

<p>Institution: University of Portsmouth</p>
<p>Unit of Assessment: 2 Public Health, Health Services and Primary Care</p>
<p>a. Overview</p> <p>Staff submitting into this unit reflect existing collaborations across the School of Health Sciences & Social Work (SHSSW; <i>Burnell, Dean, Fogg, Kilburn, Mackenzie, Pallikadavath, Venter</i>), the Department of Mathematics (<i>Higgins</i>), Portsmouth Hospitals NHS Trust (Category C staff; <i>Severs</i>), and the University of Portsmouth Ageing Network (UPAN; <i>Drahota, Severs</i>). Research activities within this unit draw on contributions from staff across the University and are structured across four synergistic themes. Our most established theme is (1) 'allergic and respiratory disorders' (<i>Dean, Higgins, Kilburn, Mackenzie, Venter</i>); other themes comprise (2) 'health and social care environments' (<i>Dean, Drahota, Higgins, Severs</i>); (3) 'health and social care of the older person' (<i>Burnell, Dean, Drahota, Higgins, Kilburn, Severs</i>); and our newest theme, established in 2008, (4) 'global health and social care' (<i>Dean, Fogg, Pallikadavath</i>). These themes reflect our commitment to embrace logistically complex studies and challenging topics, underpinned by our interests in health services research methodology. The nature of work undertaken is multi- and interdisciplinary, as demonstrated through our shared research outputs and collaborative research environment.</p> <p>b. Research strategy</p> <p>Our activities within public health and health services research recognise the emerging strategic importance of this domain for the University. Whilst there is no formal reference point, the achievements of this group can be evidenced against the key strategic objectives for research within SHSSW (the lead organisational unit) during the assessment period (2008-2013). These were:</p> <p>(a) to develop a research environment within an organisational unit (SHSSW) that was at that time, primarily teaching-focused. Achievements are evidenced by:</p> <ul style="list-style-type: none"> • An increase in the number of research active staff, reflected in the growth in numbers returned in RAE 2008 to now (from 4 to 10). • Publication of high impact papers during the assessment period. • An increase in the number of PIs /Cols on (externally-funded) research projects, from two in 2008 to seven in 2013, with 21 externally funded awards. • Sustained year-on-year external research income during the assessment period. • An increase in registered Post Graduate Research Students (PGRS), from a baseline of 40 (4 full-time) in 2008 to 51 (8 full-time) in 2012 (18 have completed over this period). <p>(b) to focus research activity on areas of emerging research excellence.</p> <ul style="list-style-type: none"> • Four members of the established 'allergic and respiratory disorders' theme (<i>Dean, Higgins, Kilburn, Venter</i>) were previously submitted to UoA12 in the 2008 RAE, in which the University was ranked 14th in the analysis of quality, and 8th in the power rankings. The strong focus of our existing allergy work on transforming the health of the population (frequently in the top 5% of citations in the field of immunology and microbiology) has led to reconfiguration within this new unit of assessment comprising the ten members in this submission and three additional themes. • We have identified and supported research themes that align with national and international research priorities (e.g. ageing, global health, and environment) and areas of research expertise, and to capitalise on opportunities for interdisciplinary working and niche topic areas. <p>(c) to align public health research to the priorities and needs of patient groups, health and social services, and major research challenges.</p> <ul style="list-style-type: none"> • In August 2012, the University of Portsmouth Ageing Network (UPAN) was established to help address the challenges and opportunities offered by population ageing. UPAN aims to promote cross-departmental and cross-faculty collaborations, as well as those with external organisations, businesses, academia, and the wider social community. Indeed, our existing connections with the public, health and social services, and community organisations, under the research theme on 'health and social care of the older adult' made a significant contribution to UPAN's initiation, and we have since been working closely to grow research

in this area. Through UPAN, we have already obtained funding from the Alzheimer's Society to support an MRes student project, and an interdisciplinary research project, and further collaborative proposals are under development.

- The 'global health and social care theme' focuses on research that promotes population health in line with health related Millennium Development Goals (MDGs). Collaborating partners and networking activities in Kenya, Brazil and India have helped focus our research on relevant priorities and challenges, e.g. low fertility, and access to health care.
- In 2008, we established a public-patient involvement (PPI) in research group, 'Engage' (currently comprising 34 active members), which has since informed all our public health research, with members helping to shape research projects from conception to dissemination. In addition to the core group of members, we regularly seek new members with experiences to align with specific topics of research. Engage has regular meetings and training opportunities, and has informed the work of the NIHR's 'Involve' PPI group.

Our overarching strategic objectives for the period 2014-2020 seek to grow the research activity and quality and to establish a long-term sustainable research environment. These are described within the following strategic aims:

- (a) To increase research active staff in SHSSW by 10% per annum in areas aligned to our four research themes. This will be achieved through incorporating staff on collaborative research bids and as members of supervisory teams of PGRS, supporting staff through mentoring and training opportunities, monitored through Professional Development Reviews (PDRs), and through strategic recruitment of new members.
- (b) To enhance the PGRS community by increasing PGRS recruitment (10% per annum) via a combination of fees-only bursaries, where appropriate, and promoting the newly established MRes Science to graduates and health and social care professionals, with projects aligned to our research themes.
- (c) To increase the volume and diversity of external research income. This will be achieved by increasing the volume of our funding applications, as well as the breadth of sources we target, whilst maintaining our focus on our research themes to match funding priorities.
- (d) To increase engagement in inter-disciplinary collaborative projects that address national and international research priorities, particularly ageing and global health, with the aim of establishing two new collaborative projects each year. Achievement of this aim will be facilitated through existing networks (e.g. UPAN and the Research Design Service (RDS)), joint NHS / University staff appointments and newly established partnership agreements with all the local Health Trusts. In addition, support for staff secondments and a programme of visiting researchers is planned (see Section C - staff development).

Ageing is an area of particular strategic priority, offering synergies across the four research themes to form interdisciplinary projects that embrace logistically complex studies and challenging topics, as exemplified by the study on shock-absorbing flooring in elderly care wards. UPAN is emerging as a key resource for the theme on the health and social care of older people, in support of new collaborations and diversification of opportunities for research funding. In the last year, through UPAN, funding applications have been submitted with new collaborators from across the University (e.g. School of Creative Arts, Film and Media and Department of Psychology), as well as with new external partners (e.g. University of Salford and the Centre for Statistics in Medicine in Oxford). Through contacts made via UPAN, members of this UoA are supporting the Wessex Renal and Transplant Unit to develop a research strategy on health and social care of older people with chronic kidney disease (CKD).

- (e) To continue to align our research with the needs and priorities of patients, the NHS and social services, as well as the wider community. We will achieve this through the continued use of Engage and the wider public throughout all aspects of our research projects, and to remain actively engaged with the activities of wider initiatives (such as Involve, the James Lind Alliance, and Cochrane Agenda and Priority Setting Methods Group).

c. People, including:

i. Staffing strategy and staff development

Our staffing strategy has focussed on growing areas of emerging excellence through staff

development and recruitment. New staff appointments have been made for research active staff who can contribute to our thematic areas and the research environment. Staff are nurtured at all levels of development. We are committed to actively promoting the role of women (as evidenced by 7 out of our 10 submitted individuals being female, 6 of whom currently or previously have worked part-time). Where appropriate and beneficial to the development of staff, and where their expertise can be utilised, we encourage secondment opportunities; these have the added benefit of stimulating and facilitating exchanges between academia and external organisations. These have included *Drahota* for 4 years to the UK Cochrane Centre and *Severs* to the Department of Health. We have also supported secondments from the wider School to Breast Cancer Care (as Head of Research and Development) and Department of Health (to undertake an evidence review of nurses' values). The School also receives incoming visiting scholars; For example, as part of our 'global health and social care' theme, international visiting scholars from Kenya and India (*Stones* who worked with us on a DfID funded project; and *Singh* funded via a Leverhulme exchange) have provided staff development and opportunities for joint publications and funding applications.

To increase our research capacity, we have been developing our early career researchers through the Research Staff Forum, encouraging them to participate in our coaching and mentoring programme. Our research staff engage with the Research Staff Forum, which has the purpose to provide advice, guidance and information to researchers whilst also reporting back to the UK Research Association to represent members at a national level. We have a commitment to implement the principles of the Concordat, and our research staff are integrated into the Professional Development Reviews (PDRs) system. All staff within the School pursue training opportunities as identified through their PDRs and all PDRs include an explicit discussion of research, and/or professional development plans and ambitions, with the aim that individual staff plans align with School, Faculty and University strategies. The Head of School, PDR reviewers, and Principal Investigators are currently encouraging and facilitating the engagement of staff in CPD opportunities, with an initial aim (December 2014) to achieve two staff eligible for Readership, and increased opportunities for career progression to permanent posts for research staff through activities that will enhance their CV. Following a gap analysis against the principles of the Concordat, the University has committed to design, develop and implement career development workshops as part of a development framework for staff. Our staff have already been afforded the opportunity to attend Principal Investigator training through these developments.

ii. Research students

One of our key objectives has been to provide an appropriate environment for research and for a thriving postgraduate research community. With 18 postgraduate research students (PGRS) returned in our REF submission, we have a completion rate of 2.34 per full-time equivalent research-active staff. We maintain a rolling programme of research studentships by securing bursary opportunities, and have increased the number of students through a combination of:

- (a) pre-designed projects aligned to our research strengths, offered to self-funding students (e.g. *Burnell* is supervising a self-funded PhD student researching the health and wellbeing of ex-service personnel);
- (b) externally funded studentships (e.g. *Drahota* and *Severs* have been awarded funding from the National Osteoporosis Society for a, now completed, PhD on healthcare environments, and *Dean*, *Mackenzie* and *Venter* have been awarded funding for two PhDs in the field of allergy, from the Fishmongers Guild and Danone); and
- (c) University-funded PhD and MRes bursaries (e.g. *Kilburn* is supervising a PhD on exploring older adults' perceptions and experiences of the impact of asthma on their daily lives).

We also attract students from overseas (4 registered in 2012), and our flagship Professional Doctorate provides a vibrant programme for healthcare professionals undertaking applied research influencing practice (facilitating our NHS Trust partnerships), for whom we make available a range of ready-made projects in areas of our expertise. These efforts have provided the opportunities for increasing our supervisory capacity, with academic staff new to supervising joining teams with more experienced supervisors as mentors, and accessing the training and support described below.

We have pursued a growth strategy with regard to facilities over the past few years, with access to training and support at both the departmental level, and via the University of Portsmouth Graduate School, which offers co-ordinated support for all our research students. The Graduate School Development Programme (GSDP) provides the key elements of generic research skills and transferable career development skills training as outlined by Vitae and the RCUK. We offer PGRS subject-specific training and development through specialised courses (e.g. in systematic reviews, complex interventions, and qualitative data analysis) and summer schools, delivered both internally and through other HEIs and organisations. This includes our popular monthly research seminars (with topics aligned to the four research themes in allergy, ageing, environment, and global health). We actively seek external speakers to deliver our seminars, along with internal research staff, and we provide opportunities for PGRS to disseminate their own work. We provide opportunities to students to attend training courses and conferences (e.g. our PhD and Professional Doctorate students all have the opportunity to apply for funds for further training activities and to present/attend conferences). Our supervisors are required to attend The Graduate School's induction course for new supervisors, and are actively encouraged to attend the wider Research Supervision Events programme (approximately 10 events a year). We operate a Research Degrees Committee (which includes student participation) to monitor and support progress of students and supervisors, and which facilitates a two-way channel of information exchange between the local-level and Faculty- and University-wide developments at the University Research Degrees Committee, the Graduate School Management Board and the Faculty Research Degree Committees.

d. Income, infrastructure and facilities

Since 2008, we have obtained over £1,644,000 in research income (eligible for REF inclusion), which, for a new submission comprising 10 individuals (of whom only 3 are full-time, and two early career researchers), is encouraging. During the assessment period, we have secured 21 grants from 16 different funding agencies, including: the ESRC; British Academy; Leverhulme Trust; Dunhill Medical Trust; National Institute of Health Research; Department of Health; three NHS Trusts; National Co-ordinating Centre for Research Capacity Development; Portsmouth City Council; Department for International Development; The Cochrane Collaboration; European Food Safety Authority; Nutricia Ltd.; and National Association of British and Irish Millers. Several grants reflect our key role as part of larger consortia and collaborations, including: ESRC funding with the University of Southampton ('global health and social care' theme); Dunhill Medical Trust funding with the University of Sheffield and Health & Safety Laboratory ('health and social care environments' and 'health and social care of the older person' themes); and NIHR funding with the University of Nottingham ('allergic and respiratory disorders' theme).

We have worked hard to complement these awards with other external grants, which have contributed to our international networking and capacity building, such as:

- European Science Foundation, exploratory workshop: Evidence-based environmental design for older people: From initiation to dissemination, enhancing the paradigm of design research. (*Dean, Drahota; 2009*)
- National Osteoporosis Society: Environmental and psychosocial concomitants of falls and injury prevention in institutional settings – a PhD studentship contributing to the Dunhill Medical Trust (DMT) project included above. (*Drahota, Severs; 2008-12*).
- ESRC: Exchange fellowship - Developing Collaborative Research Project on Reproductive Health (*Pallikadavath; 2009-10*)
- Fishmongers Guild – PhD studentship in allergic and respiratory disorders (*Dean, Mackenzie, Venter; 2012*)
- Danone – PhD studentship in allergic and respiratory disorders (*Dean, Mackenzie, Venter; 2012*)
- Alzheimer's Society – MRes studentship in health and social care of the older adult (*Burnell, Drahota; 2013*)

Our staff play an active part within the South Central Research Design Service (RDS; *Dean; Fogg; Pallikadavath*), in collaboration with the Universities of Southampton and Oxford. This cross-HEI infrastructure facilitates collaborative proposals and pooling of expertise. Other shared

Environment template (REF5)

infrastructure has stemmed from our collaboration with the Health & Safety Laboratory, whereby they have provided laboratory space and portable testing equipment, and we have provided our expertise in research governance, ethics, and methods for NHS-based projects and those falling under the Mental Capacity Act (e.g. NIHR-funded project in dementia care wards, and DMT-funded project in elderly care wards).

We have pursued a policy of using strategic investment to purchase research software (e.g. for qualitative data analysis and co-ordinating systematic reviews), accessible to all staff who require it. We also stock shared audio-recording and transcribing equipment. The University IT infrastructure provides the majority of our required programmes. Where specialist software is required for specific projects, or time-limited subscriptions, we ensure that these are written into our funding applications. We are working to increase our range of facilities, for example, we have recently purchased a bone densitometry (DXA) scanner, which will be utilised in our research on the health and social care of the older adult, and in collaboration with other local healthcare providers.

e. Collaboration or contribution to the discipline or research base

Our contributions to the wider research base include training and methodological developments in systematic review methodology and evidence-based practice. For example, *Dean, Drahota and Kilburn* have undertaken a collaborative project with The Cochrane Collaboration to develop a suite of online learning materials, which is now rolled out internationally to over 31,000 members of the Cochrane Collaboration. This has involved close collaboration with the Cochrane Training Working Group (led by the Australasian Cochrane Centre), UK Cochrane Centre, Cochrane Editorial Unit, and methodologists from across the Cochrane Collaboration. In addition, *Drahota* is a member of an international working group developing The Cochrane Collaboration's risk of bias tool extension for cluster randomised trials, which will be incorporated into the Collaboration's software (RevMan) for generating systematic reviews. As part of an unrivalled programme for stimulating evidence based practice, 'Putting Evidence into Practice' (PEP), we have also developed and delivered CPD training to 360 healthcare professionals in the South Central region (spanning Berkshire, Isle of Wight, Milton Keynes, Oxford, Portsmouth, Southampton, and Winchester), through a series of 20 commissioned face-to-face and online courses, and research conference (*Dean, Drahota, Fogg, Kilburn, Mackenzie*).

We pursue active involvement in boards and advisory groups facilitating local, national, and international research infrastructure (*Dean*: Panel member – MRC Clinical Research Training Fellowship; UK Clinical Research Network (UKCRN) Training and Education Advisory group; Hampshire and Isle of Wight Comprehensive Local Research Network; *Pallikadavath*: ESRC Peer Review College; National Institute of Health (NIH), USA: Bilateral funding stream; *Severs*: Panel member - South Central Research for Patient Benefit Programme Funding Committee; Member of the UKCRC R&D Advisory Group on NHS Connecting for Health 2006-2009). Our support of the wider research infrastructure additionally includes peer reviewer roles for national (e.g. *Higgins*: HTA programme; *Pallikadavath*: ESRC, MRC) and international (e.g. *Drahota*: European Science Foundation; *Pallikadavath*: Michel Smith Foundation (MSF), Canada) funding organisations. Locally, we have active representation in Portsmouth City Council (*Dean*: Board Member – Portsmouth City Health and Social Well Being Partnership Board), Portsmouth Healthwatch (*Drahota*: board member of Healthwatch Development group), West Sussex Health & Wellbeing Co-operative, Health Education Wessex (Local Education and Training Board), Wessex Academic Health Science Network (AHSN), RDS Partnership Executive (*Dean*), and Education Committees with Portsmouth Hospitals Trust and new collaborative projects. We all undertake discipline specific peer review activities and *Venter* was invited editor of a special issue of Journal of Allergy.

As well as broader research conferences, we have helped organise a range of discipline-specific conferences, workshops and seminar series aligned to our research themes, e.g.:

- *Dean and Drahota*: European Science Foundation workshop on evidence-based environmental design for older people
- *Pallikadavath*: seminar series in the UK and India on post transition fertility in developing

Environment template (REF5)

- countries: causes and implications,
- *Pallikadavath*: seminar series in Brazil, India and UK on inequalities in access to health care in Brazil and India: closing the gap for the poorest-poor;
- *Severs*: SNOMED CT Showcase conference in Brisbane, Australia, 2011.

In addition to our internal collaborations (e.g. with human geography, psychology, creative arts, film and media), our collaborations include NHS colleagues / organisations, Universities (e.g. Oxford, Nottingham, Sheffield, Southampton), governmental bodies (e.g. Health & Safety Laboratory; Portsmouth City Council), and not-for-profit organisations/charities (e.g. The Cochrane Collaboration, Alzheimer's Society), as well as patient and public groups (supported through Engage) to ensure the relevance of our research. Additional international collaborators include: International Institute for Population Sciences, Mumbai, India; Centre for Development Studies, Trivandrum, India; Tata Institute of Social Sciences, Mumbai, India; Department of Obstetrics and Gynaecology, Aga Khan University, Nairobi; Universidade Federal de Minas Gerais, Brazil. Fostering our collaborative partners has been supported via exchanges, networking, and workshop grants from external and internal funding sources. Further collaborations with NHS professionals are supported through our part-time employment with the RDS (*Fogg*; *Pallikadavath*), secondment of NHS staff (*Severs*; consultant geriatrician), and academic teaching staff who hold joint teaching-clinical contracts. As Associate Dean Clinical Practice, and Chair of UPAN, *Severs* has a significant positive impact upon our 'health and social care of the older person' theme, providing research leadership within the UoA and links with the NHS. The University also employs a Project Director for strategic healthcare projects, who provides us with key contacts and facilitates knowledge exchange around key organisational developments within the NHS. Examples of interdisciplinary projects include The HIPHOP Flooring Study (disciplines included: health sciences, health economics, health & safety (mechanics), ergonomics, design, estates & facilities, nursing) and The Softened Water Eczema Trial (SWET; disciplines included: dermatology, paediatrics, biochemistry, methodologists/epidemiology, industry, health economics, nursing, engineering).

We make wider contributions to the disciplines across each of our thematic areas, serving in a variety of roles and as expert members on scientific panels, advisory groups, and professional bodies/associations. For example:

National:

- *Dean*: Scientific Board of Anaphylaxis Campaign;
- *Severs*: Trustee and Director of the Dunhill Medical Trust (DMT), and oversaw the DMT Research Fellowship Award with the British Geriatric Society. The DMT has an annual investment income of approximately £3 million from which it makes charitable grants; Appointed Chairman of the Information Standards Board, the approval system for information standards in the NHS and social care; Clinical Lead and Panel Member on the Independent Information Governance Review Panel led by Dame Fiona Caldicott and published May 2013; Fellow of the Royal College of Physicians of London and regularly advise and contribute to it; Fellow of the Faculty of Public Health Medicine; Member British Geriatrics Society; Member British Medical Association;
- *Venter*: NICE guidelines in food allergy; council member of the British Society of Allergy and Clinical Immunology (BSACI) and programme planning committee member for BSACI 2013 conference; Committee on Toxicity and Scientific Advisory Committee on Nutrition to review weaning guidelines; Advisory Committee of Novel Food and Proteins for the Food Standards Agency; chair of the Food Allergy and Intolerance Support Group of the British Dietetic Association (BDA); health advisory member of the national Allergy Association;

International:

- *Dean*: Scientific Panel on Dietetic Products, Nutrition and Allergies, European Food Safety Authority;
- *Severs*: Chairman of the Management Board International Health Terminology Standards Development Organisation: A 'not for profit', open, international standards development organisation based in Denmark which will own and manage SNOMED CT for the world;
- *Venter*: The European Academy of Allergy and Clinical Immunology (EAACI) Food Allergy guideline group, elected Secretary of the Allied Health Special Interest Group (Diet and

Environment template (REF5)

Nutrition) of EAACI and chair of a task force on how to write an allergy focused diet history; Adverse Reactions to Food advisory group of The American Academy of Allergy, Asthma & Immunology (AAAAI); medical advisory board of the International Food Protein-Induced Enterocolitis Syndrome (FPIES) Association; Chair of an evidence analysis group for the Academy of Diet and Nutrition (formerly ADA) healthy eating and Umami; vice-chair of the International Network of Diet and Nutrition in Allergy; appointed as the national allergy expert by the BDA.

We promote our research as invited speakers at international meetings, and as contributors to external courses (e.g. *Dean, Mackenzie, Venter*: invited lecturers on the MSc in Allergy (Imperial College London) and the MSc in Medical Nutrition (University of Surrey), and co-module leader for the MSc in Allergy (University of Southampton)). Our contributions have been recognised through a series of prestigious awards: in 2008, *Severs* was awarded an OBE for services to medicine, relating to his work improving the flow and management of information about patients, and in 2012 was awarded a Lifetime Achievement Award by the 19 countries of the International Health Terminology Standards Development Organisation. In 2009 *Venter* was awarded an NIHR Post Doc Research Fellowship for 3 years to pursue her research in allergy. In addition, in 2012, *Dean* was awarded a Fellowship of the Leadership Foundation for Higher Education, in recognition of her exemplary leadership skills.