through the availability of semester-long research sabbaticals every four years, along with the introduction of mini-research breaks to focus on clearly defined time-dependent tasks (publishing or funding application deadlines for instance). This policy has now been adopted by the wider University.

## Research Themes

### A. Teacher Education and Professional Development

Work focusing on teacher development involves both policy and practice, spanning early-year (**Darling-McQuistan**), primary (McDougal) and secondary (**Johnston, Dewhurst**) education contexts, from initial teacher education (**Graham, Mtika** and Robson) to career-long continuing professional development (**Gray, Bain, Curtis, and Graham**). Examples of the type of research undertaken include measuring the quality of initial teacher education (**Shanks**), developing pedagogies of inclusion with student teachers (**Graham, McDougal, Mtika** and Robson) and collaborating with the International Forum for Teacher Educator Development (**Gray, Bain**).

### B. Educational Inclusion and Wellbeing

The Unit supports research into the preparation of student teachers for social justice and inclusion (**Darling-McQuistan, Graham**) and autism research, including collaborative work with the School of Medical Sciences to develop a mask-based drama-based intervention to address imitation difficulties and enhance mental health in individuals with autism in secondary schools (**Ravet**).

### C. Pedagogy and Digital Learning

This theme applies to the education of children of all ages and to adults, with a particular focus on innovative approaches to learning. Examples include technology-enhanced learning, e-learning and online teaching, with recent funding (**Cornelius**: GBP10,000, European Commission) to explore mobile learning in higher education, outdoor learning and forestry careers (**Gray**), drama (**Curtis, Barlow**) and mathematics (**Martin, Thomson**).

### D. International Studies of Social and Educational Development

The SoE works extensively with both children and adults overseas, particularly in countries recognised as requiring Official Development Assistance (ODA). Examples include capacity building in inclusive education in remote, rural schools in Cambodia (**Ravet** and **Mtika**); community transitions in oil and gas in Tanzania (**Colucci-Gray, Mtika** and **Curtis**); and a-social practices to literacies approaches in Rwanda (**Abbott, Mtika, and Ackland**) (Impact case study, **Abbott**).

### E. Selection, Assessment and Performance

CHERI has driven forward research addressing the long-standing issue of limited diversity of medical and dental school and postgraduate training with the aim of increasing inclusivity in such programmes (**Cleland**: GBP50,922, Medical School Council). Other topics in this research theme include designing and validating selection processes, including programmatic selection; assessing the relationships between different types of assessment (UKMED, **Walker**); and designing new learning environments and approaches (RCS, **Cleland**).

### F. Education and Healthcare System Reform

CHERI staff members ask how change is enacted in different healthcare education and training contexts. Topics of research in this theme include the influence of the hidden curriculum, planning, evaluating process and experiences of change especially in relation to organisations (**Stubbing**).

### G. Healthcare Career Decision-Making

CHERI prioritises professional development in the context of healthcare professionals. It has a particular focus on examining the push-pull factors that influence career decisions, exploring relationships between individual and organisational (systems and relational) factors, analysing remote and rural workforce challenges and determining how to “reach out” in terms of career information and guidance. CHERI’s focus is not only on those setting out on their careers but also on how to encourage experienced doctors to stay in clinical practice. Studies within this theme focus on individual (socio-demographic) predictors of career choice; the relationship between career intent and career behaviour; and doctors’ experiences of the working and learning environment and how this influences careers decisions.

### Interdisciplinarity

Collaborations between the SoE with other Schools in the University have continued and expanded. For example, **Shanks** and **Abbott** are active contributors to the Centre for Citizenship, Civil Society and Rule of Law (CISRUL), which brings together colleagues from the history, politics, sociology, law and education disciplines to study political concepts. In addition to being involved in conferences and workshops, members of CISRUL have hosted collaborative research projects on political awareness in city and shire schools. **Shanks** and **Abbott** also co-supervise one of the eleven CISRUL Horizon 2020 Marie Skłodowska-Curie PhD students. **Abbott** also collaborates with the School of Law in a new international project addressing the crisis of governance in the Horn of Africa. **Gray** and **Colucci-Gray** have collaborated with colleagues across the social and natural sciences with respect to research in sustainability issues. There have been several co-supervisions of PhD students involving staff from different Schools (e.g., **Colucci-Gray** with van der Wal from the School of Biological Sciences, **Abbott** with Smith from Plant and Soil Science, **Coyle** with Skrzypek from Language and Literature and **Shanks** and **Abbott** with Stack from Spanish and Latin American Studies). Many CHERI PhD students’ co-supervisors are also interdisciplinary, reflecting the nature of the Unit, including co-supervisors from the Health Economics Research Unit (HERU) (**Cleland/Walker** with Skatun), Language and Linguistics (**Cleland/Fahey Palma**), Medical Statistics (**Cleland/Walker** with Prescott), the Institute of Applied Sciences (**Cleland/Walker** with Lee) and NHS Education for Scotland and the NHS. There are also close links with Primary Care (**Wass**).

CHERI is a key stakeholder in the Scottish Medical Education Research Consortium (SMERC), which is a collaboration between five universities and NHS Education for Scotland. **Cleland** was the Director of SMERC while the current interim director (Johnston) is within CHERI. Research projects under the SMERC banner are primarily with other medical education units but include active collaboration with Health Psychology, Business and Primary Care.

### Impact Strategy

The main focus of the impact strategy is to influence policy and practice related to teaching and learning and to inform discussion around key areas such as educational inclusion, pedagogy, digital learning, teacher education and international development. In doing this the SoE works with the University’s Grants Academy, Public Engagement with Research Unit and Research Policy and Governance Officer (see **REF5a**). As demonstrated in the impact case studies, our approach has emphasised research that aligns with international priorities, specifically, the UN Sustainable Development Goals, by working with partner organisations in Development Assistance Committee (DAC) countries.

Researchers are encouraged and supported to apply for grants to: engage with stakeholders to ensure that the impact of the research reaches a range of beneficiaries and stakeholders; to support those involved in maintaining prolonged, positive relationships; and to build teams around common themes to ensure vitality and continued sustainability. **Abbott** who has significant experience in working in the area of ODA, is now disseminating her experience through the Grants Academy. Both the SoE and CHERI Units encourage staff to undertake impact leave, to engage centrally with support for impact and to continue with research that aligns with the goals/ethos of the Unit.

In addition to the projects highlighted by the impact case studies, the Unit has exercised local, national and international influence upon government policy and practice. Recent examples include **Shank's** study of school uniforms, which has generated media interest and resulted in meetings being organised with MSPs and school uniform banks and **Gray's School Garden Project** initiative in regeneration areas in Aberdeen, which has been mentioned twice in the Scottish Parliament. Bain and **Gray's** involvement with the International Forum for Teacher Educator Development has involved policymakers from throughout Europe in examining the need for teacher educators' professional development.

CHERI has demonstrated impact with research targeting widening access and selection to medical schools, with examples including changing policy, guidance and practice (**Cleland, Walker**). **Cleland** was commissioned by the General Medical Council (GMC), through a highly competitive process, to carry out a literature review examining the evidence for selection and widening access to medical schools. The recommendation that all medical schools should carry out structured admission interviews, preferably mini multiple interviews (MMIs) and reduce the use of personal statements has resulted in all medical schools conducting interviews across the UK and has increased the number of MMIs used in the selection process. This work led directly to the formation of the Selecting for Excellence Executive Group (SEEG) of the Medical School Council (MSC). CHERI was then commissioned (via a competitive process) to carry out a programme of mixed-methods research to contribute to their reports. A final recommendation was that the MSC establish a group comprising experts in selection who would lead nationally on all matters relating to medical school admissions, resulting in the formation of the Medical Schools Council Selection Alliance (MSCAA). Output from this research also included the recommendation to the GMC to develop a means to enable long term follow-up of medical students to trained posts. This recommendation has led directly to the formation of UKMED, a platform for collating data on the performance of UK medical students and trainee doctors across their education and career – a unique database. We were then the first group to be formally commissioned by UKMED to carry out a programme of study looking at the career trajectories and decisions of doctors and the relationship between career progression and socio-demographic factors (**Walker/Cleland**).

### Open Access

Both the SoE and CHERI are committed to delivering open access for their outputs, with open-access journal article compliance increasing from 43% for the SoE in the first year of the assessment period to 70% in 2020. In addition, the SoE has worked to ensure open access to all content of the journal *Education in the North*, including the digitisation of back copies. The SoE has also embedded the representation of the journal in the research environment to make sure that dissemination is effective. The journal, produced by the SoE with a history dating back to 1965, is one of only two Scottish-based education journals and the only one with an institutional affiliation. It became an open-access online journal in 2008 and is listed as such by SHERPA/ROMEO ([www.sherpa.ac.uk/romeo](http://www.sherpa.ac.uk/romeo)). All manuscripts published have the Creative Commons Attribution Non-Commercial 4.0 Licence (CC BY\_NC 4.0) applied. Editors of the journal are members of the SoE Research Committee and provide input on scholarly communication and open-access issues within the SoE. The SoE adheres to the Ethical Guidelines for Educational Research of the British Educational Research Association (BERA).

The University's *Library and Special Collections and Museums* directorate leads in advocating for open research, and detailed guidance is provided by the Scholarly communications team. The library runs the University's open-access repository of research, the Aberdeen University Research Archive (AURA). The University strongly advocates ORCID registration. In UoA 23, 58% of staff currently have a PURE-linked ORCID identifier and 100% of CHERI staff currently have a PURE-linked ORCID identifier.

### Future Plans

As noted previously, the SoE has undertaken a comprehensive review of its research activity and environment since REF2014 and has developed a research strategy that will form the vision for research developments in the School for the next five years. The research strategy takes into account the revised School structure, with four new departments and closer associations with

CHERI. There are six distinct aspects to the five-year research strategy, each of which is linked to the others through clear elements of connectivity, alignment and participation. The six elements of the research strategy are Research Themes and Teams; Links to ITE, PGT and PGR; Researcher Development and Support; Public Profile; *Education in the North*; and REF. A research theme lead has been identified for each theme. They will coordinate events for the theme; communicate news in relation to events, funding opportunities and conferences; and take a key role in organising theme-related seminars. In addition, the SoE has created a new role of a Research Development and Support Lead (**Gray**) to work alongside the DoR. Their role will be to share external and internal researcher development and support opportunities; work closely with the DoR, theme leads and other relevant partners to identify researcher development and support opportunities to meet SoE staff development needs (e.g., writing, funding, public engagement and policy engagement workshops); meet with Early Career Researchers to identify/develop appropriate provisions to meet their needs; and monitor, evaluate and review provisions.

CHERI is developing further research components to respond to the changing environment (e.g., COVID-19) in supporting healthcare staff, wellbeing and resilience. This includes intervention development, collaborating with relevant departments within the University and with other universities and the private sector. The SoE and CHERI have plans for collaboration with the new Department of Counselling, Wellbeing and Educational Psychology to provide a strong bridge between the two Units currently operating on two campuses. This collaboration is an important component of the Unit's research strategy over the next five years.

## 2. People

### Staffing Strategy and Staff Development

The Unit presented for assessment to REF2021 differs significantly from that reviewed for REF2014. It includes, for the first time, researchers in CHERI, whose research was previously not included under any REF or RAE panel remit. In addition, there has been considerable staff turnover among education and medical education researchers since REF2014, and 40% of the submitted staff were recruited within the current assessment period, including all researchers within CHERI.

Unlike the institutional REF eligible population but in line with other education departments, this unit of assessment is dominated by female researchers. The Unit also includes a higher percentage of part-time employees than the institutional baseline (40% compared to 5.5% across the total eligible population). The current age profile indicates the need for succession planning, which we have begun to address through our recent recruitment campaign.

All researchers work within an environment that is closely involved with practitioners and professional development. The research processes and structures supporting them must therefore acknowledge the specific needs of practice-focused research and a considerable degree of part-time working. Both the SoE and CHERI achieve this by providing an enabling and collegiate environment that allows for the development of individual research portfolios within the wider context of the themes. This involves identification and recruitment of

- talented researchers to strengthen existing capacity at early career stages (**Darling-McQuistan, Barlow, Thomson, Ali** and **Stubbing**). Newly appointed staff in both the SoE and CHERI are supported throughout their 3-year probation with a reduced teaching commitment;
- researchers whose research background or professional experience lies outside or adjacent to mainstream education research (**Abbot, Fahey-Palma, Wass**);
- researchers and practitioners whose professional background increases the Unit's capacity to engage with non-academic stakeholders and for partnership working (**Walker**).

There has also been active recruitment of academic staff to sustain and develop CHERI. **Cleland** led the centre from its inception until her departure in 2020, and her replacement is being actively recruited. Staff members (**Stubbing**, Hawick) have undertaken and achieved a PhD. Staff recruitment, in line with the University's *Aberdeen 2040* strategy and its IDR theme, is driven by a

combination of support for areas of research excellence and the identification of research interests that cross discipline boundaries (**Ali, Stubbing, Walker and Wass**).

Within the research themes, we have focused on the development of researchers across the career stages as reflected in our record of successful promotion applications. This cycle has seen five colleagues promoted to Senior Lecturer (**Ackland, Colucci-Gray, Mtika, Shanks, and Spratt**), one to Reader (**Ravet**) and one to Professor (**Gray**).

We have also focused on the development of academic leadership. Within the SoE, **Gray** has provided leadership as DoR for much of the assessment period and has recently handed over the role to **Ravet**, who now represents the School on the University's Research Policy Committee. **Ravet** was a member of the workgroup on inclusivity that fed into the new strategic plan, *Aberdeen 2040* (see **REF5a**). **Curtis** chairs the Committee for Research Ethics and Governance in Arts, Social Sciences and Business and is a member of the University's Equality, Diversity and Inclusion Committee. **Shanks** is a member of the University's Task and Finish Group on Research Culture, which is making recommendations on addressing inequalities within our research environment.

The structures supporting staff development within the SoE and the SMMSN within which CHERI is located complement and amplify those described in **REF5a** and add discipline-specific knowledge and skills. As set out in **REF5a**, the University is a signatory to the Vitae Concordat to Support the Career Development of Researchers, and we have been successful in gaining the HR Excellence in Research Award in 2014, 2016 and 2018/19, demonstrating our alignment with the principles of the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers.

All staff members have completed equality and diversity training and unconscious bias training. Those involved in recruitment and the promotions board additionally complete specific equality and diversity training to inform their selection decisions. There was bespoke EDI training for staff involved in REF decision-making, including selection of the output portfolio.

Research leave is available to all research-active staff on a four-yearly basis, in line with the revised University-wide policy. In addition, the SoE initiated a mini-leave policy, which was subsequently adopted and included in the wider University's research leave policy (2019). The mini-leave policy enables staff to take short, protected periods of uninterrupted leave for a period of two to four weeks to complete time-limited targets, such as funding application or publishing deadlines. In the current REF period, five staff members have benefited from a full semester of research leave (**Graham, Ackland, Shanks, Martin and Cornelius**) and one was granted mini-research leave (**Curtis**).

CHERI benefits from the wider research environment and support mechanisms within SMMSN. All probationary staff are assigned a probationary mentor as well as the standard line manager and set carefully scheduled probationary objectives. Once beyond probation, staff are assigned a grant-writing mentor to overcome any extended challenges in securing funding.

### **Graduate Students**

PGR students are of vital importance to a sustainable and vibrant research environment. Compared to the previous assessment period, the number of PGR students associated with the SoE has grown 52.2%, from 44 in the previous assessment period to 67 in the current assessment period, and the number of doctoral degrees awarded has more than doubled, from 14.5 to 35.99.

The selection of candidates is managed through the University's Postgraduate Research School (PGRS) after open competition (see **REF5a**). Candidates submit a proposal matched against the strategic aims of the [Schools](#) and the interests of individual staff members. Interviews are held with at least two staff members. The selection of candidates is based on strict criteria through an assessment of academic ability and motivation to complete a PhD. The SoE currently hosts 40 headcount (h/c) doctoral students, and CHERI hosts 48 PGR students, including those in the PGR Clinical Education course. These graduate students include those who are campus-based and

those who participate through distance, home and international learning. During the assessment period, all doctoral candidates completed their studies on time. Since its inception, CHERI has attracted high-calibre PhD candidates, including the first inaugural UK Intercollegiate Research Fellow (Scrimgeour), and over half have received awards (e.g., travelling fellowships and travel grants to develop and promote their research).

Both the SoE and CHERI host a culturally rich postgraduate environment. The current SoE research student enrolment draws from a wide range of countries, including Thailand, Greece, Malawi, Nigeria, Iran, Malta, Brunei and China. CHERI hosts PhD students from Kuwait, Saudi Arabia, Malawi and the Netherlands. Both the SoE and CHERI hold arrangements for joint international PhD supervisions, for example, with King Said University in UAE, and joint Master's programmes with two Chinese universities (SoE) and Canada, Australia and the Netherlands (CHERI).

During the PhD induction process, students and supervisors create a personal development plan. Training needs are recorded and revisited through regular meetings, at least monthly, with supervisors. Formal assessment of student progress takes place after nine months and annually thereafter. Assessment is through written work and a viva with two staff members. Students are supported through the University's PGRS, which provides formal Research Training and Graduate Skills. The PGRS also delivers supervisor training, which is compulsory for all new supervisors, with top-up training required every five years. In addition, training is offered to all supervisors on specific issues, including on student mental health and ethics. The SoE is also an ESRC-recognised Doctoral Training Centre and a member of the SGSSS, the UK's largest facilitator of funding, training and support for doctoral students in social science.

In addition to training available through the PGRS, CHERI provides courses/training as required by a focus on PhD projects (e.g., Scanlan did a 3-day course on working with discrete choice experiments, Alharbi and Scrimgeour did two 3-day courses on statistics and advanced statistics). In March 2017, several students attended a 3.5-day writing workshop in Maastricht, the Netherlands (Stubbing, Scanlan, Kumwenda, Scrimgeour and Al-harbi). All CHERI postgraduate students have had work accepted for presentation at national and international conferences including the Association for Medical Education Europe (AMEE) and the Association for the Study of Medical Education (ASME). All students are supported to attend at least one overseas and one national meeting during their PhD studies. CHERI actively promotes international networks among their PGR community, such as through the "Rogano" meeting. The Rogano meeting occurs annually alongside the AMEE meeting, with invited research teams from the UK, the Netherlands, Sweden, Denmark, Finland and Canada. The focus of the meeting is to promote the development of PhD students and postdoctoral researchers within a climate of high-level, international scholarly debate.

### 3. Income, infrastructure and facilities

#### Research Income

External research funding is vital for the delivery of our research projects within the SoE and CHERI. Researchers in both units are closely allied with professions, and their work focuses on providing evidence that informs change in policy and practice, exploring emerging issues and evaluating and testing current practice. Impact is realised in partnership with research users and stakeholders and is often delivered by interdisciplinary teams. Staff within the Unit are encouraged to take advantage of the workshops and events organised by the Grants Academy (see **REF5a**).

During the assessment period, research income for this Unit has grown by 65%, compared to sector growth for research income in HESA cost centre 135 Education (5.9% between 2013/14 and 2018/19). The average annual research income per eligible FTE for REF2014 was GBP11.2k; for REF2021 it is GBP32.3k, indicating a substantial growth in externally funded research activity. More than half of the research income during the assessment period came from UK government and health authorities, although a substantial proportion (17.3%) came from the EU. Compared to the previous assessment period, where the income from UK government and health authorities



constituted 87% of research income, we have diversified our funding portfolio through participation in a larger number of international projects funded by the EU and through the Global Challenges Research Fund (GCRF) programme of UK Research and Innovation (UKRI). The relatively high proportion of funding from UK government and health authorities is indicative of our close working relationship with local authorities, NHS, GMC, Royal Colleges and MSC. Our funding strategy for the coming assessment period is to continue to work closely with our core stakeholders and to increase the interdisciplinary and international activities in our portfolio.

**Abbot, Mtika** and **Ackland** have secured Scottish Government funding of GBP1,191,795 for “Fostering a Social Practices Approach to Adult Literacies for Improving People's Wellbeing in Western Rwanda”. This award strengthens the International Studies of Social and Educational Development theme of research. Similarly, **Cornelius**, Foy and Mulligan secured GBP38,153 of European funding to engage with Professional Learning in Complex Settings Through Reflection and Portfolio (Prolea); this aligns with the Teacher Education and Professional Development theme. Other European projects have included **Gray** and Bain obtaining GBP32,694 to participate in the e-Info-TED initiative, and Smith and Nixon’s GBP45,430 Sharing Experiences of and Approaches to Teacher Education in the Context of Education and Training 2020. **Shanks** obtained GBP3,380 as part of the Scottish Government funded Measuring Quality in Initial Teacher Education (MQUTE) initiative.

In the Pedagogy and Digital Learning theme within the School, **Colucci-Gray** and **Gray** received a prestigious BERA Research Commission award for GBP11,870 for “Reviewing the Potential and Challenges of Developing Steam Education through Creative Pedagogies for 21st Century Learning”. The exploration of the arts component of pedagogies continued with **Curtis** and **Barlow’s** GBP45,919 AHRC award for “Enacting the Past: Stories from the Colony to the Tatas”. **Curtis** received GBP1,657 from Aberdeen Performing Arts for “Exploring the Experiences and Meaning Making of Participants in the Music Hall Babies”, a multi-arts project. **Cornelius** and **Shanks** were awarded GBP10,000 from the European Commission for their investigation into “Mobile Learning in Higher Education (Mine)”.

A further strand related to pedagogies in this theme is explored in **Gray’s** work into forestry, nature and outdoor learning-related issues. This includes GBP17,000 from Forestry Commission Scotland, GBP4,000 from the Scottish Forestry Trust for “Exploring Educational Provision in Scottish Schools for Career Paths in the 21st Century Multifunctional Forestry”, and GBP7,895 from Forestry Commission Scotland for “A Review of the Natural Partners Initial Teacher Education Training Programme 2012-17”. **Gray** and **Colucci-Gray** received GBP7,367 from an external collaborator, One Seed Forward, for the “School Gardens Project”, examining the implementation of school gardens in areas of multiple deprivation in Aberdeen City, which was twice mentioned in the Scottish Parliament.

In the Social and Educational Inclusion theme, **Colucci-Gray, Ravet**, Beaton and Spratt received GBP9,992 from the Educational Institute of Scotland for “Changes in, and Variations of, Provision of Learning Support for Pupils in Scotland”. **Thomson** received GBP42,577 from the Nuffield Foundation for “Choice and Progression in the Transition from Secondary Education: The Experience of GCSE Lower Attainers and the Potential for Change at the City-Region Level”. **Graham, Mtika**, Robson, and McDougal obtained GBP50,000 from the Scottish Government’s attainment challenge funding to research the “Pedagogies for Educational Inclusion of Pupils Living in Poverty”. **Ackland**, Aldred, **Cornelius**, Stephen and **Thomson** were awarded GBP36,782 of European funding for “PROMISE (Promoting Inclusion in Society through Education: Professional Dilemmas in Practice)”. **Shanks** received GBP14,998 from the Aberdeenshire Community Planning Partnership for research into health and social care.

CHERI’s research focuses on issues around selection for medical schools and widening access as well as professional training for clinicians and healthcare professionals. Under **Cleland’s** leadership, CHERI undertook the following major projects: “Improving Surgical Training Assessment” (Royal College of Surgeons of Edinburgh, GBP60,000); “Integrated Surgery Training Evaluation Project” (NHS Education for Scotland, GBP20,000); “Qualitative Exploration of the

Pharmacy and Pharmacy Technician VT Foundation Programme: Are These Fit for Purpose?" (NHS Education for Scotland, GBP40,000); "The Use of Contextual Data in Medical School Selection Processes: A Mixed-Method Programme of Research" (Medical Schools Council, GBP22,370, in partnership with Queen Mary University of London and Edgehill University); "Supporting Wider Access to Medicine" (UKCAT, GBP66,902, in partnership with the University of Southampton and Queen Mary University of London) and "Addressing Inequalities in the Provision of Pharmaceutical Services in Scotland: A Proof of Concept Study of Telepharmacy in Rural Scotland" (Scottish Government – Chief Scientist Office, GBP72,949, in partnership with the Universities of Edinburgh and Glasgow). **Wass** is co-investigator on "Connecting Healthcare", funded by Goonhilly Earth Station Ltd. **Walker** is principal investigator on "To develop evidence-based interventions to support doctor's wellbeing and promote resilience during COVID-19" funded by the Scottish Government's Chief Scientist Office GBP223,600, under their rapid response programme). The University's Development Trust also invested GBP132k in a research fellowship at the start-up of CHERI.

### Interdisciplinarity and Impact Infrastructure

During the assessment period and following an institutional review on how IDR and impact are supported, both the SoE and CHERI have used recruitment and collaboration to add research capacity and disciplinary breadth. IDR and impact generation have been promoted through annual research reviews, undertaken by academic line managers. The scope and ambition of the projects undertaken by the Unit emphasise their capacity for interdisciplinary working and partnership working. For example, with a disciplinary background in sociology, **Abbott** brings a wide range of research experience around democratisation, human rights, good governance and socio-economic recovery to the Adult Literacy project in Western Rwanda, as well a wealth of experience partnership working in DAC countries. **Fahey-Palma** has brought her linguistics background to investigate power, hierarchy and team roles in cancer multidisciplinary meetings, funded by the Scottish Medical Research Consortium.

Throughout the current assessment period, the University has run various pump-priming schemes to support impact and interdisciplinary working (see **REF5a**). **Gray** was given support from the Principal's Interdisciplinary Fund to realise the impact described in an impact case study [Engagement with the Natural Environment] and for a project [Creating STEAM from STEM]; **Shanks** received support to attend a conference and networking event from the Principal's Excellence Fund; and Hawick, a part-time staff member and part-time PhD student in CHERI, was awarded funds to supplement her prestigious travel fellowship from *The Clinical Teacher* journal, to present her work at the University of Ottawa, The Wilson Centre Toronto, McGill University Montreal and the University of Western Ontario.

### Support Structures

Within the SoE, the DoR, through the Research Committee, manages the research strands of the strategic and operational plan. The SoE's Research Committee consists of staff and student representatives of key constituencies of the School, including representation from each of the key research areas, and PGRs, as well as the central research support office and the library. In addition, the School's academic research journal, *Education in the North* is represented. The Research Committee has an annual allocated budget to provide opportunities for staff to attend conferences, share ideas, network with international colleagues, and access data analysis support and research method training. Applications for funding are reviewed on an individual basis by a team, including research student representatives. Weekly research seminars host outside presenters, including internationally renowned colleagues for staff and research students to share their work.

The successful achievement of goal transparency to grow our inclusive research culture has been informed by an annual audit of research activity to ensure a research-aware staff; the establishment of a School research office with dedicated staff to provide an administrative focus for research activity; the dissemination of relevant and targeted information and support in linking the research themes and outputs; and a dynamic Knowledge Exchange system that allows an effective two-way flow of information and ideas between the School and its external partners. The

School has also operated a very successful research and scholarship mentoring scheme for several years. These actions support the prioritisation of research and scholarship as core work within the School.

#### **Research Ethics and Open Access**

A centrally coordinated system of managing research ethics is in place for all staff and student research, with dedicated School staff overseeing and supporting the ethics applications to ensure that all ethical issues have been addressed. Ethical guidelines of the Scottish Educational Research Association (SERA) and BERA are strictly followed. **Curtis** chairs the Committee for Research Ethics and Governance in Arts, Social Sciences and Business, one of five non-clinical ethics committees within the University and acts as the School Ethics Officer. In her capacity as chair, she provides advice on ethics and integrity and reviews School research governance “health checks”, a system of self-assessment undertaken biennially by Schools to ensure compliance with the UK Research and Integrity Office (UKRIO) Concordat for Research Integrity. She reports directly to the Dean of Cultural Strategy and Research Governance. All research-active staff members have completed the compulsory online ethics training; a compulsory training module on research integrity is currently being introduced.

We recognise that research impact requires effective engagement and dissemination. At the beginning of the assessment period, open-access compliance for journal articles across the School was 25%. Working with colleagues in the Office of Research and Innovation and the Scholarly Communications Unit in the library, the SoE and CHERI increased compliance by raising awareness and promoting the open-access services provided centrally. In 2019 and 2020, the compliance rate for all journal articles (including reviews and papers that are not REF eligible) was 70%. In addition, the SoE hosts *Education in the North*, which became an open-access publication in 2008 and will become an indexed journal in 2021 (Portico). The representation of this journal’s board on the Research Committee within the SoE ensures that open access and effective dissemination remain on the agenda for the committee.

In addition to specific support for impact and commercialisation offered by the Office of Research and Innovation, support for engagement with research is offered through the Public Engagement with Research Unit (PERU), (see **REF5a**). Within the assessment period, the PERU team has worked with researchers and staff within the SoE to widely disseminate and promote public awareness of research and scholarly activity undertaken in the SoE. A notable example of this is McLennan’s Play4Peace, which stemmed from his work on the war poet, Wilfred Owen. Since his first publication in 2010 on Wilfred Owen’s re-education, McLennan has shifted narratives on socio-cultural influences on the war poet and his work. The research led to a sequence of events in 2017 that engaged 25 stakeholder organisations and over 11,000 people and a trail of new memorials across the country on Scotland’s war poetry contribution, impacting our environmental and civic spaces and memorialisation. In addition, the model McLennan devised is an international, intergenerational and interdisciplinary creative cooperative and has reshaped aspects of remembrance, engaging and impacting 45 global locations in 2018, 47 locations in 2019 and 167.6 million people in 2020.

#### **4. Collaboration and contribution to the research base, economy and society**

Unit researchers make a significant contribution to the discipline and research base for education through an extensive range of activities on a regional, national and international level. Support is provided for networking and collaboration activities through the DoR and the Research Administration, along with central support from the Office of Research and Innovation and the Grants Academy. Within the SoE, this has involved networking events and associated seminars to enable a sharing of expertise and interests. Within the University, staff have had the opportunity to participate in networking and sandpit activities in the development of ideas and funding applications. There are 79 records of staff having participated in 55 events held by the Grants Academy.

The School has expertise in qualitative, quantitative and mixed-methods research, and staff have published articles that exemplify methodological pluralism. Aberdeen has become an important centre for international and UK scholarship focusing on professional practices. Our profile embraces the local community for example **Shanks** collaborated with Aberdeenshire Health Services to explore “Health and Social Care for Older People in Marr in the 2020s”. At national level, **Ravet** is a member of the Scottish Autism Research Group (SARG), **Graham** belongs to the Scottish Universities Inclusion Group (SUIG) Mapping Project, **Gray** is a member of Natural England’s Strategic Research Group for Learning in Natural Environments and **Martin** is involved with subgroups in the Scottish Government’s National Improvement Framework. Examples of our international profile include **Gray** and Bain serving as Council members for the International Forum for Teacher Educator Development; **Shanks** taking up a visiting lectureship at the Inland University of Norway of Applied Sciences; **Abbott** being invited by DG-Near-Neighbourhood Enlargement Negotiations, TAIEX Training, to be an adviser at a workshop in Rabat, Morocco; and **Ravet**’s involvement in an international multidisciplinary collaboration with five partners in Cambodia, resulting in the formation of the “Inclusion in Cambodia Research Group”.

Staff make significant contributions to informing policy and professional practice through their participation and contribution in different forums. For example, several staff have been involved in discussions in the Scottish Government’s Academic Reference Group (**Gray, Graham**), with the General Teaching Council for Scotland (**Shanks, Bain**) and with Education Scotland (**Martin**). In addition, many staff have been invited to make significant keynote presentations, for example, **Ravet**’s keynote presentations at the University of Angers, France, and the Scottish Autism Conference in Glasgow, 2018. **Barlow** presented a keynote address and workshop at the Applied Drama Forum – The Third National Conference on Drama and Education in October 2019. Other keynote presentations include **Shanks** at the Norwegian Mentoring Network 2018 and **Cornelius** in 2017 at the University of the Highlands and Islands Symposium: Teaching and Learning with synchronous technologies.

Staff involved in editorial boards of journals at international and national levels include **Abbott**, *Learning and Teaching in Higher Education in the Social Sciences*; **Cornelius**, *Research in Learning Technology*; **Gray** and **Colucci-Gray**, *The Scottish Educational Review, Visions for Sustainability*, and *Sisyphus-Journal of Education*; and **Ravet**, *The Sage Handbook of Autism & Education 2016*. **Shanks** was guest editor of the *International Journal of Mentoring and Coaching in Education*.

Staff also referee for over 50 journals, of which at least 20 are international including, for example, **Ackland**, *International Journal of Research in Adults Learning Mathematics, Internet and Higher Education and Studies in the Education of Adults*; **Cornelius**, *Research in Learning Technology, British Journal of Educational Technology, Journal of Vocational Education and Training, IRRODL (International Review of Research in Online and Distance Learning), Scandinavian Journal of Educational Research and Studies in Continuing Education*; **Gray**, *The Journal of Environmental Education, European Journal of Teacher Education, Journal of Education for Teaching, British Educational Research Journal and Journal of Science Teacher Education*; **Martin**, *Teacher Development: an International journal of teachers’ professional development, British Congress of Mathematics Education (BCME) and Scottish Educational Review*; **Ravet**, *Journal of Research in Special Educational Needs and International Journal of Inclusive Education*; and **Shanks**, *Africa Education Review, Cambridge Journal of Education, Education + Training, European Journal of Teacher Education, International Journal of Mentoring and Coaching in Education, International Journal of Training and Development, Multicultural Perspectives, NordSTEP the Nordic Journal of Studies in Educational Policy, Professional Development in Education, Scottish Educational Review and Studies in Higher Education*.

CHERI staff (**Cleland**, Hawick, **Stubbing**, **Walker**, **Wass**, **Ali** and **Cameron**) are also reviewers for high-impact-factor journals including *Medical Education, Medical Teacher, Academic Medicine* (US based), *BMJ Open* and *BMC Medical Education*. **Cleland**, **Walker** and **Wass** are reviewers of abstracts for national and international conferences. CHERI is represented at all major

conferences (e.g., ASME, AMEE and Ottawa) and key development meetings (e.g., Rogano and InReSH).

SoE staff also review grant bids for major funding councils. For example **Abbott** has reviewed for Kazakhstan, National Centre of Science and Technology Evaluation, The Netherlands Organisation for Scientific Research, Czech Science Foundation, DfID East African Research Fund (reviewer and expert adviser), UKDH (funding committee member), the National Institute for Health Research, Research for Innovation and Global Health Transformation (RIGHT), ESRC Peer Review College, the GCRF and the ESRC GCRF Early Childhood Education (funding panel member); **Gray** has reviewed grant proposals for the Swiss National Science Foundation (SNSF) 2016, 2017, the US National Science Foundation, the ESRC and the Social Sciences and Humanities Research Council (SSHRC), Canada.

Staff undertaking recent PhD examinations include **Ackland**, University of Bolton (faculty member PhD student); **Gray**, the University of Stirling (2018) and the University of Edinburgh (2018); and **Ravet**, Southampton University (2018), Exeter University (2018) and Exeter University (2019).

Active participation in international research networks is extensive. **Gray**, for example, is a founding and continuing council member for the International Forum for Teacher Educator Development. He is also an active member of Natural England's Strategic Research Network for People and Nature. **Barlow** is involved in collaborative research with the Royal Conservatoire Scotland and New York University into Verbatim Performance. **Darling-McQuistan** is a member of the Social Justice and Diversity Network of the University of the Arctic (UARctic). **Cornelius** and **Shanks** are involved in the MINE project (Mobile Learning in Higher Education) with colleagues in Austria, Germany, Greece and Portugal. **Ravet** is involved with a Cambodian research team studying inclusion in rural schools. **Abbott**, **Mtika** and **Ackland** are collaborating with the Institute of Policy Analysis and Research-Rwanda, the University of Rwanda College of Education and Rubengera, Gacuba II and Mururu Teacher Training Colleges on Fostering a Social Practice Approach to Adult Literacies for Improving People's Quality of Life in Western Rwanda.

CHERI has substantial connections with other centres across the world. **Cleland** is adjunct professor at Curtin Medical School, Australia; the University of Southampton, Monash, Australia, and Uniformed Services, USA. **Cleland** is also an invited member of the International Society for Cost and Value in Health Professions Education, Wilson Centre, Toronto, Canada. Many staff have additional roles that exemplify the expertise within the centre for example **Walker**, (2017) **Cleland** (2015) and Johnston (2019) all have been awarded NES Medical Directorate Awards for Scholarship, the most at any one centre/institution. **Cleland** was an AMEE committee member (2018); one of the 20 Inaugural Fellows of the Association for Medical Education Europe; and Chair of the AMEE Research Committee (2015). **Walker** is the Director of Publications, ASME and Hawick and Cameron are both members of the ASME Education Development Committee.