

<p><b>Institution:</b> King's College London (KCL)</p> <p><b>Unit of Assessment:</b> 3. Nursing &amp; Midwifery, and Palliative Care</p> <p><b>a. Overview</b>  <b>King's College London (KCL)</b> is a multi-faculty research led university ranked in the world's top 25, lying 13th in health research. There are nine Schools in KCL, five related to health and four covering social sciences, natural sciences, law, arts and humanities. Our research benefits from this breadth of disciplines. In 2009, KCL along with its partner NHS services - Guy's and St Thomas', King's College Hospital and South London and Maudsley NHS Foundation Trusts, and South London community services - created <b>King's Health Partners (KHP)</b>. KHP is one of five Academic Health Science Centres (AHSCs) accredited by the Department of Health. These developments enable us to deliver "bench to bedside" research through Clinical Academic Groupings (CAGs). Within our AHSC, the three Biomedical Research Centres (BRCs) attracted £113 million from the National Institute of Health Research (NIHR) since 2008.</p> <p>KHP also brings together health and social care researchers (King's Improvement Science) to enhance patient care and outcomes through new modes and innovations in care. KCL recently won bids totalling £18 million to develop the South London Collaboration for Leadership in Applied Health Research and Care (CLAHRC), and the South London Academic Health Science Network (AHSN) to support the adoption and dissemination of research.</p> <p><b>The Florence Nightingale School of Nursing &amp; Midwifery (FNSNM) and The Cicely Saunders Institute (CSI) of Palliative Care and Rehabilitation</b>, both part of KCL, are returned together in UoA3. We comprise 40.8 full time equivalent (fte) Principal Investigators (PIs), including 13 (12fte) early career researchers (ECR). We incorporate two Department of Health funded policy units, the National Nursing Research Unit (NNRU) in the FNSNM and the Social Care Workforce Research Unit (SCWRU), in the King's Policy Institute. We currently have 70 PhD students. The FNSNM and CSI have extensive research networks worldwide and a research grant income of £23.1 million since 2008.</p> <p><b>b. Research strategy</b>  Our two multi-professional research groups – (i) nursing &amp; midwifery and (ii) palliative care – share the strategic goal of improving the healthcare experience and outcomes for patients and families, wherever they are cared for. Our mutual ambition is to be world leaders, pioneering the very best in nursing &amp; midwifery and palliative care by integrating:</p> <ul style="list-style-type: none"> <li>• <b>Cutting edge research</b> of the highest rigour to develop, evaluate and implement significant interventions and treatments and build knowledge to transform and lead policy and practice;</li> <li>• <b>Skilled multi-professional care</b> across the lifespan providing top-quality evidence-based clinical care and support to patients, carers, and families; and</li> <li>• <b>Innovation in education, training and engagement</b> that advances policy and practice locally, nationally and globally, engaging patients and the public, whilst inspiring and equipping tomorrow's leaders.</li> </ul> <p>To achieve this vision our research requires an intricate approach, often with mixed and interdisciplinary methods, due to the demanding and sensitive clinical situations that we encounter. Our strategies aim to go beyond the type of descriptive study that has historically dominated our fields, to design, interrogate and evaluate complex interventions and care systems that advance practice, policy and care. Our applied research, evaluative methods and collaborations with clinicians, user groups, multi-disciplinary partners, policy makers and health service commissioners enable us to compete successfully for international and national research funding and to deliver outstanding training to future researchers, clinicians and policy makers. The impact template and case studies demonstrate how our research improves the lives of patients, families and carers.</p> <p><b>b.1 The research activity</b>  We see patients and families as people first and foremost. Our research cuts across many aspects of human experience and exploits the rich collaborations that KCL's diversity offers, working with law, ethics, social science, public policy, the humanities, as well as medicine and psychiatry. Our programmes are underpinned by research to innovate and hone the methods and theory of</p>
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our fields.

**b.1.i Within Nursing & Midwifery** our research activity is organised within specific themes each led by a principal investigator (PI) (*name in brackets*) under three over-arching programmes that are also interlinked (Fig.1). Each PI has responsibility for leading a team of colleagues working within their field, including research associates / fellows, lecturers and senior lecturers.

**1. Patient and carer experience** focuses

on improving clinical care for many conditions, through developing new interventions that build on the findings of previously completed observational studies. Examples of current research include: in supportive cancer care, rigorous evaluation of an intervention with an RCT for exercise in advanced cancer and developing strategies for prevention and early detection of cancer in women from ethnic minorities (*Ream*); in diabetes, following research highlighting issues with eye disease and psychological co-morbidity, new psycho-behavioural interventions are under development and early testing to improve screening uptake to prevent co-morbidity (*Forbes, Sturt*); in relation to patient-defined criteria of need and benefit there is work improving the management of gastro-intestinal functioning and disease (*Norton*); interventions are under development and testing for improving family communication and coping with genetic risk in three centres, London, Manchester and Cardiff (*Metcalfe*); and the design of innovative wound dressings for people affected by severe skin disease (*Grocott*). In mental health, interventions to reduce conflict in acute psychiatric wards are being evaluated after multi-centre epidemiological studies highlighted the key factors that increase aggressive behaviours (*Bowers, Institute of Psychiatry*).



Figure 1. Nursing & Midwifery Research in FNSNM

**2. Health and social care workforce, organisation and service delivery** investigates work and care environments and their relationship to professional and patient / client outcomes and cross boundary, interdisciplinary working. This work includes a 12-nation study of the relationship between patient safety and nurse levels (*Rafferty*); experience based co-design (EBCD), which uses the collaboration of patients and health professionals in the redesign of services, used in eight countries (*Robert*); the modernisation of global maternal health services in developing countries (*Murray*) and workforce re-organisation and policy (*Humphrey*). This programme includes the work of two national organisations: the NNRU (*Director: Maben*), which evaluates nursing roles, quality of care provision and the impact on patients in primary and secondary care and SCWRU (*Director: Manthorpe*), which studies social care for older people and issues related to social care practice and workforce.

**3. Health and well-being**, involves research with individuals and families across the lifespan to achieve and maintain good health. There is a major focus on maternal health, including healthy pregnancy, and the quality and safety of maternity services (*Sandall*), midwifery interventions, including management of perineal trauma (*Bick*), and newborn health and early-years development (*Bick*).

**b.1.ii Palliative Care:** The opening of the **Cicely Saunders Institute (CSI) in 2010** transformed our research. The CSI provides the world's first purpose-built Institute dedicated to palliative care research; it integrates academic teams and clinical services in a bespoke building (see d2).

The CSI unites **Palliative Care with Rehabilitation** in an autonomous academic division within the School of Medicine. **Our research activity is built on four programmes** to address current and future clinical, public health and methodological challenges (Fig.2). These operate across our multi-professional staff, sharing learning and methods across care settings, countries and disease groups. The progression of science in this challenging field is made possible through our MRC-funded MORECare methods programme (*Higginson, Morgan, Harding*), which investigated and

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constructed design and reporting standards for palliative care trials.

**1. Evaluating and improving care:** these studies develop, test and evaluate existing and new models of care. Bolstered by our unique interface between palliative care and rehabilitation, we reach beyond the traditional cancer stream, to other conditions where palliative care has been neglected. Examples include: Cochrane reviews on specialist palliative care home services showing these double the odds of patients dying at home and improve symptom control (*Gomes*); assessment of information needs in South Africa and Uganda (*Harding, Selman*) and innovating and evaluating the cost-effectiveness of a new model of short-term palliative care for patients with multiple sclerosis. New grants are improving and evaluating these models with multicentre phase III trials for older people (Optcare, *Evans*) and long-term neurological conditions (Optcare Neuro, *Higginson and Gao*).



Figure 2. Palliative care research in the Cicely Saunders Institute (CSI)

**2. Focused clinical research on symptoms:** includes Cochrane reviews, observational studies and trials to test interventions and treatments for breathlessness, pain, spasticity and muscle weakness. We examined symptom burden and its associated factors in the trajectories in non-cancer conditions, especially renal disease (*Murtagh*) in transplant and non-transplant patients. Our new research is combining effective treatments and testing these in clinical trials, for example of neuromuscular electrical stimulation (*Maddocks, NIHR post-doctoral fellow*) or a new breathlessness service (NIHR grant, linked to programme (1)).

**3. Person centred outcome and assessment measures:** the litmus test of good care is the outcome for patients and families. Developing and using short reporting measures for patients, families and observer/staff that capture the highly varied circumstances in complex patients, provides fundamental tools for research and clinical practice (see impact case study). These cover pain, symptoms, psychological and spiritual needs, social, service and rehabilitation concerns and circumstances. We are taking forward these tools to help assess clinical complexity, and care commissioning (two NIHR programme grants: *Murtagh and Turner-Stokes*) and, with global partnerships, to transform the evidence base and deliver culturally appropriate palliative care in sub-Saharan Africa and in Asia (*Harding*).

**4. Living and dying in society:** the suffering and dying are vulnerable, by the very nature of what is happening to them. It is not guaranteed that society will continue to cater for their needs. To future proof palliative care and rehabilitation, our mixed methods research on tomorrow's populations underpins new health care policy by exploring the experience and needs of the very elderly, informal caregivers, diverse cultural groups and those in care homes (*Koffman, Morgan*). We found a growing mismatch between reality and the preferences for place of care and death, which changed policy and has now catalysed our trials to improve the quality of home care across London and in Portugal.

## b.2 Future research in Nursing & Midwifery and Palliative Care

The numbers of older and frail people in society will increase, as will those living with chronic and progressive disease. Researching ways to support people to live well is increasingly important; it encompasses symptom management, facilitation of caregiving and family support and finding the best means to deliver limited resources and services fairly, equitably and safely. Our strategies for 2013-18 are to: enhance investment in our themes, leading to research to develop, refine and evaluate care, interventions and treatments in Nursing & Midwifery and Palliative Care. The recent awards of new NIHR and charity grants underline the evidence of these research themes' importance. To strengthen this we have invested in health services researchers (three new lectureships in Palliative Care – *Alexandrescu* and two from 2014), and a health economist (started Nov 2013, joint appointment with the KCL's Centre for Economics of Mental and Physical Health

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(UoA4)). We are integrated with the UK Clinical Research Collaboration (UKCRC) accredited KCL's Clinical Trials Unit (*Gao* and *Murrells* are statisticians registered with this unit and FNSNM has supported an additional fellowship there since August 2012).

As part of our 2013-18 strategy, we plan a more comprehensive approach to increase and streamline efficient and far-reaching impacts of our research (see impact template). We continue to build our researchers' skills from early career (ECR) to professorial level, benefitting from and contributing to the excellent health research environment of KCL.

(<http://www.timeshighereducation.co.uk/world-university-rankings/2013-14/subject-ranking/subject/clinical-pre-clinical-health>)

### c. People

**c.1 Staff profile:** professors, readers, senior lecturers, lecturers, early career researchers and postgraduate students from nursing, midwifery, medicine, psychology, allied health professionals, social sciences and public health, work in partnerships to deliver applied clinical, health service, social care and workforce organisation research. We aim to attract the best staff and students by being leaders in our respective disciplines.

Our research teams are encouraged and supported to push the boundaries of their own and others' knowledge and creativity in research, whilst developing capacity and capability through education and training of students and staff.

Since the RAE (2008), KCL has invested extensively in Nursing & Midwifery including: a new senior leadership team; Head of School (*McCutcheon*), Associate Dean Research (*Metcalfe*) and Associate Dean Education (*Tee*), who have worked together to promote research activity. Since 2008, six professors have been externally appointed (*Bowers, McCutcheon, Metcalfe, Norton, Sturt and Tee*) and four internal staff promoted to Chairs (*Forbes, Maben, Ream and Robert*). Six senior lecturers and eight lecturers are new appointments. These colleagues work with and are mentored by research team leaders to develop their research outputs.

Fellowships awarded to FNSNM since 2008 include: 40 Clinical Masters in Research Fellowships for nurses, midwives, allied health professionals and health scientists, funded by NIHR from 2013-2016 and five annual Clinical MRes Fellowships (2012-17) funded through collaboration with Guy's and St Thomas' BRC. We have six NIHR pre-doctoral fellowships (*Sin, Verity, Oakley, Sheridan, Parsons and Jeffs*), two NIHR post-doctoral fellows, (*Nicholson, Chinn*) and one completed post-doctoral fellowship from Remedi charity (*White*). The Foundation of European Nurses in Diabetes (FEND) has also funded two pre-doctoral fellows (2013-16) to complement the FEND Clinical Chair in Diabetes Nursing (*Forbes*).

The CSI is led by the Institute Director and clinical professor (*Higginson*). Other senior faculty are: Clinical Professor in Rehabilitation Medicine (*Turner-Stokes*), Professor of Medical Sociology (*Morgan*, primary care and public health sciences), Reader in Palliative Care (*Harding*, social work), two senior lecturers (*Murtagh*, clinical; *Koffman*, health care research). Since the RAE (2008), expansion in CSI has been sustained by winning external peer review new Higher Education Funding Council for England (HEFCE) and NIHR infrastructure posts that KCL then support. These include: *Murtagh* (2009, new blood HEFCE clinical senior lectureship – one of only two in the UK); *Gao* (National Cancer Research Institute COMPASS collaborative, co-supported by KCL); NIHR nurse lectureship (*Evans*), NIHR post-doctoral research fellow in physiotherapy (*Maddocks*). *Harding* and *Koffman* were promoted.

We are committed to developing the next generation of research and academic leaders in Nursing & Midwifery and Palliative Care. Within FNSNM and CSI, in line with KCL's employment policies, responsibilities are outlined in a clear job plan, adjusted to individual skills, role and aspirations. Staff members have individual appraisal and development plans that are reviewed at least annually. According to need and discipline all staff access the KCL-wide Professional Development Programme, the Graduate School, the King's Learning Institute and KCL Information Services, which offer training for staff at all levels, including: Leadership and Management, Graduate Research Development Programme, PhD Supervision, Grant and Publication Writing, IT courses and Springboard Women's Development Programme.

**c.2 Early career development:** All our research teams comprise established researchers together with research fellows, associates and assistants. Early career colleagues are supported to apply

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for fellowships and project grants to facilitate their journeys to independence as researchers, as witnessed by the proportion of early career researchers (ECRs) returned as valued members of our disciplines (*Alexandrescu, Barley, Evans, Gao, Gomes, Lee, McCrae, Maddocks, Nicholson, Ohlsen, Patelerou, Selman, Taylor*).

The Researcher Development Unit (RDU) within the Graduate School provides centralised cross-disciplinary training to aid the development of postgraduate researchers and ECRs, in line with The Concordat to Support the Career Development of Researchers – reflected by the College's award of the European HR Excellence in Research Award in January 2012. It includes a Career Adviser, Royal Literary Fund Fellows, e-learning provision and mentoring. Over 300 free of charge workshops a year are provided by the RDU for KCL researchers. The RDU also hosts the Vitae London Hub (see <http://www.vitae.ac.uk>) and is shaping national policy on researcher development.

For all staff, our research strategies support coherent and sustainable research programmes, where teams aim to improve an area of care by advancing interventions and / or policy. Staff development programme activities include: departmental mentoring, seminars, workshops, evidence updates and journal clubs covering transferable and research specific skills (e.g. writing for publication, research governance and conduct, data analysis), debate about recent advances and feedback on protocols, conference presentations and papers. There are protected writing weeks and seed-corn funding is available for pilot work.

Staff and students actively participate in national and international networks, and are funded to attend the wide range of lectures, seminars and workshops available, both internal and external to King's. KCL offers individual coaching, with five trained coaches – most with a background in academic research, and grant development support from the NIHR Research Design Service. Senior PIs have a three month sabbatical every three years to advance their research programme, outputs, impact and national and international networks.

**c.3 Equality and diversity:** Equality of opportunity, and recognition and promotion of diversity, are integral to KCL's values. Consequently we have a diversity of skills, talents and experience within our community which is reflected in our academic and economic strengths. These core values are followed in all areas of work including: recruitment, grading posts, promotions, and appointments to positions of responsibility. KCL provides strategic programmes and networks to promote equality of opportunity and achievement, e.g. the *B-MEntor* scheme for Black and Minority Ethnic group staff and the *Career Break Fund* for academic staff returning from a career break (e.g. maternity, paternity and adoption leave).

Implementing Athena SWAN principles is a major priority. KCL holds Athena SWAN Bronze status and we are working towards attaining Silver. Staff in the FNSNM and the CSI are mostly women, including PIs who act as role models and mentors to inspire and guide others. Our environment demonstrates our commitment to valuing women: interview panels have appropriate membership, with emphasis on a family-friendly work environment (e.g. meetings / seminars times, flexi-working policies); we honour the women pioneers of our fields – e.g. Florence Nightingale, Cicely Saunders.

**c.4 Research students:** Research students become our future academic and clinical leaders. Accordingly, we support a career structure from pre-PhD, to post-doctoral, to ECR and onwards.

We attract high calibre candidates with strong academic track records, spot talent and actively nurture students who excel on our NIHR Masters in Clinical Research (Clinical MRes), MSc in Palliative Care (30-40 multi-professional graduates per year) and other programmes. These Masters programmes are designed specifically to develop and support preparation for PhD fellowships and studentships, as well as training participants in evidence-based practice. Clinical MRes, MSc and PhD students deepen their learning from formal lectures, seminars and workshops through firsthand experience within our established research teams, to develop insight into research processes. Currently, we have five NIHR Academic Clinical Fellowships (for doctors with clinical/academic training and preparation for PhD), supported by two new NIHR Clinical Lectureships, in palliative care and rehabilitation.

We match the supervisors' methodological expertise and field to students' interests at MRes and

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PhD level. Research students join as full members of our departments, with equal access to all academic staff development activities within FNSNM, CSI and the wider KCL research community. Every student is a member of the KCL Graduate School, which provides induction, transferable skills, PhD completion advice and onward career planning.

All PhD students have a minimum of two supervisors, one or both well practised in supervision, an independent higher degree co-ordinator and access to additional statistical and methodological expertise. Each PhD student develops an individualised learning programme, that builds on departmental and Graduate School training. Students can take up further research training at the King's Interdisciplinary Social Science Doctoral Training Centre, funded by the Economic and Social Research Council (ESRC). This provides learning opportunities on research methods from the broad interdisciplinary perspectives of health, humanities, social sciences and the arts. Our PhD students meet in monthly self-directed groups to exchange experiences, skills, challenges and solutions with their peers at different stages.

Progress is monitored six-monthly by reports to our respective Higher Degrees Committees, with an upgrade viva at nine months. A fellow from the Royal Literary Society provides additional advice to PhD students (and ECR) on thesis and academic writing.

During this REF period FNSNM has had or co-supervised 72 PhD or Doctorate in Health Care (DHC) students; of whom 35 have graduated from full or part-time study (25 PhD and 10 DHC). For CSI, nine PhD students have enrolled and graduated, all within four years full-time equivalent (several were part-time), a further 10 have enrolled and are at different stages. FNSNM academics contribute to the European Academy of Nursing Science and their summer school for PhD students from across Europe. CSI regularly hosts the 12 EUROImpact PhD fellows who attend our courses and undergo EC-funded Marie Curie Initial Training Network multidisciplinary training. HEFCE (2013) published data shows KCL has one of the highest PhD completion rates (91.6%) nationally, with 93% going straight into employment.

### d. Income, infrastructure and facilities

**d.1 Income:** Between 2008 and 2013, our research income has risen year on year for both disciplines. Despite the economic climate we have won major programmes to take us forward beyond 2013. Together we averaged £4.62 million per annum (see table 1). Excluding ECR staff, each PI averaged over £197,440 in 2012-13, with grants won from: the NIHR, ESRC, MRC, UK Government, European Commission (EC), US Government, and national and international charities, foundations and industries (see Fig.3).

Table 1: Research income in Nursing & Midwifery and Palliative Care

	Nursing & Midwifery	Palliative Care	Total	Total including NIHR Programme grant of Turner-Stokes (NHS)	Mean income/FTE <sup>†</sup> returned	Mean income/FTE <sup>†</sup> ^PI minus *ECRs
2008-9	£2,114,576	£1,510,393	£3,624,969	£3,709,128	£90,910	£128,789
2009-10	£2,009,342	£1,825,283	£3,834,625	£4,153,058	£101,791	£144,203
2010-11	£2,139,861	£1,967,290	£4,107,151	£4,420,986	£108,358	£153,506
2011-12	£2,706,118	£2,132,904	£4,839,022	£5,144,898	£126,100	£178,642
2012-13	£3,359,178	£1,921,368	£5,280,546	£5,686,280	£139,370	£197,440
<b>Totals</b>	<b>£12,329,075</b>	<b>£9,357,238</b>	<b>£21,686,313</b>	<b>£23,114,350</b>	<b>£566,528</b>	<b>£802,582</b>

Note: <sup>†</sup>FTE = Full time equivalent posts = 40.8; <sup>\*</sup>PI – Principal investigator and <sup>\*</sup>ECRs – Early career researchers

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Increasingly we have secured programmatic research support in line with our strategy to build knowledge, e.g. four NIHR programme grants on: (i) safety and conflict in mental health, (ii) transplantation and ethnicity, (iii) palliative care complexity and costing and (iv) rehabilitation costs and outcomes. These carry us beyond this REF period up to 2018.

Staff lead grants in their specialist areas and participate in consortium grants with colleagues across KCL, KHP, nationally and internationally, for example in the CLAHRC and BRC. This strategy has been highly successful across the research programmes including funding from the NIHR Policy Research Programmes for SCWRU and the NNRU. CSI led or co-led three European Commission (EC) awards, to establish a network and training fellowships as part of the European Palliative Care Research Collaborative. Because our fields are often underfunded we aim for a mixed economy of funding, with support from NIHR streams, EC, research councils and specific charities with open competition schemes.

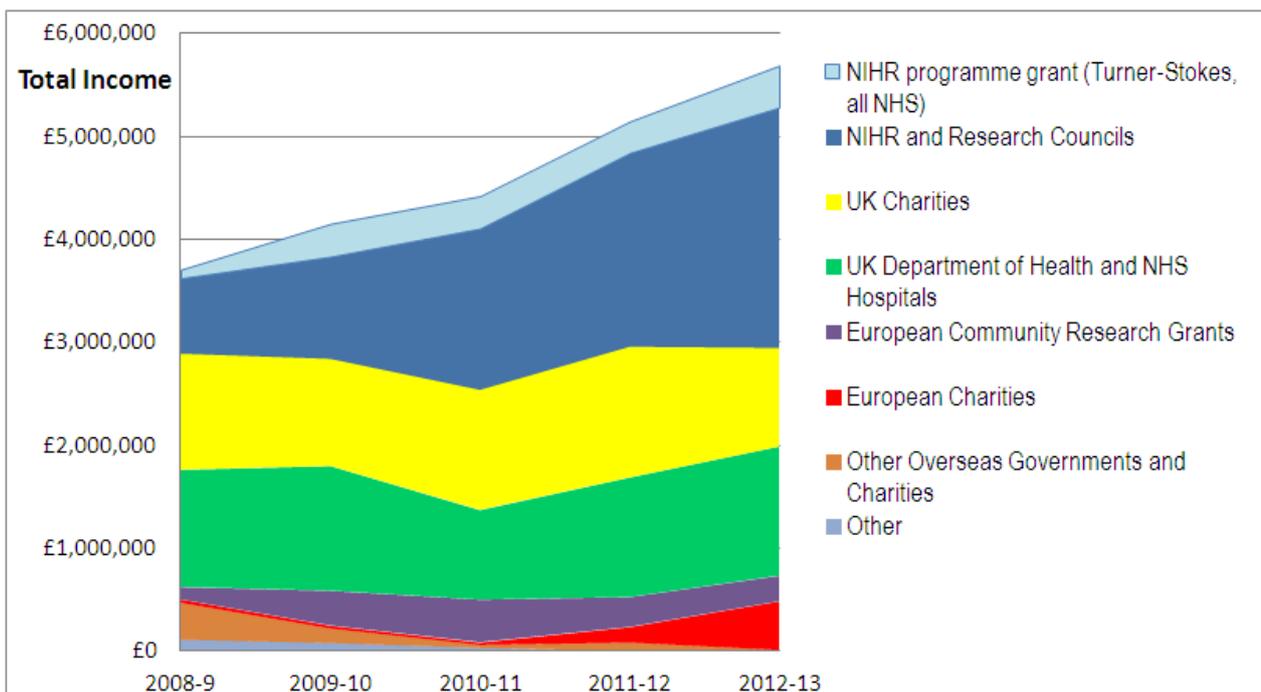


Fig 3. Trend in annual research income by type of funding body: Nursing & Midwifery and Palliative Care

### Notable grants won in this period include:

- PRISMA - Reflecting the Positive Diversities of European Priorities of Research and Measurement in End of Life Care, European Commission, total award £1,309,587, KCL (lead) component £528,000, 2008-11.
- MORECare - Methods Of Researching service delivery models for End of life Care: development of best practice, MRC/NIHR; £414,716, 2009-11.
- Exploring workforce effectiveness using routinely collected data including the development of outcome indicators and measures, NIHR Policy Research Programme, £2,200,000, 2007-12.
- Facilitating knowledge exchange between health care sectors, organisations and professions: studying 'boundary spanning' processes and their impact on health care quality, NIHR HSR, £234,834, 2010-12.
- Patients' experiences of care and the influence of staff motivation, affect and well-being, NIHR SDO. £474,000, 2008-2011

### Recently secured awards to take us forward include:

- Project BuildCARE - Building Capacity, Access, Rights and Empowerment, including capacity building, patient public engagement and international comparison. The Atlantic Philanthropies (via Ireland), £2,170,394, 2011-6;
- Project Dinamo - energising advanced training and research to optimise home palliative care services in Portugal, Calouste Gulbenkian Foundation, £513,153, 2012-5

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- OptCare - OPTimising palliative Care for older people in community settings; development and evaluation of a new short term integrated service, NIHR RfPB, £257,778, 2013-5
- C-CHANGE - Delivering quality and cost effective care across the range of complexity for those with advanced conditions in the last year of life, NIHR programme grant, £1,968,973, 2013-8;
- Understanding and improving the quality of end-of-life care patients with end-stage liver disease; a longitudinal study of symptoms and experience, NIHR, £303,786, 2012-4
- Evaluating a major innovation in hospital design: workforce implications and impact on patient and staff experiences of all single room hospital accommodation (before and after study design). EPSRC (Engineering and Physical Sciences Research Council) £293,000, 2009-2011 and NIHR SDO £374,000, 2012-2014
- Barriers to early presentation and diagnosis with breast cancer in black African, black Caribbean and white women. Cancer Research UK £205,363, 2011-2014
- Seclusion and psychiatric intensive care evaluation. NIHR HS&DR £352,610, 2013-14.
- Reducing conflict and containment in psychiatry. NIHR Programme Grant £1,452,491, 2010-2014.
- Models of safeguarding: a study comparing specialist and non-specialist safeguarding teams for adults, NIHR School for Social Care Research £615,585, 2012-14.
- Rebuilding lives: supporting formerly homeless people to achieve independent living, NIHR Policy Research Programme £215,523, 2013-14
- CRADLE: Community blood pressure monitoring in Rural Africa: Detection of underLying pre-Eclampsia, Bill and Melinda Gates Foundation £487,151, 2013-16.
- Optcare Neuro - Evaluation of the clinical and cost-effectiveness of Short-term Integrated Palliative Care Services to OPTimise CARE for people with advanced longterm Neurological conditions, NIHR HS&DR £1,219,845, 2014-17

We also have the continuation of our fellowships described in section C.

### **Benefits in Kind:** Major awards include:

- Over £10,000,000 capital funds to build the CSI, through partnership of KCL, Cicely Saunders International (registered charity 1087195) and local hospitals. Based on the scientific strategy and vision of CSI we won support from national and international peer reviewed sources, including the Wolfson, Weston and Rayne Foundations, charities including Macmillan Cancer Support, the Dinwoodie Settlement, the Atlantic Philanthropies and King's College Hospital and Guy's and St Thomas's Hospital charities, and the UK Department of Health.
- An NIHR programme grant of £2,106,136 for rehabilitation research at Northwick Park Hospital (PI: *Turner-Stokes*, underpinned by a formal memorandum of co-working between KCL and this hospital, included in Fig.3); an NIHR BRC PhD studentship on renal care.
- Five BRC Clinical MRes Fellowships per annum 2012-2017 equivalent to approximately £1,000,000 for salaries and fees. The Foundation of European Nurses in Diabetes (FEND) also provided a gift endowment of £500,000 for The Clinical Chair of Diabetes Nursing and two pre-doctoral fellowships.
- Sandall was co-PI and theme lead for the King's Patient Safety and Service Quality Research Centre (King's PSSQ, 2007-12). Based at King's College Hospital it was one of two nationally designated Patient Safety and Service Quality centres, funded by NIHR at £1,000,000 / year.

**d.2 Infrastructure:** King's Health Partners (KHP) facilitates access to large populations, with diverse cultures and backgrounds and our research outcomes are therefore often relevant at local, national and international levels. KHP aligns clinicians and researchers, aiding collaborations and innovation in clinical practice and service delivery and more rapid integration into clinical practice. The unrivalled access to the wide range of colleagues in disciplines across the arts, humanities, social and natural sciences provides us with the wide ranging perspectives required for our disciplines' research. KCL has invested in Good Manufacturing Practice (GMP) compliant clinical research facilities on all its hospital campuses, and is home to an NIHR approved Clinical Trials Unit.

In 2010 we opened the **Cicely Saunders Institute (CSI)** - our bespoke, three storey building, integrating patient and family support facilities, clinics, teaching facilities and the King's clinical and CSI research teams. We are the world's first purpose-built Institute for such work. The design team involved all relevant groups, including people affected by progressive or far advanced illness and

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students. This integration extends to a developing management team spanning academics, KHP's clinical team at Guy's and St Thomas' and the community and rehabilitation services at Northwick Park NHS Hospital. **Our dedicated NIHR supported research nurses** now based in CSI have enabled recruitment to palliative and supportive care portfolio studies to grow steadily so that by 2012-3 our region (SE London) has the highest patient recruitment rate to NIHR portfolio studies of 36 regions.

**d.3 Facilities:** In addition to KCL wide support, FNSNM and CSI have research offices to assist researchers at all stages from inception of their grant application to facilitating opportunities to create impact. They also direct researchers where necessary to relevant KCL wide facilities, including our NIHR clinical trials unit and NIHR South London Research Design Service. Our three NIHR Biomedical Research Centres assist with the translation of research into practice, and provide funding for fellowships to support clinicians' greater involvement in research.

Our library facilities at KCL are outstanding. Six libraries across our campuses house over 1.25 million books; thousands of electronic journals; >280,000 ebooks; >600 databases and other online resources, open to all staff with full wireless access on all sites and an encrypted Virtual Private Network, allowing the secure transmission of data over the internet. The Research Information System and institutional repository collects and stores our research outputs. Our Library Services support Open Access via the institutional repository, with advice on paid open access publishing and administration of a central open access publishing fund. Video conferencing enables global collaboration and partnership working. There is access to all the latest social media tools.

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

**e.1 Collaboration** stimulates and invigorates our researchers to create interventions and explore new perspectives that enrich our research activity, tests the rigour and quality of our outputs and helps us to achieve the best impact. For example:

**e.1.i Locally:** A vibrant, interactive community provides the basis for strong local NHS collaboration as part of KHP. The newly established South London Collaboration for Leadership in Applied Health Research and Care (CLAHRC) and the South London Academic Health Science Network (AHSN) bolster these highly effective partnerships. Participatory techniques allow us to co-produce research with patients, the public, clinicians and local policy makers. This supports our research outputs' relevance and integration and uptake into practice. Selected examples of local working across KHP, the South London Health Innovation and Education Cluster (HIEC), South London Academic Health Science Network (AHSN), the South London Cancer Alliance and public health providers include:

- re-design of head and neck cancer services using experience based co-design (EBCD);
- new services and care improvements for people with multiple sclerosis and Parkinson's plus syndromes;
- design and evaluation of diabetic eye screening clinics;
- addressing factors that delay women from black and minority ethnic groups from taking up breast screening opportunities; and
- a new tool for communication and psychosocial assessment in the Intensive Care Unit.

**e.1.ii Nationally:** Our collaborations span other universities, policy based institutions, health, social and voluntary care providers, individual charities and patient led organisations. Examples include:

- NIHR grant with the Universities of Edinburgh and Warwick, connecting emergency, primary and secondary cancer care to understand different patient trajectories and service use.
- The Social Care Workforce Research Unit strategic partnerships with London School of Economics, Manchester, York and Kent Universities and >20 collaborators from the voluntary sector with the research focusing on; Risk and Safeguarding particularly for older people, and Carer Support Practice Models.

**e.1.iii Our international partnerships and collaborations** span all continents and bring enormous synergies that enable us to contribute to global health. They encompass clinical, service delivery and methodological research. Examples include:

- Partnerships in palliative care with the Universities of Cape Town, KwaZulu, the Witwatersrand and Natal Nairobi, coupled with clinical sites and regional/national associations (e.g. African Palliative Care Association, Hospice Palliative Care Association of South Africa). Our research

## Environment template (REF5)

has underpinned the development of “Standards for Palliative Care for Sub-Saharan Africa”.

- Collaborations with the: World Health Organisation, Bill and Melinda Gates Foundation, Woodrow Wilson International Center for Scholars (WWICS) in Washington, D.C and Columbia University, USAID and UK Department for International Development, leading to radical reform of global maternal services in the African and Indian subcontinents with independent midwifery practice and new referral systems.

**e.1.iv Industry partners:** We lead the collaboration in the Wound Care for Epidemolysis Bullosa (WEB) project, between patients, clinicians, a fashion designer, materials engineers, industry, five universities and three NHS hospitals, which resulted in commercialised dressing retention garments (Skinnies-WEB™), promoting UK businesses, industry and wealth.

**e.2 Contribution to the discipline and research base**

**e.2.i Peer review and work with funding bodies,** for high impact, international journals in nursing, midwifery, medicine, and social sciences. Two PIs are editors-in-chief; *Norman* for the ‘International Journal of Nursing Studies’ and *Bick* for ‘Midwifery’. Most PIs are editorial board members or associate editors, are review panel members and / or peer reviewers for the range of NIHR funding streams, the UK research councils and numerous international funding agencies.

**e.2.ii National and international specialist societies and statutory groups.** All Principal Investigators and where appropriate ECRs and PhD students are mentored into taking active roles within relevant societies. Examples are: *Koffman*, then *Murtagh* chair of the Royal Society of Medicine Palliative Medicine Section, *Higginson* treasurer and executive for the Association for Palliative Medicine, *Turner-Stokes* Chair of Guideline Development Group for Low Awareness States. The Impact template provides further evidence of society and committee membership.

**e.2.iii Public communication.** The CSI hosts bi-annual knowledge exchange days open to local clinical teams, services and patient groups. All PIs have media training, most have made television and radio appearances or been interviewed by journalists from the national press, particularly the broadsheets, about their research. The CSI and the SCWRU run social blogs, media platforms, e.g. BMJ group (12/01/2012), NHS Islington (21/01/2010), Age UK.org (19/01/2012). Twitter (@CSI\_KCL ; @scwru ; @nursingpolicy) and Facebook ([facebook.com/CicelySaundersInstitute](https://www.facebook.com/CicelySaundersInstitute)) and a YouTube channel where we upload presentations, discussions and videos about our work ([www.youtube.com/user/CSIKCL](https://www.youtube.com/user/CSIKCL)). FNSNM publishes a widely read electronic newsletter Policy<sup>+</sup>. <http://tinyurl.com/717s975>

**e.2.iv Other selected markers of esteem and prizes:** *Cowley* was awarded DBE for services to Health Visiting (2013) and *Rafferty* awarded CBE for services to healthcare (2008). *Rafferty* and *Norman* are international fellows in the prestigious American Academy of Nursing. *Higginson* Fellow of the Academy of Medical Sciences (2013), OBE for services to medicine (2008), the American Association of Palliative Medicine award for Excellence in Scientific Research (2009), and the Floriani award (2012). *Higginson and Manthorpe* are NIHR Senior Investigators (since 2009). *Grocott* won The Guardian newspaper’s Best Research Impact Award 2013. *Maben* is cited as one of the top 100 most influential people in the NHS and one of the top twelve researchers in UK healthcare (Health Service Journal; 2013). *Harding* was honoured for his contribution to the palliative care evidence base in Africa (2013). Visiting Professorships are held in world class universities by the senior PIs. SCWRU is the highest ranked social care research unit internationally according to RAND 2013 ([http://www.rand.org/pubs/research\\_reports/RR318.html](http://www.rand.org/pubs/research_reports/RR318.html)). Our ECRs - *Selman*, *Gomes* and *Maddocks* -have each received the prestigious annual “Early Researcher Award” from the European Association of Palliative Care.

**In summary:** The dynamic multi-disciplinary environment of King’s College London allows us to develop and improve health care and service delivery through rigorous research, strengthened by collaboration with partners locally and globally, including patients and families, clinicians, policy makers and academic colleagues.