

<p><b>Institution:</b> Birmingham City University</p>
<p><b>Unit of Assessment:</b> 3 Allied Health Professions, Dentistry, Nursing and Pharmacy</p>
<p><b>a. Overview</b></p> <p>The Centre for Health and Social Care Research (CHSCR) forms the focal point of a synergistic relationship between one of the largest Faculties of Health in the UK and health and social care service providers in local, national and international arenas. Launched in 2009, the CHSCR has provided the investment and infrastructure required for excellent research in health and social care. Multi-professional research teams foster innovative approaches to health and social concerns that translate into a robust and expanding research portfolio and direct improvements in patient/client care, professional practice, health education and services. Excellent facilities and a wide ranging personalised staff development programme enable each individual to develop new research skills and progress their careers. The CHSCR's sphere of influence now extends to include industry, national bodies and international collaborations. The vibrancy of this research culture attracts increasing numbers of students from across the world to join the Graduate School.</p>
<p><b>b. Research strategy</b></p> <p>The Centre brings together a diverse range of multi-professional expertise into six participatory themed networks in which academic staff, experienced and novice researchers, practitioners, service users and students work collaboratively. These networks address specific current and anticipated challenges in health and social care: <i>dignity in care, health understanding for all, improving outcomes for common health concerns, active service redesign, integrating science into professional practice and education technology and innovation</i>. In addressing these challenges the networks have created a robust body of translational research which makes a demonstrable and direct impact on patient/client care through innovation in education, professional practice, service design and delivery.</p> <p>The Centre has instituted clear policies, procedures and training opportunities to facilitate appropriate monitoring of these networks, ensuring that all research meets the highest standards of research practice in accordance with the Concordat to Support Research Integrity 2012. Studies are robustly designed and conducted in accordance with University, professional and national requirements. Practical information, advice and support are provided about all aspects of research, including sources of funding, methodological issues and the creation of project teams. As a result, the networks have, since the establishment of the Centre in 2009, collectively, received over £2.5m to support research activities. This figure includes a number of successful applications to prestigious bodies: the NHS and the National Institute for Health Research (£1.2m), HEA (£84k) and EUFP7 funded grants (£265k) and a wide portfolio of internal, industry, charity and internationally funded projects.</p> <p>Current priorities for the CHSCR are threefold. First is the need to consolidate and sustain this period of rapid development. In this context, it is particularly important to ensure the CHSCR's financial sustainability by proactively seeking appropriate sources of funding: charities, NHS and, where appropriate, industrial partners, for example, in supporting new research into moving and handling. Increasing research expertise and experience created a need for new types of staff development which the CHSCR is meeting, through multiple channels, with specialised courses for staff wishing to expand their skills. Future staff development must be proactive in responding to new research methodologies and technologies but, at the same time, continue to provide mentoring, training and support for early career researchers (ECRs) so that the founding participatory approach, based on equality and inclusivity, is retained.</p> <p>The second current priority for CHSCR is developing international work. The Centre has responded to the global challenges of health care by adopting new ways of working to prepare and support members of staff engaged in international projects: ensuring that appropriate resources are in place and that studies are conducted in accordance with University, professional and national requirements as well as those of the countries involved. This has led to substantial successes in Vietnam (development of nursing), Ukraine (older adult care), Kosovo and Belgium</p>

(mental health).

The third current priority for CHSCR is looking to the future as part of our 'Horizon 2020' planning in conjunction with the University Research and Knowledge Exchange Strategy. Here the focus is on enhancing the contribution of research to future health needs and improvements in health and social care. The CHSCR will facilitate the development of new approaches to monitoring and evaluating the nature and extent of the impact of research and utilise the understanding gained in the design of future projects and applications for funding. Inherent in this development is the recognition that the six existing networks may change; new, additional networks may emerge and will require support. The CHSCR will remain alert to the emergence of new priorities and continue in dialogue with staff, practitioners, students, service providers and other parties. Early identification of emerging issues will enable the CHSCR to lead the development of research in these areas, leading to early adoption of interventions and sustainable impact. Of particular importance here is the issue of dissemination. Whilst the CHSCR actively facilitates the dissemination of research findings through well-established professional avenues such as publications and conference presentations, future activities will have a broader focus that makes more effective use of social and other appropriate media. Timely response to new and emergent trends is essential in rapidly changing fields such as health and care. CHSCR will continue to exercise flexible leadership in research by investing in established and emerging staff for the future and expanding the infrastructure to support their research.

### **c. People, including:**

#### **i. Staffing strategy and staff development**

##### *Equality and diversity*

The CHSCR aims to ensure a clear, transparent research culture in which all staff can maximise their potential and advance their careers. Research development is linked to the University's promotion system which incorporates research success targets as part of regular performance review. The inclusive approach outlined above won the Investors in People Silver Award in 2011 and the CHSCR is now working towards achieving the gold award in the near future. The Centre is also working towards the Athena Swann Bronze Award to ensure that both women and men are appropriately supported. The participatory approach based on the Concordat to Support the Career Development of Researchers adopted by CHSCR provides research opportunities for all staff, irrespective of their current position, length of service or any other factor, in accordance with the University's equality policy. All the Centre's procedures undergo equality impact assessment to maximise equality and identify issues for further action. This may include accommodating individuals with dyslexia: the CHSCR is based in the first and only Faculty in the UK to be awarded a Quality Mark from the British Dyslexia Association.

##### *Staff development*

The CHSCR has encouraged all staff to explore new ways of working that allow them to engage more fully in research activities and take advantage of the wide range of generic and specialist training provided. Training is multi-professional and multidisciplinary to facilitate the development of working relationships that will translate into research teams. Generic training focuses on core skills relating to research governance in health and social care, project management and financial issues. Specialised training depends on individual needs such as an unfamiliar research method. Additional formal opportunities are available: the University's PGCert in Research Practice and the Good Clinical Practice Certificate course provided by the NHS. Research leave or sabbatical time is available to staff on application to the Faculty Research Committee, for instance, to complete a programme of research where there are clearly articulated outputs to be delivered.

A bespoke development programme is provided for the current forty or so ECRs who have concentrated first on establishing their clinical or teaching careers (or both) and who are now ready to develop the skills needed to become established researchers and project leaders. Each ECR works with a mentor, an experienced researcher, to develop personalised research activity targets which are integrated into each individual's overall workload. Progress is reviewed regularly during performance reviews by line managers and peer presentations relaying research outcomes. ECRs are expected to make a successful application to the in-house *Small Development Grants Scheme*

to establish pilot projects and then progress to an application for external funding. This intense programme for ECRs has enabled them to generate over £100k in external funding in the first few years of operation. As research projects have developed, additional staff with a full time research focus have been recruited to bring in additional skills and expertise and to add to the range of activities of our ECRs. Although most of these are not yet returnable to the REF, they illustrate a strategic investment in the long term development of the CHSCR and the future ambition of the Faculty to influence health outcomes.

Members of staff wishing to pursue higher degrees such as PhDs are supported to do so by receiving fee waivers if registered at BCU and substantial financial support if studying elsewhere, provided that their research project is congruent with one of the six CHSCR themes. Research time allowances provide protected time away from other academic duties. Currently over 50 members of staff are formally developing their skills and are registered for higher degrees and over 90 staff have completed PGCerts, MScs or PhDs during the census period. These figures reflect a nurturing environment with a strong commitment to continuing professional development.

Other CHSCR initiatives that cultivate research talent and promote the dissemination of research findings include

- In-house research conferences that provide training in essential presentational skills in a friendly and supportive environment.
- A writing syndicate that encourages and supports the development of new writers.
- A full time bid writer to support researchers in developing applications to appropriate sources of funding.
- Funding to support attendance and presentations at external conferences.
- Master classes and research seminars that provide opportunities to learn about specific aspects of research, such as statistical analysis and the use of software programmes for qualitative analysis.
- A *Small Development Grants Scheme* that facilitates pilot projects prior to applications for external funding to support larger scale investigations. Grants of up to £1500 are awarded following open competition which takes place twice each year. To date this scheme has supported 47 development projects that have resulted in a number of applicants going on to secure over £85k in external funding.

## ii. Research students

The CHSCR established a Graduate School in 2009 to support MPhil/PhD students. Initially the School had 18 students, only 3 of whom were pursuing PhD study on a full time basis. During 2008-13, student numbers have increased year on year and the School now has a total of 55 students, 18 of whom are pursuing full time PhD study. The number of successfully completed theses continues to increase and currently stands at 9. International students form an expanding cohort within the Graduate School, representing countries that include Zimbabwe, Thailand, Saudi Arabia, The Netherlands and Vietnam. Most are supported financially by their respective governments. Supervisory teams for international students combine expertise from both the School and the student's country of origin. This has facilitated the development of long-term working relationships that transcend supervisory arrangements and create a basis for future research.

Successful applications to industrial partners have provided bursaries in specified growth areas. For example, Linet has supported research into moving and handling techniques. Collaboration with other Faculties such as Technology, Engineering and the Environment, has facilitated the incorporation of engineering and health perspectives into an investigation of foot injuries among women drivers.

The multi-professional and multi-disciplinary nature of the Graduate School facilitates and sustains a dynamic student culture. The students are supported to produce their own personal development plan when they begin their research activity, to help them engage with and gain an understanding of the skills they will require, based on the Research Council Joint Skills Statement. Students' research is informed and supported by the School's diverse training programme of seminars with invited guest speakers, journal clubs and a wide range of skills-based training, for example in presenting papers at both internal and external conferences. This programme is specifically

directed towards research in health and social care and complements the University's PGCert in Research Practice which research degree students are expected to complete. Students also have the option of teaching undergraduates and, if they do not already hold an appropriate teaching qualification, may undertake a PGCert in Learning and Teaching leading to the Fellowship of the Higher Education Academy award.

The CHSCR was initiated using an inclusive approach which has, over time, created an exciting and aspirational research culture to which both experienced and novice researchers seek to belong. The Centre actively recruits and nurtures new researchers and, at the same time, provides support for more experienced members of staff, many of whom like Professor Morris, Professor Notter and Professor Denny, have international reputations in their fields. Experienced researchers lead individual project teams, provide support for ECRs and attract funding to support new post-doctoral staff and post-graduate research students. In some instances, experienced researchers hold joint appointments between NHS Trusts and the Faculty. Professor Raphael, for example, is an expert in research into chronic pain. His practice setting provides an arena for multiple collaborative projects that integrate academic staff, practitioners and service users into research teams. There are similar successful joint appointments in the fields of tissue viability and sexual health and we are working with NHS partners to develop more. The establishment of the CHSCR has created an exciting, diverse and focussed research community which is now starting to realise its potential and is looking forward to sustaining its momentum to greater impact in future care.

#### **d. Income, infrastructure and facilities**

##### *Income*

Between 2008 and 2013 the CHSCR received over £2.5m to support its research activities. This reflects internal investment and successful funding applications to a wide and expanding range of external sources that include but are not limited to medical charities, UKRC, NIHR, RfPB, NHS Trusts, EU and the private sector. The establishment of the CHSCR in 2009 enabled the strategic development of this growing research portfolio and created the sustainable environment required to secure the associated income to support innovative developments in health and social care.

Commercial income is generated through sales of products derived directly from our research. Our virtual reality and simulation programmes are market leaders that have generated income in the region of £400k to date. These programmes include Virtuar, an elearning software package that provides on-line training via a virtual environment and 3D arm to promote competence in moving and handling patients in diverse settings. In addition, the Virtual Case Creator (VCC) exposes students to the realities and pressures of practice in a virtual environment. This product is now available for health and education students and professionals at [http://vccweb.health.bcu.ac.uk/vcc\\_introduction.asp](http://vccweb.health.bcu.ac.uk/vcc_introduction.asp). Additional software enables students to develop specific clinical skills and show evidence of their increasing competence. We are currently working with a number of industrial and business development partners to develop new products and explore further our potential markets to link the outcomes of our research activity more directly to commercial success in both UK and international markets. For example our development of a vibrotactile haptic feedback suit to support health professionals when learning manual handling skills has been shown to impact positively on student learning, and is now moving into trials in hospitals, the community and industrial settings prior to commercial development.

##### *Infrastructure*

The CHSCR's activities are operationalized and monitored through the Faculty Research Committee (FRC), which is responsible for the management and governance of research on behalf of Faculty Board. The FRC ensures that all research conduct complies with University and Faculty policies and procedures. Other staff and student committees dealing with specific aspects of research report to FRC: membership of these committees is drawn from across the Faculty and includes ECRs and students. This helps to sustain a participatory approach and breadth of vision required.

The Research Strategy Group brings together diverse perspectives from academic staff, practitioners and others to provide an arena in which current health and social care issues that

may form the basis of future investigations may be discussed. The outcomes of these discussions inform the development of research strategy which is then reported to FRC.

The FRC receives regular governance reports from other sources. The Faculty Finance Department reports on the management of research income and ensures that this conforms to the University's financial rules. The Faculty Research Insurance and Indemnity Committee is responsible for assessing the degree of risk raised by each research project and ensuring that there is sufficient indemnity insurance in place before work begins. The Faculty Research Ethics Committee provides an independent ethical opinion for any research project that lies outside the scope of the NHS Research Ethics Service.

The Faculty Research Degrees Committee, which oversees the Graduate School activity, is responsible for approving research degree projects, monitoring the progress of students and ensuring that they receive appropriate support and development.

The activities, proceedings and membership, of all these committees are open and transparent to all staff and help to create a culture and environment that is safe, accountable and properly managed without stifling creativity, its vibrancy, originality of thought or research that challenges accepted truths.

#### *Facilities*

A comprehensive review of facilities in 2009 provided the basis for an internal investment plan to develop specific resources to support research. For example, laboratory facilities have been installed to support teaching and emerging research in bioscience. These facilities allow, for the first time, the development of translational biomedical teaching and research which can be linked directly to patient care. This is an area of our practice that is receiving strategic internal investment including the recruitment of health scientists.

Our educational links with organisations that provide placement experiences for our students facilitate direct access to patients creating multiple opportunities for research with those who use health services and with their families/carers. Experienced researchers who hold joint appointments and collaborative arrangements with partner institutions facilitate access to additional facilities such as the MRI scanner required for some projects undertaken by the chronic pain group and the specialist products needed for certain types of wound care.

### **e. Collaboration and contribution to the discipline or research base**

#### *Collaboration*

The complexity of health care means that no one organisation can hope to address current or future challenges alone. Consequently, the CHSCR has developed strategic partnerships with a range of organisations in order to achieve the maximum appropriate impact for its research efforts. Initially, our educational links with NHS Trusts facilitated the collaborative working relationships needed for clinical research. Current clinical partners include Russells Hall Hospital in the Dudley Group NHS Foundation Trust. This particular collaboration facilitates the work of the Pain Research Group which is led jointly by Professor Jon Raphael and Professor Robert Ashford. Another example is our collaborative partnership with the Whittall Street Genitourinary Medicine Clinic part of the University Hospitals Birmingham NHS Foundation Trust. In this instance, collaboration between a joint professorial appointment, Professor Ross, and a Reader in Nursing, Lucy Land, has resulted in a number of charity-funded research projects culminating in the production of a validated Patient Reported Outcome Measure for HIV services. Recently this collaborative team have been awarded a major £1.2m NIHR funded bid to establish a multi-centre RCT to study the effectiveness of gentamicin in the treatment of gonorrhoea. A third example has facilitated the secondment of Dr Merryl Harvey, an experienced researcher, to join a research team at Imperial College, London. The team is funded by the NIHR to undertake a large-scale investigation of the use of ultrasound and magnetic resonance imaging of the brain in preterm infants and parental perceptions of information-giving, stress and coping at the time of discharge home and over the following two years. The aim of the study is to provide an evidence-base for an important aspect of practice. The study will therefore shape neonatal care internationally in the

future. Finally, the recently established Tissue Viability Practice Unit brings together academic researchers and clinical practitioners, who are national and international experts in the field, to evaluate the impact of new products and technologies, undertake clinical trials and develop best practice/consensus statements in wound care and related areas.

Collaborations with other HEIs have facilitated educational, non-clinical research. Examples include the ENDOCUL study, funded by NIHR RfPB, which was based on collaboration between the CHSCR, De Montfort and Middlesex Universities to investigate the specific educational needs of women, from minority ethnic groups, who are living with endometriosis. A second collaboration between CHSCR, the University of Birmingham and Middlesex University facilitated a successful application for funding from the Higher Education Academy to support innovative work in simulation and laboratory-based teaching: work that led to us winning the HEA Learning and Teaching Award for Excellence in 2011.

The CHSCR continues to proactively seek opportunities for further collaborations. New joint appointments are planned with other NHS Trusts such as Birmingham Children's NHS Foundation Hospital and University Hospitals Coventry and Warwickshire NHS Trust. Our membership of networks, such as the West Midland Health Innovation Education Cluster, and the recently formed West Midlands Allied Health Science Network offer CHSCR new opportunities for collaborative work.

#### *Contribution to the discipline*

CHSCR's research has contributed significantly to improvements in clinical practice. The Pain Research Group's work has contributed to the development of NICE clinical guidelines on spinal cord stimulation and the Polyanalgesic Consensus Conference best practice guidelines for diagnosing, detecting and treating catheter-tip granulomas. Research in moving and handling education is changing the way in which nurses and other professionals are prepared to work with patients. Collaboration with Linet, a major supplier of hospital beds throughout the world, has led to new understandings of posture among both patients and staff and the subsequent development of a new training programme for the company; this has also been adopted by other suppliers, namely Hill-Rom and Liko.

Internationally, the work of the CHSCR has contributed to a number of developments in nursing. Professor Notter's recently completed four-year research programme in Vietnam has led to the development of a modernised and accredited curriculum for nurses, positioned Nam Dinh University of Nursing as the national knowledge resource centre for nursing education and training and created new institutional standards. A national open competition funded two experienced health professionals to undertake PhD study in the CHSCR's Graduate School. The two students successfully completed theses on i) sexual health education and ii) the use of antibiotics in rural areas. They now hold important posts with national responsibilities in their respective fields of nursing and medicine: one is now Director of the Nursing Research Unit at Hanoi Medical University; the other has been appointed Vice Rector at Nam Dinh University of Nursing. Professor Morris's work in mental health has tested and applied the renowned 'Birmingham Model' in diverse international settings. This has resulted in changes to the health framework for mental health services in Belgium and a redesign of Norwegian services through the introduction of Assertive Community Treatment. In addition Professor Morris is working with research collaborators in Kosovo, Albania and Sri-Lanka, The Netherlands, Germany, France and Australia and is a major contributor to the World Health Organisation's drive to meet global mental health care goals. As a result, service delivery worldwide for people with mental health problems is becoming more client-centred, holistic and cost-effective.

The CHSCR contributes to professional discourses through publishing and disseminating their research findings in professional academic journals, conference presentations and other bespoke events. Several members of staff serve as members of editorial boards and peer review for both publishers and a host of international academic and professional journals such as the *BMJ*, *International Journal of STD and AIDS*, *British Journal of Nursing* and the *Journal of Transcultural Nursing*. Professor McGee is editor of an international peer reviewed journal and was recently

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invited to become associate editor of another. Members of staff also act as peer reviewers for funding bodies such as the Higher Education Academy and the National Institute for Health Research Health Technology Assessment Programme. Senior members of staff are active in a number of professional organisations. For example, Professor Colonel Finnegan is a founder member of the Defence Nursing Forum in the Royal College of Nursing. Professor Notter is a board member of the European Association for Cancer Education. Several members of staff have received prestigious awards and Fellowships in recognition of their contributions to the respective fields and their overall professional standing. In 2012, the Royal College of Physicians and Surgeons of Glasgow awarded Professor Ashford a Founders Fellowship of the Faculty of Podiatric Medicine and a Fellowship of the Faculty of Podiatry in Podiatric Medicine. In 2013 Professor Notter was awarded the Campaign Medal by the Ministry of Health of Vietnam for her work on the development of nursing. This is similar to an OBE and is awarded to individuals who have provided a particular service to the country

The application of an inclusive and participatory approach has challenged traditional boundaries and enabled all staff to take part in research activities in the CHSCR. Multi-professional research teams have developed an exciting, robust and expanding research portfolio that has made significant contributions worldwide to health and social care practice, education and service provision. The growth of research in terms of quality and quantity since 2009 has been substantial and the strategic vision and investment of the Faculty of Health and Birmingham City University will ensure this continues.