

Institution: University of Kent

Unit of Assessment: 2: Public Health, Health Services and Primary Care

1. Unit context and structure, research and impact strategy

The University of Kent's Centre for Health Services Studies (CHSS) is an applied health services and policy research centre with a well-established regional, national, and international profile. Its principal research strengths lie in primary and community care, health and social care systems, and health and wellbeing, particularly for young people. CHSS has achieved substantial growth over the REF2021 period. It contributed two staff and approximately £3 million in research funding to the University's Social Policy and Social Work REF2014 submission. It now includes 16.63 FTE (23 headcount) and over £7 million in funding in its own submission to REF2021.

Established in 1990, CHSS was based in the School of Social Policy and Social Science Research (SSPSSR) for most of the REF2021 period. Following an institutional restructure in 2019-20, it became part of the Division of Law, Social Science and Justice (LSSJ). It contributes to policy and social science in health research, and is well-situated alongside the Policy and Social Services Research Unit (PSSRU) and the Tizard Centre as one of the three designated research centres in LSSJ.

CHSS is a people-focused centre that takes pride in developing early career researchers (ECRs) and fostering new research. It has grown in size from less than 20 staff members to 43 (headcount), including 9 Professors (three clinical), one Reader, six Senior Research Fellows, four Research Fellows and 13 Research Assistants and Associates, supported by 10 research and professional services staff. Research income has trebled to a total of £7.8 million since 2014, with our research being funded by the National Institute for Health Research (NIHR), Medical Research Council (MRC), Economic and Social Research Council (ESRC), Department of Health and Social Care (DHSC), the European Commission (EU), the National Lottery Fund, and numerous charities, as well as local government and NHS organisations. CHSS supports the University's recently established Kent and Medway Medical School (KMMS) and regional NIHR research infrastructure through the new Kent, Surrey, and Sussex Applied Research Collaboration (ARC-KSS), the Clinical Research Network (CRN) for the region, and the Research Design Service South East (RDSSE).

Our approach is multi-disciplinary, bringing together academics and practitioners from a range of backgrounds and expertise. Examples include policy, organisation, and management (Cox, Bailey, Gadsby, Hashem, Lowery, Marchand, Peckham); public health (Forbes, Gadsby, Hotham, Kendall); health psychology (Hamilton-West, Hotham, Hulbert, Merritt); clinical trials and epidemiology (Coulton, Pellatt-Higgins, Rees-Roberts); health and social care economics (Beecham, Curtis, Saloniki); community nursing (Cox, Kendall, Wilson); clinical medicine (Butler, Farmer); statistics (Pellatt-Higgins); and primary and community care (Billings, Cox, Forbes, Kendall, MacInnes, Peckham, Wilson). This approach has facilitated cross-fertilisation of ideas and development of new skills and perspectives, which has contributed to CHSS as a pro-active centre of applied health services research (HSR).

CHSS undertakes methodologically rigorous applied health research with a focus on health systems, policy and community, primary, public health, and social care services. While developing core long-term research projects, CHSS has continued to conduct research that is responsive to research users and directly impacts policy and practice, with a strong emphasis on public engagement. To achieve this, we use a range of innovative methodological approaches, including mixed methods, realist evaluation and synthesis, in-depth qualitative methods, implementation science, and policy analysis, as well as more conventional evaluation and trials methods to understand whether and how health interventions and policy change can work in different contexts. We have key strengths in the co-production of research and public engagement with an established patient and public group supported by a dedicated public engagement officer.

CHSS is committed to an open research environment with policies to ensure publications are publicly accessible, and data are made available for sharing and reproducibility checking, with the appropriate information governance frameworks in place. Our future strategic goals include widening access to research through digital communications and social networking, by ensuring researchers are supported to engage with Open Access across all publishing platforms by drawing on project funding and the University's Open Access fund.

Research and impact strategy

Our overarching aim is to strengthen applied health services research within the University to provide a firm foundation for future research, and for the implementation of, and impact on, policy and practice, through key strategic collaborations with partners and networks, NIHR infrastructure (RDSSE, CRN, ARC-KSS), KMMS, and the public. To reach this aim our principal objectives have been to:

1. Develop three research clusters – Primary and Community Services; Health and Social Care Systems; and Starting Well – to grow applied research that has relevance and impact for policy and practice.
2. Develop wider national and international prominence: CHSS has established links with local, regional, national, and international research users, including NHS organisations, DHSC, clinical, public health and social care practitioners, the voluntary sector, and service users. Internationally, we have established collaborations in countries such as Australia, Brazil, Canada, and Ukraine.
3. Grow our research income: CHSS has recorded a total of £7.8 million in research income since REF2014, in contrast with £2.6 million in the REF2014 cycle.

Our research is closely aligned with national priorities and the new ARC-KSS. Directed by Peckham, ARC-KSS is a collaboration of 23 partners, including universities, NHS Trusts, and Local Authorities, stimulating the region's research capacity and delivery of high-quality research into the health and social care system. It is supported by £9 million of NIHR funding and £4.5 million in collaborator funding over the five-year programme (from October 2019). Key research themes in the ARC are Starting Well, Primary and Community Care, and Dementia, with cross-cutting themes of public health, co-production, digital innovation, and health and social care economics. ARC-KSS is also the national lead on social care research, building on existing collaborations and expertise within PSSRU and the Policy Research Unit for Commissioning (PRUComm). Led by Peckham, PRUComm is a collaboration with the London School of Hygiene and Tropical Medicine (LSHTM) and the University of Manchester, established at the University of Kent with the NIHR School for Social Care Research (a partnership of seven universities, of which Kent is a founding member). The RDSSE, a collaboration with the universities of Brighton and Surrey, and currently funded until 2023, has strong links with NHS organisations across the region. Hashem is the lead for RDSSE Kent. Forbes, Hotham, and Pellatt-Higgins all have advisory roles within the RDSSE.

Our strategic aim over the next five years is to continue towards our overarching aim. We will build on current success within our clusters to embed the impact of our work across health and social care systems and policy, nationally and internationally, and to generate a wider network of partners and greater income across all fields. Particular support for developing people and strong partnerships will be enhanced through the ARC-KSS, which fosters new collaborations nationally and between universities in the South-East and health and social care organisations. KMMS will also draw in new clinical-academic talent.

We will continue to enhance the above objectives through some stretch goals over the next five years:

1. Extend our national and international collaborations responsively and proactively to ensure that we maximise the reach of our impact.
2. Grow our public engagement and co-production activity through shared learning across our collaborations and investment in local and national partnerships.
3. Widen interdisciplinary research and innovation in alignment with the aims of the ARC-KSS

and the national priority of the Academic Health Science Network to implement research into service delivery. This will include a greater emphasis on how we collaborate with the Schools of Pharmacy and Psychology and the Kent Business School at Kent, alongside industry.

4. Respond flexibly to new and emerging opportunities beyond the current clusters, and that we are responsive to policy and practice need.
5. Develop the availability and use of large integrated datasets, such as the Kent Integrated Dataset, enabling us to undertake research that innovatively links data across health care, social care, other public services and the wider determinants of health to answer research, commissioning, and policy decisions.
6. Continue to appoint both senior and early career staff from across the range of disciplines relevant to health and care services, reflecting the needs of our communities and beneficiaries, and policy priorities.
7. Grow external income to support new and emerging research fields that will have direct impact on the changing NHS and social care landscape following the COVID-19 pandemic and the rapid expansion of digitalisation and virtual care.

These stretch goals will be pursued through our continuing proactive approach towards people, partnerships, and collaborations as described below, and will be supported by the Signature Research Themes established by the University in 2020. Hotham is a theme lead for Future Human theme, and Kendall and Eida (ECR) are involved with the Migration and Movement theme. These themes form part of our future strategy to enhance the visibility, impact, and dissemination of CHSS research through multi-disciplinary collaboration.

Research clusters

Our research clusters are defined by groups of projects and bodies of work, led by experts but enabling our core research staff to work fluidly across clusters, thereby gaining experience and development in more than one field.

1. Primary and Community Services

Research in this area has been integral to the mission of CHSS since its inception. This work has been led and implemented through the expertise of leaders in the field such as Billings, Kendall, Peckham, and Wilson, and CHSS has undertaken research on the organisation, commissioning, and role of primary care for the Department of Health and Social Care (DHSC) (Bailey, Forbes, Peckham). We also completed commissioned projects for NHS England on GP recruitment and retention, supporting the NHSE Five-Year Forward View, and on pay for performance in primary care (Marchand, Peckham), supporting the development of England's review of the Quality and Outcomes Framework (QOF), most recently evaluating the introduction of new quality improvement elements in QOF (Forbes, Peckham). Forbes and Peckham have also investigated the impact of 'working at scale' in general practice, showing that the evidence of effectiveness is limited and that it may diminish patient experience. Peckham's international work in Canada and other global contexts has been influential in policy development and implementation across health systems and primary care. For example, he has regularly provided advice to the College of Family Physicians of Canada and the Ontario Ministry of Health and Long-Term Care about primary care reform on group practices and networks, and on incentivised performance schemes. His research on UK primary care policy has contributed to debates on primary care reform in Canada, and, in turn, the insights gained from studying the policy challenges in Canada have informed CHSS's thinking on primary care policy, incentives and funding mechanisms, workforce and service planning. He regularly reviews grant applications for the Canadian Institute of Health Research and has served as a reviewer and commissioning panel member for the Irish Health Research Board. He holds an associate professorship in the Institute for Health Policy Management and Evaluation (IHPME), University of Toronto.

Bailey is examining skill-mix in general practice in a multi-centre NIHR-funded project where CHSS is leading the qualitative elements of the research. We have developed research in community palliative and innovative hospice services (OPEL: Butler, Cox, Wilson). In partnership with local

Clinical Commissioning Groups, CHSS launched the Kent Academic Primary Care Unit (KAPCU), led by Wilson, to support academic development for primary care staff and building research partnerships to strengthen our clinical links. CHSS is an organisational member of the European Forum for Primary Care (chaired by Kendall), engaging with primary health care issues across Europe through conferences and research collaboration. Three doctoral students are currently supervised in this cluster.

2. Health and Social Care Systems

CHSS research has focused on innovations and changes to the organisation and delivery of health care services at local, national, and international levels. We study how policy is developed and implemented, the implications of different modes of delivery, internal organisational processes, and collaboration for health and wellbeing outcomes for the public and patients. One significant area of research is on integrated care (led by Billings), with substantial involvement in EU-funded research. Billings led the Sustainable Tailored Integrated Care for Older People in Europe (SUSTAIN) project (2015-19), a 14-country collaborative project funded by Horizon 2020, with a total grant value of six million euros. This involved collaborating with European academic, health, and other health-related organisations, and was concerned with improving, evaluating, and sustaining existing community-based integrated care initiatives for older people living at home. At the end of 2019, of the 14 sites where the research took place, 11 had sustained and mainstreamed their integrated care initiatives.

Billings (with MacInnes) also led the case study research for the national evaluation of the New Models of Care (Vanguards), evaluating local service changes. Other research explores organisational issues related to new technologies in health care (Bailey); changes to the public health system after the Health and Social Care Act 2012 (Gadsby, Peckham); further development of the Adult Social Care Outcomes Toolkit (Saloniki); and using data to inform commissioning, planning, and policy (Farmer). Beecham and Curtis's work on unit costs in health and social care detailed in one of our impact case studies has had a significant impact on the way that health and social care delivery is costed and provided through commissioning. As key participants in PRUComm, Bailey and Peckham have contributed to commissioning and systems research working with DHSC and NHSE&I to inform policy and service development in integrated care systems and primary care.

Led by Farmer, the Small Business Research Initiative funded development of CareFlow Connect, a communications platform to promote integration of health and social care across organisations, which has been widely adopted in the NHS. We collaborated with UMotif, a digital technology company that develops patient-friendly software to facilitate participation in research. Farmer sits on the Shared Healthcare Analytics Board for Kent and Medway, which brings together NHS, local government, members of the public and industry to promote the use of data analytics to benefit health and health care. This cluster currently supports five PhD students.

3. Starting Well

Starting Well is a developing programme of work that encompasses the physical and mental health and wellbeing of children and adolescents. It embraces child, youth, and family public health and services, parenthood practices, and maternal health as it affects wellbeing in infancy and childhood. It aligns with the ARC-KSS Starting Well theme, with strong collaborative links across the region, nationally, and internationally. This cluster has developed since 2016, building on Coulton's work, and the subsequent appointment of Kendall, who has advanced research in relation to children and families. Coulton's research encompasses an epidemiological study of adolescents attending accident and emergency departments for alcohol-related problems, the development and evaluation of a screening tool, and a trial of a multi-component intervention (RISKIT-CJS) for young people with problem drinking involved in the criminal justice system. The body of work focusing on alcohol use in young people (ACCEPT, RISKIT, SIPS) is submitted as an impact case study, and demonstrates impact on policy, practice, and health behaviour. The research has been internationally influential. He is part of the core membership of the Optimising

Delivery of Healthcare Intervention (ODHIN) Trial, evaluating different approaches to the delivery of brief interventions for alcohol users across Europe. Collaborators were drawn from the UK, Netherlands, Poland, Spain, and Sweden. The project was designed to influence implementation and policy within the EU, and resulted in a number of publications in peer-review journals. In addition, he has ongoing collaborations with the University of North Carolina on the Appraise study and with the University of Sydney in the evaluation of health and psychological impacts of alcohol availability restrictions in the Northern territory of Australia.

Kendall's work on parenting, maternal and child health, and policy support for breastfeeding has resulted in national and international studies that span the UK, Australia, Kenya, Ukraine, and Europe. Her research has been highly impactful, contributing to the modernisation of the Healthy Child Programme in England, implementation of the Ages and Stages Questionnaire, policy analysis and recommendations on breastfeeding in the UK. Kendall was the PI on the Becoming Breastfeeding Friendly study in the UK, an international partnership co-funded by Yale University School of Public Health and Public Health departments in the UK to promote breastfeeding worldwide. Recommendations have been accepted by the Welsh and Scottish Governments, and in England the recommendations are being taken forward by Public Health England. Her research has contributed to studies on maternal cultural security in Western Australia and maternal health services in Ukraine, working with PSSRU, NGOs, and the Academy of Family Medicine in Ukraine.

Gadsby's work on school health (GO-Golborne) makes an important public health contribution in this area, and will be enhanced by CHSS collaborating with the University of Technology Sydney on the World Health Organization Health Behaviour of School Age Children Survey for the period 2020-24, with Professor Fiona Brooks appointed as an Honorary Professor in 2020.

Four research students are currently funded by the Commonwealth Fund, NIHR PCAF, ARC-KSS, and Kent Community Trust.

2. People

Staffing strategy

In line with our overarching aim and objectives, CHSS has attracted new academic staff and ECRs who bring fresh perspectives and complementary skillsets. This is reflected in our significantly increased numbers of Category A staff for REF2021 (16.63 FTE). We have recruited four new Professors since REF2014: Butler (end-of-life care); Farmer (acute and renal services); Kendall (public health and community health services); and Wilson (primary care), and made four new clinical appointments: Butler, Farmer, Forbes (public health), and Short (general practice). This has in turn led to appointments of ECRs from a range of disciplinary backgrounds, including health psychology, social policy, healthcare management, and health and social care economics. The outcome has been many successful multidisciplinary research applications that exploit complementary backgrounds, experience, and skillsets, resulting in a stronger international profile represented through EU and Global Challenges Research Fund (GCRF) grants, and partnerships across the EU with researchers and organisations, and outside of the EU in countries such as Australia, Brazil, Canada, Kenya, and Ukraine.

The CHSS Director (Peckham) is supported by a Senior Management Team (SMT) comprised of three Professors, a Reader, two Senior Research Fellows, the ARC programme manager, the RDSSE manager, and the centre manager. The SMT oversees CHSS strategy, including staffing, governance, finance and sustainability, marketing, and collaborations with SSPSSR, LSSJ, KMSS, and the wider University. Broader discussion with all staff to inform the SMT takes place in regular staff meetings. These include PhDs and visiting academics. The SMT prioritises succession planning and supporting career development: the current REF period has seen ten promotions – three to Professor (Billings, Forbes, Hamilton-West); two to Reader (Hamilton-West, Towers); and five to Senior Research Fellow (Bailey, Gadsby, Hashem, Hotham, Pellatt-Higgins). We also strongly support ECRs through our mentorship provision to develop experience and skills to enable promotion from Grade 6 to 7 and above: in 2018-19, there were five promotions.

As part of our future sustainability and succession planning strategy, CHSS will continue to extend opportunities through research training, mentorship, and effective internal line-management, maximising the opportunities for career development.

Staff development

CHSS is committed to the Researcher Development Framework. We have implemented a number of activities to support all our researchers in relation to knowledge and intellectual abilities, personal effectiveness, research governance and organisation, engagement, and influence and impact. CHSS has a vibrant staff development culture, offering regular research seminars and workshops, based on internal and external contributions. This includes the RDSSE development programme. Staff have access to monthly skills workshops on methods, systematic reviews, meta-analysis, and feasibility studies; dissemination, including writing techniques and enhancing visual dissemination; and collaborations, including working with public co-applicants.

Our mentorship scheme has enabled staff at all grades to draw on the experience of a mentor to support their development, and this has recently been extended across the ARC-KSS as good practice. Staff are encouraged to take part in wider engagement opportunities such as the community-based Pint of Science programme to enhance the public understanding of science.

CHSS leads regular events to which external speakers are invited. The CHSS annual lecture programme has included lectures from Professors Nick Black, Chris Ham, Trisha Greenhalgh, and Dr Arvind Madan, and, in 2019, Professor Chris Whitty, the Chief Medical Officer for England. We also hosted general election health hustings in 2015, 2017, and 2019, as well as an NHS at 70 panel event, an International Collaboration for Health Nursing Research conference, and the European Forum for Primary Care Symposium, all in 2018.

Our hosting of the Kent RDSSE and leading of the ARC-KSS have strengthened our focus on fostering and developing the knowledge and skills to secure NIHR funding, as well as other major grants from Research Councils and the EU, supported by the University's Research and Innovation Services. Working with RDSSE, colleagues have been involved in joint outreach and engagement activities across Kent, Surrey, and Sussex to encourage trusts and social care organisations to approach the service for support and to generate new research ideas and knowledge to develop grant applications.

Staff are encouraged to develop their grant-writing skills by becoming part of a research team and taking an active role in grant preparation. We actively encourage engagement with conferences and international events, as well as secondments and visiting scholarships supported by research income and the Divisional research and innovation team. University-wide staff development includes leadership and management training, as well as the income-focused Grants Factory programme that hosts workshops to develop skills and knowledge for writing grant applications, including how to cost a research proposal, research ethics, and GDPR.

Research students

Research students are full members of CHSS and encouraged to attend seminars, access a wide range of training opportunities, and involve themselves in teaching and other projects where there is added value for their studies. We recruit PhD students from a range of backgrounds, following a transparent, University-wide process of assessment of proposals and interviews. We have significantly increased our number of PhD students during this REF cycle, with 13 currently registered for PhDs. Eight students have completed their PhDs since 2014. Through both our staffing and our capacity development strategies, we plan to increase PhD student completions to 3-4 per annum. Divisional postgraduate services colleagues now provide administrative support, and the University Graduate and Researcher College offers induction and development for all research students.

CHSS funds two PhD scholarships per annum, and has also attracted PGRs funded by ESRC and Commonwealth Fund scholarships. We have recently recruited four new studentships per annum

as part of the ARC-KSS, a cohort that is encouraged to work as a community of practice with other PhD students across the ARC. We have developed good links with NHS organisations to facilitate part-time studentships for NHS-employed health professionals; for example, one PhD student and one PCAF student with Kent Community Health Foundation Trust, and three PhD students from East Kent University Hospital.

All our PGRs are supervised by a team of two or three to ensure a rounded, creative, and supportive experience, with mixed expertise and guaranteed continuity. The primary supervisor carries ultimate responsibility, and at least one member of the team must have qualified supervisor status. Supervisory teams meet at least once a month. Student progression meetings (induction, progression review after three terms, and end-of-year reviews) are chaired by an academic who is not part of the supervisory team, providing an objective overview of progress. Students and supervisors are required to submit written records of their monthly meetings to an online repository. Records of all stages and supervisions must be approved by the SSPSSR Director of Graduate Studies. If any cause for concern is raised, either by the student or by the supervisors, the supervisor and student have access to a framework of support to identify and resolve problems. Students are also encouraged to seek a mentor alongside supervision. In addition, SSPSSR offers core modules in research methodology, and the PG Certificate Methods of Social Research is free for all doctoral students. Students are required to present their work to a wider staff group, usually during the second year of study, at continuation seminars. These events are well supported by CHSS staff and students.

Equality and diversity

CHSS is committed to equal opportunities, and complies with Athena SWAN standards and the University HR Excellence Award. It has also supported staff to participate in the Aurora programme. All eligible staff have been included in our REF2021 submission, following the REF code for inclusivity, and appropriate account has been taken of special staff circumstances. During the REF preparation period, we invited all staff to submit their outputs and potential impact case studies. These were externally reviewed and discussed at CHSS and School level. The final selection of outputs and impact case studies was made in accordance with REF criteria and the University REF Code of Practice. A high proportion of Centre staff is female (37 out of 43 staff), and 19 of the 23 staff submitted to REF2021 are female. Six of the nine submitted Professors are female.

We have built on the University scheme to enhance our parental leave provision, and provide opportunities for flexible working (in terms of hours and remote working, especially during the COVID-19 pandemic). Staff requiring long-term sick-leave are well supported by Occupational Health and by the Centre management team to return to work in a phased capacity. Two submitted staff have had extended sick leave during the REF period, and two have taken maternity leave. CHSS aims to ensure that as many staff as possible have open-ended rather than short-term contracts, with a policy of providing open-ended contracts after a maximum of four years. Over the last five years, many of the staff originally on short-term contracts have been offered permanent contracts. Currently, 70% of the staff submitted to REF2021 are on open-ended contracts.

CHSS is mindful of the importance of EDI across all aspects of our work. Two members of staff are EDI champions and participate in Divisional and University processes. We have all participated in EDI and unconscious bias training, and are actively seeking to recruit further BAME staff.

3. Income, infrastructure and facilities

Research funding

CHSS secures income to support research from a wide range of sources, with particular emphasis on UK Research Councils, NIHR, EU, central and local government departments, and the voluntary organisations that use our work. The Centre has achieved a 66% increase in research funding since REF2014. This funding has come from a range of sources, including from NIHR and DHSC (£6.3 million), the European Commission (£567k), ESRC and MRC (£109k), as well as

charities such as the Health Foundation, British Lung Foundation, Cancer Research UK, the Stroke Association, and the Big Lottery Fund (£550,158). We have also secured £3.97 million in Innovation and Enterprise awards over the REF2021 period, the bulk of which is for the RDSSE and the ICAPs programme. The highest proportion of funding comes from UK Government and Health Service sources, reflecting the relevance of our research to health policy and practice, linking to our success in securing high-level impact. We have used external grants to support staffing and infrastructure in CHSS and to enable ECRs to develop as part of a research team, often supplemented by small internal grants and scholarships.

To meet our stretch goals, we plan to continue our expansion by developing our ability to raise resources from diverse funding bodies, including industry, and to participate actively in the growth of KMMS and the ARC-KSS. In line with our research development and capacity strategy to attract ECRs and senior researchers into CHSS in partnership with KMMS, we aim to double our research income over the next five years by working closely with our collaborators, widening our partnerships, and embracing new opportunities, alongside continuous professional development in grant capture.

Research support

Until 2020, CHSS was part of SSPSSR; since then, it has been part of the broader Division of Law, Society and Social Justice (LSSJ), comprising SSPSSR, Kent Law School, the Centre for Journalism, and three research centres. The Division includes two Co-Directors for Research and Innovation and a professional services team of 7.4f FTE, including a Research and Innovation Manager and a Research Centre Manager, shared with PSSRU. CHSS has enjoyed excellent research management support, providing services both pre- and post-award, from a core team of 4.4 FTE professional services staff, plus additional resource from project-specific support. We benefit from considerable expertise in research management, finance, general administration, dissemination (including website, social media, and newsletter production), and provision for doctoral students, who are also supported by the University's Graduate and Researcher College. From 2020, the streamlined Divisional Research and Innovation professional services team offers a more agile service to support CHSS as one of the three key research centres in the Division.

Staff can apply for seed funding through the University to pump-prime research projects; for example, the GCRF funding allocated to the University has led to several successful projects being undertaken by CHSS in low- and middle-income countries, including Ghana and Ukraine. CHSS staff have gained a number of Faculty of Social Sciences research awards for projects that have led to larger funded studies. For example, Bates and Hotham received public engagement awards that enabled the development of public engagement activity such as Pint of Science.

Impact is supported through our communications and public engagement strategy at both CHSS and institutional level. CHSS publishes a regular newsletter that is widely distributed in print and on-line, produces regular blogs and uses a Twitter account (@chss_kent) to promote research findings and commentary with over 1,000 followers. We are further supported by communications officers in the ARC-KSS, RDSSE, and Division, and by the University Media Office. We have established very good relationships with the Academic Health Science Network, Primary Care Networks, local government, and CCGs that enable the communication and implementation of our research.

Operational infrastructure

Additional pre- and post-award research support is provided by the University's Research and Innovation Services team and by the Research and Innovation team at Divisional level. Prior to the University reorganisation in 2019-20, the CHSS Centre Manager (Ludlow) worked closely with Research Services, offering expertise in research finance and contracting. She is now the Research and Innovation manager at Divisional level, where her team offers support for researchers in grant development and management.

Infrastructure and facilities

CHSS staff benefit from high-quality purpose-built and recently refurbished office space, with both individual and shared offices on the main Canterbury campus, close to the main, refurbished Templeman Library and Gulbenkian arts complex. Our staff have high-specification desktop and laptop computers, linked to the main University servers, with excellent availability of secure electronic storage space. Staff and research students have access to shared software such as Qualtrics, SPSS, and NVivo, as well as library access to a wide range of document databases and reference management systems such as Mendeley. CHSS has a license for GoToMeeting to enable virtual meetings and events. Since the COVID-19 pandemic, all staff have access to Microsoft Teams.

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

The research profile of CHSS has grown very significantly over this REF period, and the Centre has taken on a stronger leadership role in applied health research in the South-East. We have strengthened links with users of our research in the community, local government, NHS Trusts, general practices, the voluntary sector, and nationally, in the applied health research community and with policy-makers and opinion leaders. More widely, our research contributes to policy and service delivery and society internationally.

Research collaborations, networks, and partnerships

We nurture lasting links with the policy, statutory, community, and voluntary sector, as well as commissioning and service provider communities regionally and nationally, to develop both research capacity and collaborative research. At the regional level, CHSS has forged strong connections with NHS clinicians, commissioners, and managers, and with local government, supported through our leading role in RDSSE. We have secured research funding in collaboration with Kent County Council and Medway Unitary Authority, and local and national voluntary sector organisations such as Family Action Medway, Involve Kent, Porchlight, the Haemophilia Society, Cancer Research UK, and the British Lung Foundation. We collaborate through the ARC-KSS with the Brighton and Sussex Medical School, Canterbury Christ Church University, and the universities of Chichester, Greenwich, and Surrey, along with 17 other health and social care organisations. Our researchers have collaborations with LSHTM, UCL, King's College London, Glasgow University, Leeds University, and the universities of East Anglia, Hertfordshire, Newcastle, Nottingham, and Sheffield. CHSS also works closely with the NIHR Clinical Research Network (CRN) for Kent Surrey, and Sussex. Three members of CHSS staff (Forbes, Hashem, Wilson) have roles in the CRN, as public health and HSR leads, in which they promote research in their specialties at a local and national level.

At the national level, PRUComm was most recently awarded the contract in 2019 to carry out policy-relevant research in a programme agreed with NHS England and DHSC, building on the collaborations of the previous eight years of the DHSC-funded Policy Research Unit. *The Unit Costs of Health and Social Care*, produced annually in collaboration with PSSRU and based on extensive research by Beecham and Curtis, helps commissioners and providers understand the true cost of services. It is cited in most economic evaluations and supports policy development, and the DHSC has stated that it would not be possible to complete analyses such as National Institute for Health and Care Excellence (NICE) health economic evaluations and DHSC Impact Assessments to the same standard without a consistent source of unit costs. The methods are also adopted internationally – for example, in Austria, Canada, and Hong Kong. Kendall is a collaborator with the Child Health Policy Research Unit at UCL as an advisor to the board and research studies (Ages and Stages, Family Nurse Partnership, NIHR-funded), with direct policy influence on child health services such as the Healthy Child programme.

Internationally, there have been major advances in collaboration since REF2014. These growing partnerships and extending networks form a significant part of our growth strategy and of the future research collaborations within the University's Signature Research Themes and the post-Brexit research environment. Key examples include Farmer's international contribution to kidney

research, which has been invaluable to the global community. He leads the PREDICT study, which, in collaboration with the UK Renal Registry, King's College London, Toronto, and Stockholm, developed a clinical prediction tool to understand the progression of chronic kidney disease during pregnancy. He is part of the KDIGO Acute Kidney Disease research group, which aims to improve the global outcomes of kidney disease, and is Director of the Health in Europe Centre, attracting European grants. He is also a Board Member of the e-health Hub that works with 700 SMEs across Europe to develop health innovation and research.

Kendall is the Sir Walter Murdoch Distinguished International Scholar and Visiting Professor 2019-22 at Murdoch University, Western Australia. This work has involved an engagement with the Ngangk Yira Aboriginal Research Centre, where she has shared her research expertise in maternal and child health and parenting, resulting in an NHMRC-funded study and joint-authored publications that have been used by the Western Australia Department of Midwifery and parenting organisations in Western Australia such as Ngala to develop maternity practice in Aboriginal communities. Her measure of parenting self-efficacy (TOPSE), which has been translated into 15 languages, is used internationally by researchers and practitioners to measure change in parenting practice. Several GCRF small grants support maternal health studies in Ukraine.

Hashem's international profile has grown with established research consortia in the fields of public health and epidemiology, women and gender studies, and sociology and political science, including collaborations with post-Soviet bloc countries (Slovenia, Hungary, Poland), Western Europe (Austria, Belgium, Italy, Netherlands), and Brazil. Collaborations have included two grant applications in 2020, one submitted to H2020 under the PHE Coronavirus call, the other under the COST H2020 Framework.

Engagement with key research users, beneficiaries, and audiences

We have a particularly strong commitment to engaging with the public and with the local and regional clinical and professional community. Co-production and public engagement are key priorities for, and strengths of, CHSS, this aligning with the ARC theme of co-production. Since 2014, CHSS has employed a dedicated public engagement officer (Bates), who works with service users and community groups to promote their interest and involvement in research, and who provides tailored advice and guidance to CHSS researchers and students in research development and ways of engaging and involving service users in research, from reviewing recruitment strategies to the dissemination of results. Our work in this area was strengthened with the appointment of Wilson, an international expert on patient and public engagement in research and co-production. She is a member of the NIHR INVOLVE advisory board and Self-Management UK national advisory panel. She led the NIHR HS&DR-funded RAPPORT study, the first to evaluate the effects of public involvement in NIHR research across England. It has led to the strengthening of the embedded concept of public involvement in research. In 2017, CHSS established the Opening Doors to Research Group, with a membership of over 20 members of the public. Bates maintains a log of impact of public involvement and engagement on research, and records researcher feedback systematically to ensure authentic engagement of citizens and the wider understanding of co-productive research.

CHSS engages widely with other key beneficiaries of our research, including public health departments in Kent County Council and Medway Unitary Authority, as well as local voluntary sector organisations, and has secured collaborative research funding with these. For example, Forbes is PI on an NIHR-PHR study with KCC and Medway to examine the feasibility of building research capacity in local authorities.

As indicated above, collaboration through ARC-KSS enhances the benefit and impact of our research across 23 health and social care organisations. Our engagement with policy through the PRUComm and CPRU ensures that CHSS research both responds to and informs national and international policy priorities across DHSC, NHS England, Public Health England, Wales, and Scotland. Peckham was appointed to the Health and Social Committee Expert Panel.

Engagement with industry, led by Farmer, includes the University of Kent's participation in the

development of 'digital twin' technologies with the NHS and Pfizer UK. In 2020, CHSS led the University's Strength in Places Fund application with businesses and a range of Kent organisations to drive economic growth in the region. Farmer is a director of the Health and Europe Centre, which has been instrumental in securing large European grants.

Contribution to the sustainability of the discipline

Our strategy for developing research capacity has focused in particular on nurturing academic talent and developing capacity both inside and outside the University. The ARC-KSS NIHR Academy (led by Kendall) has developed a region-wide strategy for research capacity that includes all health and social care organisations, RDSSE, Health Education England (HEE) for KSS, and alignment of other schemes such as Research Champions at KCHFT and West Sussex Hospitals Trust with 70@70 nurses. This coordination is managed and monitored through the Organisation and Research Capacity Group (ORCA). CHSS has hosted the NIHR/HEE Integrated Clinical Academic Programme (ICAP) for three years, led by Hashem and MacInnes. This scheme supports clinicians to undertake supervised research training leading to development of a grant proposal, providing backfilling. Over this period, 31 clinicians have taken part, and this has led to one PhD, one NIHR/HEE Pre-doctoral Clinical Academic Fellowship (PCAF), two starting the HEE pre-doctoral Bridging Programme, and at least two achieving research funding.

KAPCU (led by Wilson), supports academic development for primary care staff. It has run a postgraduate certificate in research for GP academic fellows for two years, funded by HEE and a Clinical Commissioning Group: one completed in 2018-19, and two are on track to complete in 2021 (completion having been delayed by the COVID-19 pandemic). We have registered three GPs to take part from 2020. In addition, KAPCU has recently supported two GPs to achieve seed-funding from the Royal College of General Practitioners to participate in research projects: both have achieved peer-reviewed publications from this work. It runs a well-attended programme of CPD events for primary care staff; for example, a conference about primary care and mental health (keynote Claire Gerada) and a joint event with the European Forum for Primary Care in 2017.

CHSS has sponsored three Darzi Fellows through the HEE-KSS scheme. These have included: a health visitor who undertook transformational work with the Roma community in Kent, including a film that has over 2,000 views on YouTube; a gastroenterology specialist registrar who worked on a clinical alerting system to provide clinicians with information about deteriorating patients, funded by the Health Foundation; and an anaesthetics specialty registrar who carried out public engagement work in relation to digital health interventions, particularly for people living with dementia and reduced capacity to consent.

Support for interdisciplinary research

The disciplinary backgrounds of CHSS staff are diverse, including social policy, social research, primary and community nursing, medicine, health service management, allied health professions, health economics, public health, epidemiology, health psychology, statistics, and information science. Wilson and Hamilton West led research with pharmacy on stroke survivor medication. Staff from CHSS lead two of the University's Signature Research Themes – Future Human and Migration and Movement – as described above. These themes will contribute significantly to wider interdisciplinary collaboration and a lively research environment over the next five years. CHSS has hosted a number of visiting scholars from Australia, Brazil, Norway, Spain, and Ukraine, both learning from and contributing to interdisciplinary research.

Fellowships and awards

During the REF2021 period, CHSS staff have been recognised by peers and national and international organisations through various fellowships and awards. Hotham and Merritt were awarded the 2018 Silver Medal by the European Society for Person-Centred Healthcare. Kendall received an MBE citation in 2018 for her contribution to research and nursing 2018, and the Sir Walter Murdoch Distinguished Visiting Scholar Award, Murdoch University, Western Australia, 2019-22. Peckham won the NIHR Senior Investigator Award 2020, as well as the University of Kent Annual Research Award 2019.

Keynotes and invited presentations

CHSS staff have been invited to give multiple keynote papers nationally and internationally during the REF2021 period. These are not restricted to the most senior staff. We support all staff to develop and engage in opportunities to disseminate their work across academic and professional settings. Examples within each research cluster are set out below.

1. Primary and Community Services

Billings was invited to speak at the EU Horizon 2020 SUSTAIN project conference in Brussels in 2019. Peckham presented on the primary care workforce at the European Public Health Association, Ljubljana, 2018, and was Chair and speaker at the Inside Government conference on Primary Care Co-commissioning, London, 2015. He has been invited to deliver several plenary sessions and workshops at international conferences based on his research on primary care, including the International Conference on Public Policy, 2019, and the University of British Columbia Centre for Health Services and Policy Research conference, 2017. Other invited presentations in this cluster include: 'Hospice at Home, Evidence and Research', Oxford CCG conference, 2018 (Butler); 'Revising the information for the NHS Breast Screening Programme', Norwegian Breast Screening Conference, Oslo, 2015 (Forbes); 'Long Term Conditions Training for PWPs and Counsellors', Health Education England IAPT Education and Training Expert Reference Group, London, 2018 (Hamilton-West); 'Behaviour Change Techniques', Haemophilia Physiotherapy UK Society annual conference, Birmingham, 2019 (Hotham); 'Sustainable, Tailored Integrated Care for Older People in Europe (SUSTAIN)', European Social Network, Paris, 2019 (MacInnes); and 'The patient experience of breast cancer during the COVID-19 pandemic: Implications for integrated primary care', WONCA, Berlin, 2020 (Kendall).

2. Health and Social Care Systems

Gadsby was invited to speak at a roundtable on the role of hospitals in integrating care for older people at the 27th European Association of Hospital Managers Congress, Portugal, 2015, and on whole systems approaches to health and weight at the Fuse Centre for Translational Research in Public Health, Newcastle, 2015. Merritt was invited to present on using social marketing to achieve sustainable behaviour change at the National Conference on Noncommunicable Diseases in Kiev, Ukraine, 2019. Peckham was plenary speaker at the OHBC Conference, Montreal, 2019, the International Health Promoting Hospitals and Health Systems conference, Bologna, 2018 and the University of British Columbia Centre for Health Services and Policy Research conference, Vancouver, 2017. Towers has been invited to present many papers on social care; for example, at the NIHR School for Social Care Research Annual Conference, London, 2018, and the Arts Health Institute, New South Wales, 2016. Saloniki was invited to speak on the relationship between impairment and disability using the UK Life Opportunities Survey at Cornell University, 2018.

3. Starting Well

Coulton has delivered a number of invited keynotes over the REF2021 period, including: 'Are Brief Interventions Actually Effective?', Masterclass on Alcohol Research, Hull, UK; 'Who Needs Brief Interventions?', INEBRIA, New York; and 'Improving the Efficiency of Interventions for Alcohol Users in Primary Care: An Evaluation of Stepped Care Approaches', London. Kendall's work on maternal and child health is illustrated by keynotes such as 'Becoming Breastfeeding Friendly: A Salutogenic Approach', Health Department, Western Australia, 2019; 'Becoming Breastfeeding Friendly', All Party Parliamentary Group on Infant Feeding and Inequality, 2018, chaired by Alison Thewliss MP.

Wilson's reputation in the field of patient and public involvement in research crosses all three research clusters, and includes invited presentations such as 'Patient Engagement in Health Research, McMaster University, Ontario, Canada; and 'Working with Consumers and Stakeholders to Develop the Evidence Base and Knowledge Translation for Health Improvement: Methodologies and Approaches', International Collaboration for Community Health Nursing Research Conference, Seoul, South Korea, 2015.

Editorships and refereeing

Kendall is Editor-in-Chief and Wilson is on the Editorial Board of the journal *Primary Health Care Research and Development*. Billings and Merritt are on the Editorial Boards of the *Journal of Integrated Case* and *Social Marketing Quarterly*, respectively. Our staff also review regularly for numerous peer-reviewed journals, including the *Lancet*, *British Medical Journal*, *British Journal of General Practice*, *British Journal of Cancer*, *Journal of Epidemiology and Community Health*, *PLOS One*, *Social Science and Medicine*, *BMC Nursing* and *BMC Health Services Research*. We encourage and support the transition from reviewing to editorial board membership.

Our staff also review applications for funding for a range of organisations, nationally and internationally, including NIHR, the Wellcome Trust, ESRC, the Norwegian Research Council, the New Zealand Research Council, Canadian Institutes for Health Research, the German Research Council, the Irish Health Research Board, the Belgian SBO Research Programme, the EU Horizon 2020 programme, and a range of charities, including the Big Lottery, Arthritis Research UK, Dunhill Medical Trust, Tenovus, the British Lung Foundation, the Carnegie Trust, and the Parkinson's Disease Society.

Contributions to professional organisations and networks

Our staff contribute to a range of professional organisations and networks. Bailey is on the Executive Committee (Secretary) for the Society for Studies in Healthcare Organisation. Billings was an EU Advisor for European Social Network activity on evidence in integrated care (2012-15), a committee member for the Network of European Foundations: TransForm project: Integrated Care (2017-20), and a Public Health England committee member for the National Integrated Care evaluation group (2014-15). Kendall is Chair of the European Forum for Primary Care (2018-21), a Trustee for the Institute of Health Visiting (2014-20), and Co-Convenor of the International Collaboration for Community Health Nursing Research (2000-present). Peckham is a member of the Health Politics and Policy organising committee (2001-present). Wilson is Trustee and former co-convenor of the International Collaboration for Community Health Nursing Research.