



## ACADEMIC HEALTH SCIENCE CENTRES

### FULL STAGE APPLICATION

**Note:** The accompanying “*Academic Health Science Centres – Full Application Guidance*” contains essential guidance on the information you need to provide when completing this proforma.

Please adhere to the page limits stated within each box. Only information submitted up to this page limit can be assessed. Please do not alter the margins of this proforma.

Please note this form should be completed in font no smaller than 10-point Arial.

All fields must be completed.

Please insert your unique Reference Number into the Footer space provided.

#### 1. DETAILS OF THE PROPOSED ACADEMIC HEALTH SCIENCE CENTRE (AHSC)

**Name of the English NHS Provider/University Partnership:**

King's Health Partners Academic Health Sciences Centre

**Name, email and telephone number of the Lead Contact for the proposed AHSC:**

**Note: This will be the contact for all correspondence relating to this application.**

Professor Sir Robert Lechler

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**Please list the members of the partnership involved in the proposed AHSC, including names of NHS Provider(s) and university(ies) involved:**

King's College London (KCL)

South London and Maudsley NHS Foundation Trust (SLaM)

King's College Hospital NHS Foundation Trust (KCH)

Guy's and St Thomas' NHS Foundation Trust (GStT)

## 2. ABSTRACT (250 words)

### In plain English, present the specific aims, goals and objectives of the proposed AHSC.

King's Health Partners (KHP) was established by its founding partners five years ago, unified by a common purpose "to improve health and well-being, locally and globally". The collective weight of the partners has been applied to this challenge; comprising a leading university, in the world's top 20 (King's College London, KCL), two large and highly successful NHS acute Foundation Trusts (Guy's and St Thomas', GStT and King's College Hospital, KCH), and the UK's premier mental health Foundation Trust (South London and Maudsley, SLaM), who together represent a £2.8bn partnership, with 31,000 staff and 25,000 students and 3.6m patient contacts annually.

We have pursued three ambitious overarching goals:

**Goal 1** - To improve clinical quality and health outcomes, informed by excellent research and education (**greater tripartite integration** supported by the development of an Academic Healthcare Organisation)

**Goal 2** - To **integrate mental and physical healthcare**, in order to provide comprehensive care for all our patients, supported by integrated research and education programmes

**Goal 3** - To build a **sustainable health system**, able to meet the needs of our ethnically diverse and deprived local population (having global applicability)

This is an ambitious mission. Already, in only five years as an Academic Health Sciences Centre, we have made considerable progress across the tripartite agenda, we have established strong foundations, both through investment in an impressive infrastructure and through culture change across KHP, through our collaborative ventures and wider partnerships. We are confident of accelerated progress in this next stage of our journey.

## 3. STRATEGY (4 pages)

### Please provide the strategy for how the alignment of strategic objectives will continue to improve health and healthcare delivery including:

- A restatement of the partnership's goals, vision and purpose;
- Specific overall short (1-2 years), medium (2-3 years) and long-term (4-5 years) objectives for the AHSC;
- A summary of the partnership's top six specific themes or work programmes of focus and how they fit into the overall strategy and goals of the proposed AHSC;
- An outline of the expected specific deliverables of the AHSC over the 5 years of designation that could not be achieved through another type of partnership;
- How success of the proposed AHSC will be evaluated, including success against specified objectives and deliverables;
- Evidence that the partnership has a strong clinical informatics platform to underpin the delivery of the proposed AHSC objectives;
- How the partnership will further align NHS provider and university strategic objectives in order to harness and integrate world-class research, excellence in health education, and excellence in patient care over the 5 years of designation. How this will lead to improved health and healthcare delivery, including through increased translation of discoveries from basic science into benefits for patients.

### Development to date: building the infrastructure

#### Tripartite integration

To pursue the AHSC "tripartite mission" we developed our unique Clinical Academic Group (CAG) model, embracing each and every clinical service across all partner Trusts, as well as the majority of KCL's health schools, divisions and departments. CAGs bring together education and training, research, and clinical services, into integrated delivery units whose performance is judged against metrics spanning the tripartite agenda. This enables translation of research findings more rapidly into clinical delivery for patient benefit, and facilitates development of a workforce adequately trained, with up to date knowledge of their specialism, and the ability to work flexibly in new roles and settings.

We have overseen substantial research investment over the past few years; creating world-class facilities on our major campuses (section 8 and theme 3). The addition of a new research infrastructure award to support implementation science capability - the NIHR's Collaboration for Leadership in Applied Health Research and Care (CLAHRC), and our own King's Improvement Science (KIS) - gives us the ability to exploit expertise and capability along the entire research pathway.

We have considerably strengthened and integrated educational capacity across all student and professional groups, with the creation of the KHP Education Academy. This has seen investment in on-line / web-based programmes and simulation facilities, providing flexible educational resources to support busy professionals.

To support delivery against goals and specific objectives, we have developed an effective performance and governance structure (**Figure 3**), which includes the Partners' Board (providing oversight), the Performance Council (monitoring progress against the tripartite agenda), and the CAGs (delivery units). This approach has enabled each of the CAGs to become established entities recognised as important structures within the local health economy, having their own internal governance mechanisms, with agreed tripartite strategies.

**Key outputs to date include:**

- Marked enhancement of research infrastructure: £112m awarded by NIHR to support two Biomedical Research Centres (one in mental Health) and a Biomedical Research Facility in dementia; opening of two additional Clinical Research Facilities (one designed with mental health in mind), both with GMP facilities; Quintiles Phase I facility created immediately adjacent to one of our CRFs;
- Accommodation of the technology Strategy Board's Cell Therapy Catapult Centre (£50m investment) at Guy's campus;
- Recruitment of a cadre of internationally renowned basic and clinician scientists including Fiona Watt FRS (stem cells), Karen Steele FRS (genetics of deafness), Randy Noelle (WT Principal Research Fellow in Immunology), David Edwards (MRC-Funded Centre for the Developing Brain), Oscar Marin (Developmental Neurobiology);
- Clinical academic titles awarded to 50 NHS Consultants , including 31 Professorships, on the basis of their scholarship;
- Establishment and funding of King's Improvement Science
- Establishment of King's centre for Global Health
- Substantial increase in clinical trial activity: steady increase in numbers of patients recruited into clinical trials across KHP (20% increase in past 12 months); NIHR portfolio studies in clinical areas with no previous record of trials (e.g. critical care and anaesthetics); exciting pipeline of first in man Phase I/II trials involving home grown biologics, cells and small molecules;
- £163m joint capital investment across the partnership to deliver the new Integrated Cancer Centre enabling service critical mass and research productivity.

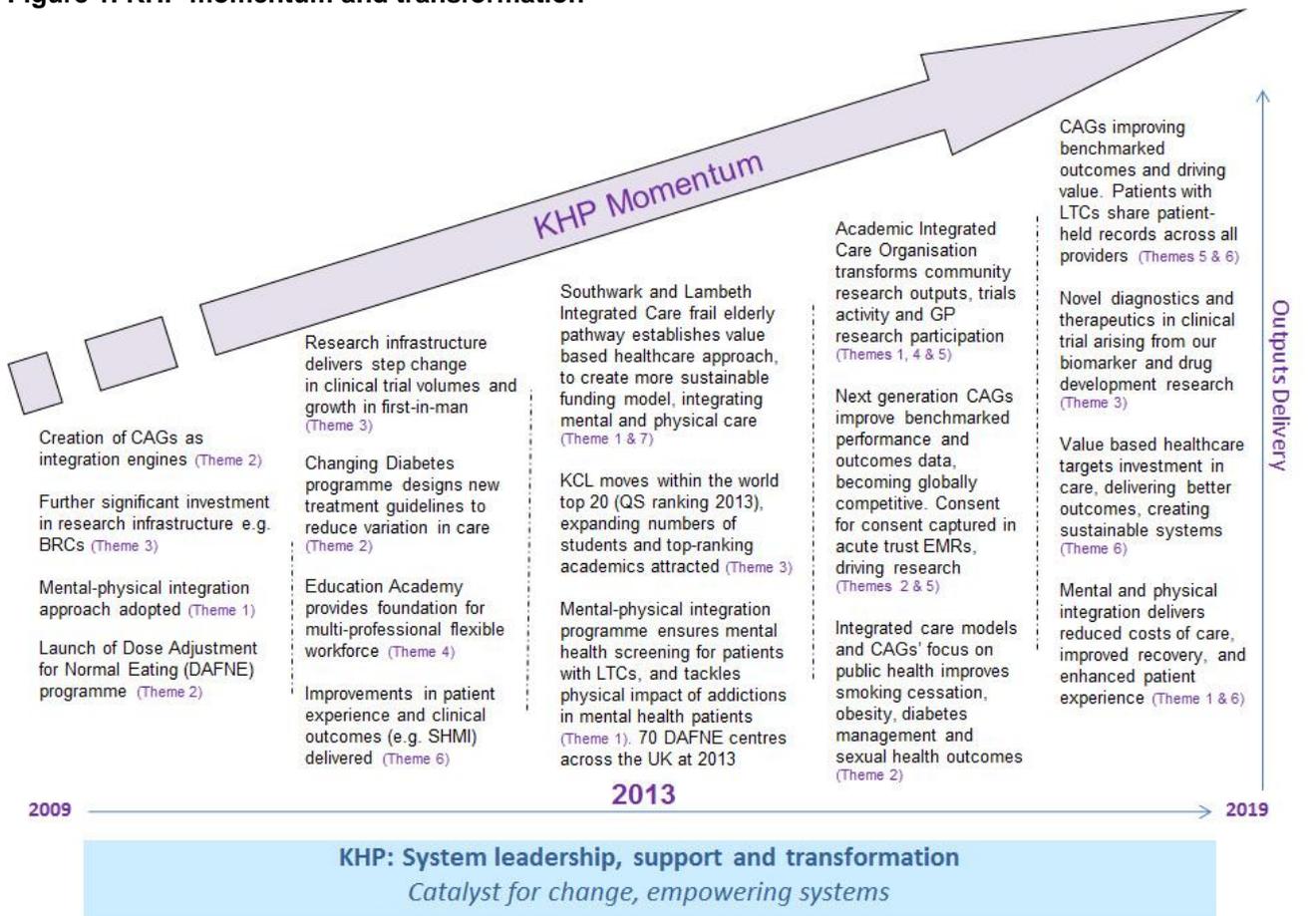
**A sustainable health system**

We must deliver against our ambitions in the context of falling investment, increasing demand and rising costs of healthcare; a pattern repeated across international healthcare systems. However, our value-based healthcare approach allows us to consider **financial sustainability of healthcare systems in the future**, through driving value underpinned by new funding models, piloted in partnership with local commissioners. By taking an academically-led, values driven approach, we believe that we can create a sustainable local healthcare delivery system, providing an effective model for translation to health economies globally. We have emerging credibility, as KHP is acquiring an impressive track record in leadership of local transformative initiatives, including the Integrated Care Programme, the South London Academic Health Science Network, and more recently the provision of a strategic vision and ambitious future for the Princess Royal University Hospital (through acquisition by KCH) following the Trust Special Administrator's (failing hospital) process in south east London.

**Forward strategy**

All Partners are committed to the pursuit of the three overarching goals set out above. The progress we have made to date, and learning we have gained, continues to shape our plans for the next five years. As we seek to deliver more in the challenging health and academic environments, we will reappraise and develop our goals and ambitions.

**Figure 1. KHP momentum and transformation**



**Goal One - Improving quality and outcomes through tripartite integration**

KHP created CAGs in 2009 to forge much closer integration of clinical and academic staff and activities, in order to improve health outcomes. Whereas we are proud of the inclusive nature of our AHSC partnership (embracing all clinical areas) we recognise that we have “peaks” (with both clinical and academic excellence) in a smaller number of areas. We are driving these **key specialties (theme two)** to even greater performance against international standards, supporting these CAGs with more investment, and rewarding performance with greater autonomy.

The foundations we are building in **basic science and experimental medicine (theme three)** will provide a wealth of primary research, which we will translate across the breadth of our clinical services, using the CAGs as a delivery vehicle. With KHP being a key partner in the Francis Crick Institute, our human biology expertise will be hugely strengthened, as will our ability to attract even more world-class scientists and clinical academics. We currently host one of only four Wellcome Centres for BioMedical Engineering, with a grant of £11m. In 2012 we transferred a team of 50 staff and a €15m grant for the Centre for the Developing Brain. In 2011 we were awarded €30m to host Autism research for Europe. We lead the largest consortium in the world seeking novel treatment targets and biomarkers for Autism, we are now taking this into our clinics to determine if we can use brain functional response to pharmacologic challenge as a biomarker to predict treatment outcome and so develop (for the first time) personalised medicine approaches in complex neurodevelopmental disorders. It is the engagement and infrastructure across KHP that makes this possible. In 2012, we were delighted to appoint Prof Fiona Watt to lead our Centre for Stem Cells and Regenerative Medicine. The Centre co-ordinates existing stem cell research across KHP and supports collaboration between our scientists and clinicians to translate the potential of stem cells into clinical reality for patients.

Our **education and training (theme four)** programmes and capability will be brought to bear in shaping a **skilled workforce**, giving staff the ability to work across new roles and in new settings, more often away from traditional hospital-based care. Our close relationship with the LETB (health education commissioners) in South London (linked to the AHSN through a shared membership council) means that education commissioning in our wider geography explicitly supports our strategic objectives and priority areas

As we develop CAGs and education and research infrastructure and performance, we will also endeavour to drive greater academic integration in all aspects of our governance. This will be achieved through driving “scholarship” in all supporting and corporate departments across KHP (with staff seeking out and applying

best practice, to innovate in their work practices, and to evaluate innovations and new ideas; publishing these where appropriate), and secondly in testing options for a new organisational form including establishing a single Academic Foundation Trust.

### **Goal Two – mental and physical integration (across the tripartite mission)**

In all aspects of the tripartite mission (research, education and clinical care) we will be focusing on **mental healthcare as well as physical disease (theme one)**. Our philosophy for optimising clinical care is to ensure KHP professional staff can recognise all aspects of an individual's health needs, and ensure that these are equally attended to in a seamless manner. Our research will explore the interactions between mental and physical disease, and will focus on the economic benefits of integrated mental and physical care. Patients with physical illness and long-term conditions frequently have associated mental health morbidity, and patients with mental illness have reduced life expectancy and poor physical health. KHP aims to treat all patients holistically, meeting all their needs. To do this effectively we need to ensure training and referral patterns support integrated care (e.g. basic screening and interventions delivered, with clear referral pathways), and that commissioning models and funding flows support integrated care.

### **Goal Three - Building a sustainable healthcare system**

**Value Based Healthcare (theme six)**; our approach and philosophy is being increasingly driven by patient-facing outcome measures and cost effectiveness (as demonstrated by the value equation). We will build on current pilot projects, embed a value approach in our CAG scorecards, and ensure that published outcomes data provides transparent information about patient benefit and costs. Not only will this approach ensure continued success of the KHP partner organisations, but will help to develop whole system sustainability within our local health economies, as we seek to measure cost and outcomes across entire patient pathways. KHP will continue to work closely with local partners in spearheading innovative new forms of academically-driven healthcare. This will include exploring models for an Academic Integrated Care Organisation in Southwark and Lambeth. KHP will be complemented by an effective south London AHSN, which has linked governance and shared strategic priorities. The AHSN will be an important "implementation arm" for the AHSC, ensuring that a wider population benefits from the innovation and excellence of the AHSC. The launch of our Urban Public Health Collaborative will add strength and pace to our work with patients and local stakeholders in designing complex interventions to tackle critical public health issues, such as childhood obesity and alcohol.

**Informatics (theme five)** is a critical underpinning platform across all domains of the tripartite mission. We will build on our success and national leadership role in accessible patient records and key research ICT systems. For the next five years we will create a step-change in the quality and safety of care within KHP by making electronic patient information available between all partner Trusts, and build on the mental health success to make all acute care electronic records available for research in an anonymised format, supported by the "consent for consent" model for patient engagement in trials and research. We are delighted to confirm the appointment of Prof Tim Hubbard, of the Wellcome Trust Sanger Institute, as KHP Director of Bio Informatics, (working alongside Prof Simon Lovestone, Oxford and KHP maximising the synergies between clinical informatics at KHP and the Big Data centre at Oxford as exemplified in the UK Dementia Platform with plans to link UK BioBank to national mental health records through CRIS, for example). Prof Hubbard will fulfil this role whilst also acting as Head of Bioinformatics for Genomics England.

We will further national and international collaborations, where these support the core strategic objectives of KHP, and will create innovative new partnerships with commercial partners where the organisations' aims and ambitions are aligned. We will contribute strongly to the promotion of London as a "life sciences city" working closely with neighbouring AHSCs/Ns and the London Mayor's office (Med City Initiative). KHP's strong reputation and our innovative approach to the AHSC model attracts many visitors from aspiring AHSCs in the UK and overseas, who are keen to learn from our experience. We are leading a number of major collaborative projects with other UK AHSCs, notably with Imperial and UCLP to promote London as an international Life Sciences Centre, and a recent joint MRC bid in Informatics. We have built up **close relationships with established international centres**, including Johns Hopkins (the international "prototype" AHSC) and the University of California, San Francisco (UCSF), with shared learning spanning academic developments as well as organisational development. New educational and research programmes are being developed to provide support to communities and institutions around the world, through our King's Global Health Programme.

**Figure 2. Five year Objectives and deliverables**

| Theme  | Achievements to date  | Yr 1-2   | Yr 2 -3   | Yr 4-5   |
|--|---|--|---|--|
| <b>Transforming Mental &amp; Physical Health</b>     | Programme launched to support common mental health conditions and causes of poor physical health.   | All long term conditions clinics supported by psychological assessment, outcomes metrics in place and impact evaluated.  | New models of care for physical health of patients with severe mental illness. Medical liaison in place for severe mental illness.  | New integrated commissioning models for mental-physical health in place. Improved physical health outcomes for mental health patients.                                       |
| <b>Excellence through Key Specialties</b>            | RAE performance in HCP and clinical research volume, significant step change in, recruitment to trials and income per head of staff.  | Finalising of 7 key specialties vision and goals. Developing next generation CAGs in world-class specialty areas.  | Delivering improved tertiary care and research participation as a result of CAG development and academic and service consolidation.                                       | Improved performance against key international metrics for health outcomes, research and education.  |
| <b>Basic Science &amp; Experimental Medicine</b>     | Substantial research infrastructure commitment and investment has transformed our stem cell, basic science and first in man pipeline.   | Basic Science Hub – flagship research centre with impact across physical, biological and clinical disciplines.   | Strategic partner in Crick Institute opening 2015 delivering international class research and academic recruitment. Cell therapy unit launches human islet isolation lab. | Core Facilities – mature capital and growth programme enables novel diagnostics and therapeutics in clinical trial arising from our biomarker and drug development research. |
| <b>Transforming through Education &amp; Training</b> | Education Academy launched, KHP designated lead-provider of education and training. Launch of e-learning across all specialties. BRC training across School of Translational and Experimental Medicine. | Further widen access to healthcare careers including apprenticeships and links to local schools. Develop multiprofessional education programmes e.g. MScs led by CAGs. | Multidisciplinary PhD Training Centre – learning from evaluation of 2012 launch of 4 year Masters in research and PhD programmes.   | Established E&T pathways for all students, trainees and staff, including leadership, careers management. KHP emerges as a national leader.                                   |
| <b>Transforming through Informatics</b>              | Anonymised EMR data available for research (CRIS), MyHealthLocker (patient held records) commended.   | KHP Online launched to link all trust EMRs. Roll out of Interactive Research capability for acute specialties.   | Launch of MyHealthLocker for adults with learning disabilities and all children's services.   | Integrated software allows full view of patient record across primary, secondary and mental health care. Plus patient interaction, improving care, research and education.   |
| <b>Value Based Health Care</b>                       | Embedding culture of VBHC. IT developed to display outcomes across KHP. Health Foundation funded project.   | Publication of 21 CAG Outcome Books based on scorecards astest models for new ways of working.   | VBHC performance management introduced with outcomes and costs transparent.   | KHP is a value-driven organisation performing against international benchmarks.  |

**Delivery & Evaluation**

Our well established CAGs represent the delivery arm of the AHSC. Their tripartite strategies are due to be refreshed in early 2014, and will set out clear and specific deliverables over the next 5 years. The Performance Council, with membership including the KHP senior team, as well as key executive roles from member organisations, oversees progress and monitors specific CAG objectives, as well as escalating and mitigating challenges and barriers to CAG delivery. Tripartite scorecards and outcomes books are being produced, drawing on already available information sources, and these will be more explicitly reviewed and challenged at the Performance Council going forward. Comparison of data across the partners is used to drive up performance; e.g. the patient experience teams have focused on areas common to mental and physical healthcare (e.g. privacy and dignity, communications with clinical staff) so that lessons can be shared between the three Foundation Trusts. This process will be extended, with a greater emphasis on external comparisons and benchmarking against recognised best practice. KHP will also be judged in future by international performance and ratings (as captured in RAND analysis). The Performance Council will also track external measures, and identify actions to improve performance. The introduction of a CLAHRC (supporting KIS), provides a key source of evaluative expertise, working in harness with the AHSN to determine success and impact of implementation of innovation and best practice across the south London, in terms of patient outcomes and satisfaction.

**4. GOVERNANCE AND LEADERSHIP (2 pages plus an Organogram)**

**Detail the governance and leadership arrangements for the proposed AHSC including:**

- Details of the organisational model and governance arrangements of the proposed AHSC. This should include an organogram outlining lines of accountability within the governance arrangements;
- Evidence of the functionality and effectiveness of the governance arrangements;

- A summary of how effectiveness of the governance arrangements of the partnership will be measured over the term of AHSC designation;
- Detail of the leadership of the proposed AHSC including key posts and post holders, illustrating how the posts will contribute to the delivery of the goals, visions and purpose of the proposed AHSC.

King's Health Partners Academic Health Sciences Centre (AHSC) is a pioneering collaboration between KCL and GStT, KCH and SLAM NHS FTs. We bring together an unrivalled range and depth of clinical and research expertise, spanning both physical and mental health. We are the only AHSC with a wholly integrated offer and co-located AHSN. Our combined strengths will drive improvements in care for patients, allowing them to benefit from breakthroughs in medical science and receive leading edge treatment at the earliest possible opportunity.

#### **Our partnership brings together:**

- three of the UK's leading NHS FTs;
- one of the top universities in the world (rated 19<sup>th</sup> in world [QS international rankings, Sept 2013]) comprising nine academic schools, five in health-related disciplines;
- services provided across central and outer London locations, including seven mental health and physical healthcare hospitals and many vibrant community sites;
- 3.6m patient contacts each year;
- 31,000 staff;
- 25,000 students;
- combined annual turnover of £2.8bn.

#### **Our strengths include:**

- 6th in England for research income – estimated income for 2012/13 is £163m;
- Rated excellent by the Quality Assurance Agency for students' educational experience;
- Equal top in England for its PhD completion rates with 86.8 per cent of its full time research degree starters qualifying within seven years (Higher Education Funding Council for England, 2013);
- Over 70% of our academics were in subjects considered to be in the top quartile in the 2008 RAE, 50% in the top decile;
- Two NIHR Biomedical Research Centres and an NIHR Biomedical Research Unit for dementia;
- Five MRC centres;
- King's Centre for Global Health, developing our own global health education, research and capacity building programmes and promoting collaboration in global health, across all nine Schools within KCL and all 21 CAGs within KHP.
- More than 25,000 students (of whom, more than 10,000 are graduate students) from 140 countries;
- Strategic partnerships with leading university institutions and industry worldwide, including Johns Hopkins, the University of California San Francisco, the National University of Singapore, the University of Hong Kong, the University of North Carolina, and the University of São Paulo;
- Ranked 2<sup>nd</sup> and 3<sup>rd</sup> in the world respectively for psychiatry and dermatology citations, and 3<sup>rd</sup> for Dental
- Part of the Francis Crick Institute, a world-leading scientific research institution in central London focusing on understanding the underlying causes of health and disease and accelerating discoveries from the laboratory into the clinic;
- Spearheading a new era of university fundraising with its World questions|King's answers campaign, chaired by former Prime Minister Sir John Major, with the ambition to improve on our current fundraising earnings of £460m and achieve over £500m by 2015 and to address globally challenging problems in areas such as neuroscience and mental health, leadership and society and cancer;
- Our NHS trusts are recognised nationally and internationally for:
  - **Child Health and Obstetrics** – High quality, fully comprehensive child health services. Nationally leading in neonatology, renal transplantation, cardiac surgery and internationally competitive in neurodevelopment. We are internationally renowned for assisted conception, foetal medicine, monitoring and scanning, and we lead outcomes nationally in obstetrics for pre-term babies. We host the Centre for the Developing Brain, leading on neonatal imaging;
  - **Transplantation** – Europe's leading liver transplantation programme. National leaders in bone marrow transplantation and live-donor renal transplantation;
  - **Trauma** – We are home to a nationally-leading Major Trauma Centre. Working with 15 hospitals providing trauma care to 5m people;
  - **Neurosciences** – We have a nationally-leading Hyper Acute Stroke Unit;
  - **Dental** - The largest dental school in Europe, ranked 3<sup>rd</sup> in the world for citations and leader of innovative clinical research and pioneering treatments
  - **Cardiac** – Nationally-ranked cardiac services, excellent outcomes 24/7 for myocardial infarction;

- **Mental health** – Ranked 3<sup>rd</sup> in the world for research citations, we provide the largest mental health research and development portfolio in the country and are international leaders in: addictions, Improving Access to Psychological Therapies (IAPT), dementia and child and adolescent mental health;
- **Critical care** – We have huge, high quality critical care capability and a nationally leading Extra Corporeal Membrane Oxygenation service and innovative patient monitoring systems;
- **Cancer** - Largest provider of NHS-funded cancer services in London spanning a range of solid and liquid tumours, treating > 5,000 newly diagnosed patients/year. New £165m Cancer Centre under construction, capital commitments in excess of £193m and investments in recruitment of internationally recognised senior research faculty. Research has increased four-fold since 2009 and recruitment to clinical trials has increased from 10% to 25%.

### **How we are organised**

We established a governance structure for our AHSC when accredited in 2009 which includes a Partners Board, Executive team and Performance Council to oversee the delivery of our 'tripartite' mission of integrating patient care, research and education and to monitor the progress of our 21 CAGs. Each CAG has its own leadership arrangements and executive team, bringing together senior clinicians, academics and managers. Figure 3 below shows the appointed leadership structure across the KHP Partners Board, the KHP Executive, the 21 CAGs and cross-cutting work programmes.

KHP provided leadership to establish a successful Academic Health Science Network (AHSN), licensed unconditionally in May 2013. Leadership of the South London AHSN is closely aligned with that of our AHSC – with the AHSN Managing Director sitting on the Executive for the AHSC and a reciprocal arrangement on the AHSN Board. The leadership teams are co-located.

The strategy, goals and vision for the AHSN and AHSC are aligned. The AHSN drives a strong and coherent set of goals for health outcomes, testing and spread of learning, wealth creation and industry engagement for south London. This vision reflects our approach with a strong public health ethos, depth of patient involvement, and a broad membership across south London. There are also a number of common priority areas (alcohol, dementia and diabetes) between KHP and the AHSN, with shared leadership.

South London AHSN leaders are actively engaged in the emerging national AHSN network with linkages through its Chair with Oxford and UCL Partners (UCLP); the Pan-London AHSC Executive now includes AHSN leaders and links closely with the Mayor's London Health Board. Now that AHSNs are licensed, specific projects are under development: the South London AHSN is leading on work in dementia with NHS Improving Quality together with Kent, Surrey, Sussex and UCLP.

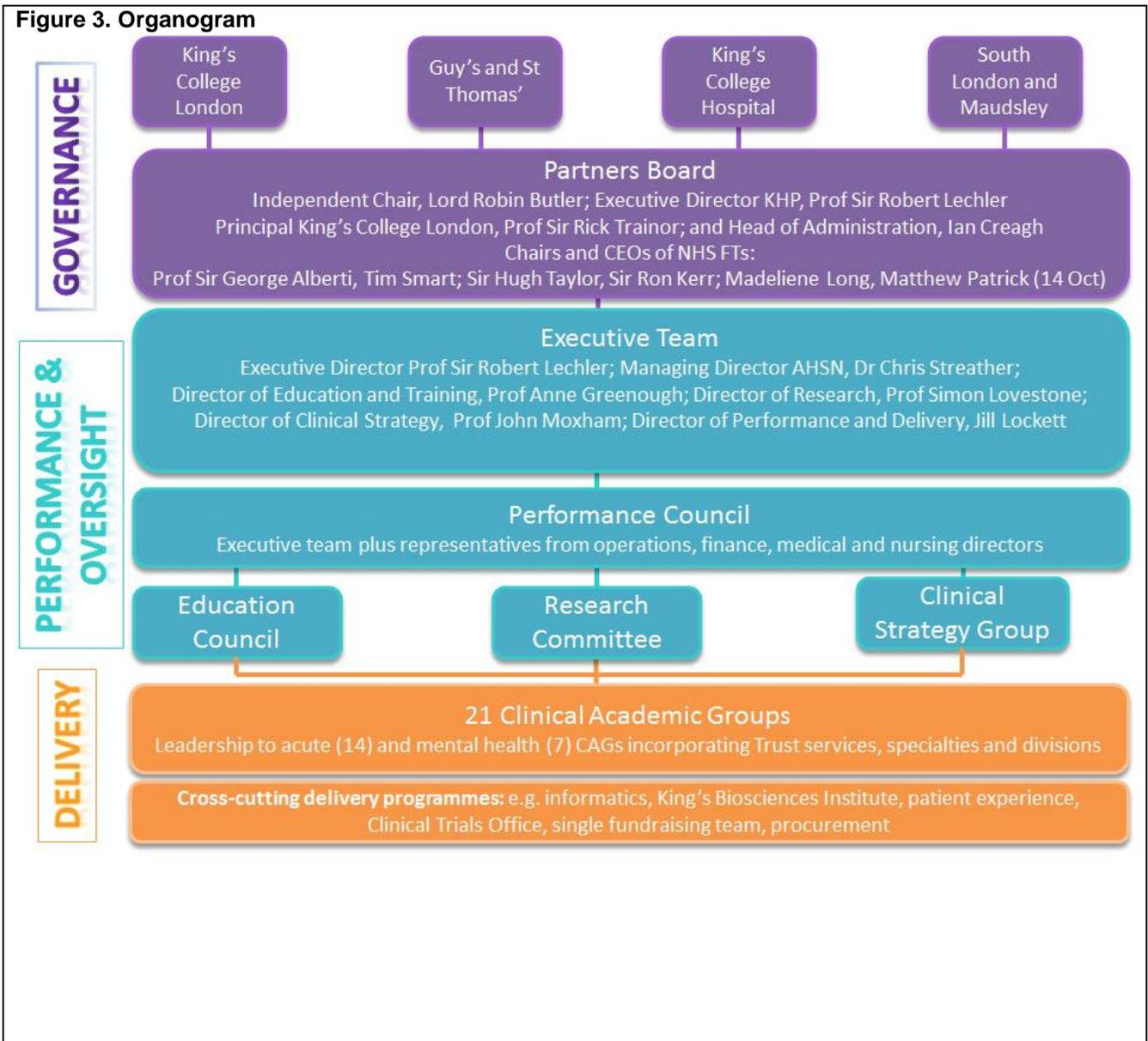
As part of the wider south London health community, we have agreed a strategic alliance and signed a Memorandum of Understanding with St George's Healthcare NHS Trust and St George's University of London (the single tertiary provider and medical school in South West London) to facilitate the sharing of education practice, innovation and translational research across our organisations. This relationship forms the foundation of our joint work developing the Local Education and Training Board (LETB) and the NIHR CLAHRC.

### **Continually appraising our governance and functionality**

We have reviewed the effectiveness of our governance and delivery structures at regular intervals to ensure it continues to support delivery of our goals. In summer 2011, we commissioned an independent expert to undertake a review of our progress. Based on his recommendations we prepared a Strategic Outline Case (2012) to consider creation of an integrated healthcare organisation. In January 2013, we published an independent review by the King's Fund. We also benchmark ourselves against global best practice. In July 2013 we met with a delegation from Johns Hopkins, comparing the effectiveness of our respective governance arrangements.

The next generation of our CAGs will require strengthened organisational development and accountability frameworks in order for them to achieve increased autonomy. We are testing the case for the formation of a single integrated academic healthcare organisation through the merger of the three NHS FTs, enhanced by closer integration with KCL and a stronger academic ethos. This would create the UK's most innovative integrated academic healthcare organisation.

**Figure 3. Organogram**



**5. THEMES/WORK PROGRAMMES (4 pages per theme)**

Please use the Specific Theme Form to complete this section (*SpecificThemeForm\_AHSC-2013-10029*). Please use a separate form for each of the six specific themes or work programmes.

- Attached, for information are six files:
- Section 5 – Theme 1 Mental physical health FINAL
  - Section 5 – Theme 2 Excellence through key specialties FINAL
  - Section 5 – Theme 3 Basic science and experimental medicine FINAL
  - Section 5 – Theme 4 Transforming through education and training FINAL
  - Section 5 – Theme 5 Transforming through informatics FINAL
  - Section 5 – Theme 6 Value Based Healthcare FINAL

## 6. INCLUSIVITY AND DIVERSITY (2 pages)

**Please provide evidence of the proposed AHSC's commitment to equality and diversity including:**

- How the partnership will realise the full potential of talent from across the whole workforce including promotion of equality and diversity;
- The partnership's strategy for meaningful patient and public involvement (PPI) in the delivery of the objectives of the proposed AHSC;
- The partnership's strategy for meaningful patient and public engagement (PPE).

KHP is situated in the heart of south east London, a socio-economically deprived, ethnically diverse community that is exceptional within the UK, where over 40% of the communities represent black and minority ethnic groups (BME). Our Black African population has the greatest growth rate compared to any other ethnic group; the largest Portuguese speaking community in Europe outside Portugal; more gay men live in our local areas than anywhere else in the UK and our students have come from 140 different countries. Prevalence of common mental health problems in south east London is twice as high as the English national average according to research undertaken by KHP. Depression is four times more common locally and is the most common mental disorder diagnosed. These communities drive and shape the health need locally, a need that has informed the KHP priorities and delivery programme and been the underpinning theme for the development of our Urban Public Health Collaborative. It is important that our 31,000-strong workforce to reflect the diversity of our communities. By utilising their backgrounds, skills and experiences we will become culturally competent in research, education and delivery of care, which addresses inequalities; delivering excellent care locally, which becomes applicable globally.

**We seek to recognise the full talent and opportunities of the people who work for us. We ensure that our staff selection is fair, staff experiences are fulfilling and that all have the ability to achieve their full potential, be it careers in research, education, clinical delivery or support services.**

**Clinical academic careers.** KHP is truly committed to full inclusion of clinical academics from all professions, irrespective of sex and ethnicity. We are promoting many initiatives to deliver this, including a mentoring scheme for women academics, symposia to celebrate the achievements of women scientists, equality analysis of our recruitment and promotions processes, and a more systematic approach to nurturing staff to apply for promotion. These developments will put us in a strong position for the Athena SWAN award process (focusing on the advancement of women into clinical academic careers within Science, Technology, Engineering, Maths and Medicine). We will build on this work with a specific programme of activity for BME staff.

**Scholarship for all.** Through our CAG education leads and education committees we recognise the talent and potential of all disciplines so that they can become academically informed to deliver excellent healthcare. We are making progress to ensure that all professions meet the highest educational attainment by improving accessibility to undergraduate, Masters and PhD programmes for all professional groups. Principles of scholarship and graduate entry nursing careers have driven the South London and Maudsley NHS Foundation Trust (SLaM) work aligning their nursing development programme with MAGNET, the North American Nursing credentialing system. KCL provides the UK flagship Extended Medical Degree Programme which enables those from non-selective schools a greater chance into a career in medicine. We are piloting two e-mentoring programmes for young people between 14-18 years of age who are in education to help them access careers in healthcare. Our inclusivity programme will mean that our students and scholars feel equally valued, respected and engaged.

**Fostering a culture of an inclusive and engaged workforce.** We recently completed the International Organisational Health Index survey. Our analysis, combined with results from our National Staff Surveys, will inform the future direction to ensure alignment of the vision and values of King's Health Partners, and all those who work within our institutions. Our partners have completed the Department of Health (DH) Equality and Diversity Scheme benchmarks, however we recognise that our staff profile is changing and despite good representation of our communities we have an ambition to increase diversity in senior roles. Our support forums address equality issues and concerns for BME and lesbian, gay, bisexual and transgender (LGBT) staff and with GSSt as a recent Stonewall Health champion, improvements will be made. Challenged by high rates of youth unemployment, we believe we have an important role in improving the local economy, and have an ambition to help those furthest from the labour market to secure employment, through improved access to health careers through mentoring schemes, employment and educational opportunities for those with disabilities, the young and unemployed. For example, The Autism Programme designs work placements to support people with autism gain workplace qualifications. Our apprenticeships programme is thriving and our volunteering opportunities expanding. Over 70% of young people who have gone through the Prince's

Trust programme with our partner organisations have successfully gone into education or work

**Patient and public involvement and engagement strategy.** KHP sees over 3.6m patients a year. Our value based commitments mean we aspire to have synergy between the expectations of patients, carers, citizens and our partners across the full cycle of care. Patient and Public Involvement (PPI) and Engagement (PPE) is a continuum, involving individuals in their care and treatment, to inform service design and delivery. To achieve excellence in patient experiences and outcomes, our PPI and PPE strategy aims to raise the cultural awareness of staff. We include patients and the public in our education programmes, our research strategies and in the delivery of care. These are encompassed in our four objectives:

**To deliver excellent high quality patient experiences and outcomes, we will build upon our existing strong culture of responsiveness in how we listen and act upon the views of our patients and service users so that they feel involved in their individual treatment and care:** We will build upon our outstanding achievements such as Evelina's Pride, a peer support group facilitated by the lead child psychologist, that provides social-emotional support for young patients with long-term conditions and disabilities. Our commitment to the integration of physical and mental health means we are moving to more meaningful patient centred assessments, we aim to have this adopted in all specialties by 2018. We will transform involvement through our informatics programme using myhealthlocker™ and by developing further healthcare passports, in addition to those for asthma patients and those who have a learning disability, so that patients can directly input into their care. We will build on award-winning patient information, such as ward welcome packs intended to support involvement in patient care and ensure their comfort. Our Performance Council will monitor our success using patient experience and patient-reported outcome metrics

**KHP will involve and engage patients; our members and the wider community in the design, delivery and monitoring of healthcare across our services and system changes:** We already provide some of the country's most outstanding services. All CAGS will have Patient Advisory Groups that will engage patients and families to develop outcomes that matter to them so that we continue to develop services such as our award winning Community Health Access teams that provide culturally specific care to our marginalised refugee and homeless communities. We will continue to ensure the views of mental health service users inform emergency service provision. Sickle cell services and African well women clinics provide unique and excellent culturally specific services. Partnerships with Age Concern give older and vulnerable communities a voice. We have developed innovative ways to close the loop between engagement, feedback and action, including our successful co-designed cancer services, in which patients stated they saw almost immediate improvement within breast and lung cancer care. KHP has produced a toolkit with the King's Fund to support other health providers to use experienced-based co-designed methods to improve care. "King's in Conversation" works with patients and staff to understand and act upon key issues. With an emphasis on evidencing how stakeholders influence our decisions and strategic designs over the next five years we will expand and increase our public engagement; through our commissioners, charities and local citizen forums.

**Our translational research capabilities will improve health locally and globally; reduce inequality and close health outcomes gaps.** We actively engage our patients and the public to shape the design and methodologies of our research programmes through KIS. Our Service User Research Enterprise (SURE) specialises in PPI co-design methodologies and KCL hosts the National Nursing Research and Social Care Units. Our Biomedical Research Centres (BRCs) are committed to "ensure all patients have the opportunity to participate in research" and science activities, particularly those from under-represented groups, so that our research is truly translational. Our commitment to informatics and myhealthlocker™ will provide our research platform for PPI research methodologies.

**Our educational programmes will ensure we grow a compassionate, culturally competent and engaged workforce, which is equipped to care for our local communities.** Our educational programmes will be influenced by the views and experiences of patients and carers from our hospital based training departments through to our undergraduate and post-graduate programmes. We will expand our already innovative and excellent programmes, such as the Service User Training and Education (SUITE) department –co-designed and delivered by patients. Educational campaigns such as "Barbara's story" ensure that our trainees and qualified professionals continue to have patient centred knowledge, skills and attitudes, which enable them to respond appropriately to all of our patient population. We are constantly expanding our collaborative approaches such as The SLaM Recovery College, a centre for shared learning between patients, staff and the local community. The CAG education and training leads will work in partnership with the Patient Advisory Groups on the co-design of KHP's education programmes.

## 7. CONTRIBUTION TO ECONOMIC GROWTH (2 pages)

### Detail of the proposed AHSC's strategy and ambition for contributing to economic growth including:

- The track record of the partnership to contribute to economic growth and the economy, including through improved health outcomes and through collaborations with industry;
- The strategy for how the proposed AHSC will contribute further to economic growth and the economy together with plans to measure this contribution;
- The plans and strategy for identifying, managing and exploiting intellectual property, including the track record of patents filed and granted the establishment of spin-out companies and income generated from the commercialisation of intellectual assets.

KHP's strategy for contributing to economic growth will see a significant contribution both to the local economy and to the UK economy as a whole. The world-leading aspects of KHP offer considerable opportunities for joint working and development, which to date have only just begun to be exploited.

#### Our record so far

We have contributed towards economic growth through improved health outcomes, establishing enduring relationships with industry, and by reorganising to make ourselves more accessible to partners in industry and philanthropists. The effect of each has been to generate income and jobs both in KHP and collaborative organisations. Each is briefly illustrated below.

**Improved health outcomes:** KHP research and clinical leadership in stroke have contributed to the transformation of stroke care in the UK and abroad. The South London Stroke Register (SLSR), the world's longest running population-based stroke register, allowed the long-term impact of stroke and the health and social care needs of the population to be modelled, and our research informed the development of the Department of Health National Stroke Strategy (2007). Early supported discharge showed that specialist care after stroke can be provided at home cost effectively, as an alternative to prolonged hospital care (Rudd et al 1997). This service is now being provided in two-thirds of the country. SLSR data was used to justify the need for the transformation of stroke care in London, resulting in a service that delivers more effective care, a mortality rate 28% lower than the rest of the country and at lower cost (Hunter RM et al 2013).

#### Commercial partnerships:

- Quintiles - KHP has established an on-site phase one trials unit in partnership with Quintiles which works closely with the adjacent Clinical Research Facility. This partnership has generated £5.1m revenue and seven joint appointments in clinical pharmacology and trials methodology in its first two years and is now a worldwide lead in phase one studies for a number of major companies.
- Technology Strategy Board (TSB) Cell Therapy Catapult - This national resource was located at Guy's Hospital after an open competition. It has a budget of £70m over five years to invest in commercialisation of cell and related therapies.
- KHP Drug Control Centre (in partnership with GSK) won the contract for the provision of drug testing services to the 2012 Olympics. This was worth £2m and generated 300 jobs for the duration of the Games, as well as significant positive media coverage. This has established the legacy of the MRC/NIHR National Phenome Centre (at Imperial College, managed in partnership with King's).

We have worked to transform our organisation, in order to ensure that we are an efficient, effective and attractive partner for external investors. This has included creating a KHP Clinical Trials Office, managing industry-sponsored trials worth over £7m this year (170 plus new trials started in 2012/13) and growing at 15% a year. We have also integrated fundraising across KHP, allowing us to approach leading philanthropists with a more compelling vision. Philanthropic investment into KHP has grown from £7.7m in 2009/10 to over £24m in 2012/13.

#### Figure 4. Higher Education Business and Community Interaction Survey metrics (HEBCIS)

| 2011/12 HEBCIS survey metrics            | Income (m) | UK position     |
|--|------------|-----------------|
| Contract research income                 | 42.8       | 6 <sup>th</sup> |
| Collaborative research income            | 29.1       | 7 <sup>th</sup> |
| Facilities and equipment services income | 6.01       | 3 <sup>rd</sup> |

#### Our strategy to further increase economic growth

In the next five years we will further increase our contribution to economic growth through continued

improvements to health outcomes; adopting a more systematic approach to commercialisation of our research; by developing our partnerships, especially across London; by continuing to be an innovative procurer of services and by competing more for major export opportunities.

We will implement value based performance management of our clinical services (theme five). Our outcomes are good (e.g. national leaders in liver and renal transplantation, delivery of IAPT therapy) and our care is safe (e.g. national leaders in VTE prophylaxis, in-hospital cardiac arrests) with efficient processes (national leaders for delivery of stroke care, trauma services, breast cancer day surgery). Our Urban Public Health Collaborative is addressing the major public health challenges (smoking, obesity, alcohol) that will drive economic benefits for our local community. This includes evidence-based brief interventions which reduce alcohol consumption by 15-20% and systematic referral to smoking cessation services, for our staff and our community. KHP is smoke-free in its secure mental health wards and is working with commissioners to include smoking cessation as an intervention in relevant long-term conditions (COPD, vascular disease).

We have established a KHP Commercialisation Institute to help support commercial development and the delivery of evidence required by investors, and that will ensure that our research projects relating to therapeutics, biomarkers/diagnostics and devices are assessed at an early stage for commercial potential. We have established relationships with venture capital and corporate investors to assist with assessing our research and to help match our projects with prospective investors.

We will continue to pursue major international opportunities from hospital management to long-term commercial collaborative partnerships. These opportunities will be selected for academic as well as commercial potential. We have established Maudsley International to improve global mental health by sharing local expertise. It offers teaching, training and consultancy services tailored to the needs of colleagues working in very different environments around the world. Further, Essentia has been set up to design, build and maintain healthcare infrastructure vital to the smooth running of healthcare services. Essentia has grown rapidly in recent years and provides support services to the NHS and others, in London and further afield, and employs over 1,600 people.

We will continue to procure services in an innovative, cost effective manner, as demonstrated by GSTS Pathology, a joint venture between SERCO and GStT with an initial contract value of £46m. KHP would have a freedom to enter in to partnerships to deliver clinical services in an innovative way, maximising quality of care and patient experience while delivering those services at better value for money for the NHS.

KHP is leading a London wide effort to increase investment and employment in London life sciences, working closely with the other London AHSCs and the Greater London Authority. London is globally comparable to any other centre for biomedical research but fails to achieve the economic dividend of Boston or the Bay area and our goal is to bridge this gap. We are developing a branded global presence for London to the international life science market, and increasing our ability to work across the AHSCs and to greatly enhance inward investment and job creation in the south east region.

**Intellectual Property (IP) management and commercialisation**

We have developed considerable expertise in IP management and commercialisation within the AHSC and will shape an innovative multi-disciplinary approach to IP management and exploitation. We will adopt different approaches depending on whether the outputs are patentable IP, more attuned to traditional licensing routes and technology-based spin-out vehicles, or ‘soft IP’ such as know-how and copyright, which may be more suited for diffusion via service innovations/vehicles. Our strategy is to develop a multi-disciplinary capability where IP managers, commercialisation professionals, health economists, and business managers are embedded within the IP/commercialisation decisions and activities of KHP.

We access funding from the following sources in order to move products and services to the market where there are additional existing routes to help support such conversion to the marketplace: GStT Charity’s Innovation Fund For Technology Transfer (GIFTT); King’s Commercialisation Institute Funding schemes; The Health Foundation; the Innovation Excellence and Strategic Development Fund; EU FP7; Social Enterprise Investment Fund; Technology Strategy Board (such as Smart funding); i4i Funding as well as industry and commercial healthcare partners, investors such as Healthbox and other traditional investor routes. We will establish and IP policy in line with the NIHR’s contractual obligations. The IP policy will mirror that agreed recently for the BRCs, based on organisational requirements and agreed revenue sharing policies across the collaborative partners. Current metrics are detailed in figure 5 below.

**Figure 5. Current (2011/2) relevant KCL metrics**

| 2011/12                   |     | UK position     |
|---------------------------|-----|-----------------|
| Patents filed and granted | 414 | 4 <sup>th</sup> |

|                           |        |                 |
|---------------------------|--------|-----------------|
| Cumulative active patents | 441    | 9 <sup>th</sup> |
| Spin-off share sales      | £7.95m | 1 <sup>st</sup> |

## 8. STRATEGIC PARTNERSHIPS & WORKING WITH NIHR-FUNDED RESEARCH INFRASTRUCTURE (2 pages)

### Detail of the proposed AHSC's strategy for building meaningful external partnerships including:

- The strategy for linking with NIHR-funded research infrastructure, e.g. Biomedical Research Centres or Units, CLAHRCs, Healthcare Technology Cooperatives, Diagnostic Evidence Cooperatives and Clinical Research Network;
- Other existing strategic partnerships, and the strategy to develop new partnerships, that will enhance the delivery of the proposed AHSC's objectives.

KHP has an impressive array of resources and world class infrastructure across all campuses, facilitating research productivity and outputs, supporting mental and physical healthcare research. This infrastructure has been pivotal to our track record in forging a range of partnerships and alliances, and will facilitate the delivery of new treatments, technologies, healthcare interventions for our local and global populations.

#### **NIHR Infrastructure:**

The KHP partners have been fully engaged with the NIHR over the last eight years and have NIHR infrastructure support across the breadth of the translational pipeline from basic research to applied research and implementation science. This infrastructure supported the accreditation of KHP as an AHSC in 2009, in particular the Biomedical Research Centres at GStT/KCL and SLaM/loP (2006-2012) and the NIHR Clinical Research Networks infrastructure. Using the NIHR investment shown below, we have successfully leveraged external funding and forged new partnerships across geographical boundaries and sectors, demonstrating a clear multiplier effect in relation to maximising the value NIHR investment within KHP.

#### **Figure 6. Funding for KHP research infrastructure**

| Infrastructure  | Total funding £m            |
|---|-----------------------------|
| Two NIHR Biomedical Research Centres (BRC)  | 112                         |
| NIHR Biomedical Research Unit in Dementia (BRU)   | 4.5                         |
| Two NIHR CRFs for Experimental Medicine (CRFs)  | 10                          |
| NIHR Experimental Cancer Medicine Centre (ECMC)   | 1                           |
| NIHR Healthcare Technology Co-operative in Cardiovascular Disease (HTC)                           | 0.8                         |
| NIHR Research Design Service for London (RDS)   | 11                          |
| NIHR Collaboration for Leadership in Applied Health Research and Care (CLAHRC)                    | 9 (plus 10 matched funding) |
| Four NIHR Clinical Local Research Networks plus South London NIHR Local Clinical Research Network |                             |
| 19 NIHR Senior Investigators (10% of NIHR's Senior Investigator Directory)                        |                             |

This wealth of infrastructure has enabled the development of strong partnerships at the basic and experimental medicine interface through the **BRCs**, **BRU**, **ECMC** and the two **CRFs**. It has created a competitive research environment, attracting a number of key researchers such as Professor Fiona Watt, Director of the Centre for Stem Cells and Regenerative Medicine Research, and Professor David Edwards, Professor of Foetal Imaging to KHP. Such appointments underpinned the Wellcome Trust/MRC £13m award for a Stem Cell Hotel, offering clinician scientists and cell biologists the opportunity to work collaboratively, turning scientific discoveries more rapidly into treatments. Similarly, Professor Edwards has played a major role in the Centre for the Developing Brain, alongside neonatal services. We are contributing to the **NIHR Bioresource** which will establish a resource of stratified healthy volunteers and patients willing to be recalled for research studies on the basis of their genotype and phenotype. Of the six BRCs and BRU involved in this initiative, KHP is strategically partnered in the Bioresource via the TwinsUK registry at GStT plus mental health and dementia cohorts established at SLaM.

The applied research end of the translational pipeline has been strengthened by the award of the **South London NIHR Collaborative Leadership in Applied Health Research & Care (CLAHRC)**, led by KHP with strategic partners St George's. Focusing on local public health needs including diabetes and alcohol, the CLAHRC will work strategically with the South London AHSN to implement applied healthcare research, demonstrating the impact of the AHSC in catalysing research to benefit the health of the local population. KHP is a global leader in EMR (Electronic Medical Record) and informatics research technologies. The national **NIHR Dementia Informatics initiative** led by the SLaM BRU-D, was established to improve treatment and care in dementia and pull discoveries into real benefits for patients. We will play a key role through the application of SLaM's world-leading innovations in EMR technology to mental health Trusts across the country, creating one of the largest mental health EMR databases in the world (>1m records); a major resource to support recruitment of patients to trials and facilitate collaboration across private and public sectors.

The roll out of studies sector wide and increasing patient recruitment into clinical studies is enabled by local NIHR infrastructure, which is enhanced by the hosting of the **South London NIHR Local Clinical Research**

**Network (LCRN) by GStT** from April 2014. This places KHP in a strong position, as 1 of 15 CRN host organisations in England with responsibility for leadership and performance management of the network. This hosting contract will support new partnerships in the sector, including non-NHS bodies delivering NHS R&D, including care homes, prisons and high street providers. Such strategic partnerships will enable optimal efficiency of patient recruitment into clinical studies; delivering on our strategic aim to offer all patients the opportunity to participate in clinical research. This will be supported by close working with the LCRN in Kent, Surrey and Sussex and the overlapping footprint between the LCRN and AHSN. In order to maximise the impact on local population health, our growing public health research portfolio will need to be strengthened and disseminated through close working relationships with the AHSN and LCRN.

#### **Other strategic partnerships**

Our strategy will build on the solid partnerships described here, to drive our research performance further in terms of the quality of research evidence and impact on health outcomes. Some key examples are given below:

Our experimental medicine facilities are being utilised to leverage pioneering new collaborations and strategic partnerships with both commercial and public sector bodies. The **King's Health Partners Experimental Medicine Hub (EMH)** at Guy's has been strengthened by a formal strategic partnership with **Quintiles**, who have a state-of-the-art Phase I Unit, co-located with the BRC and clinical research facilities. The EMH also incorporates a Good Manufacturing Practice unit for cell and protein therapies, a pharmacy and purpose-built stem cell laboratory and centre for pre implantation genetic diagnostics. The success of the Hub, co-location of Quintiles, and access to clinical partners (through KHP) all played a vital role in the major new partnership with the **Technology Strategy Board's Cell Therapy Catapult** which selected KHP as its base after strong competition from other academic institutions in 2012. The Catapult provides an invaluable opportunity for KHP to benefit from collaborations with pharma companies and SMEs, helping to secure global leadership for the UK in the development, delivery and commercialisation of cell therapy.

**The Francis Crick Institute** is a unique partnership between six of the world's leading biomedical research organisations including the Medical Research Council, Cancer Research UK, the Wellcome Trust, University College London, Imperial College London and KCL. Opening in 2015, the Institute aims to provide answers to problems in the medical sciences by facilitating collaboration between disciplines and accelerating the translation of scientific research from the laboratory to patient care. The Crick embodies the long-term strategy for research and discovery across the three London AHSCs, with KCL investing £40m in the collaboration.

Another innovative alliance between the three London AHSCs and the MRC, to which KHP contributes significantly, is **IMANOVA**. Established in 2011, Imanova brings together a breadth and depth of knowledge and expertise that will drive research and innovation in imaging sciences, and is recognised worldwide as a leading centre for imaging sciences with application to drug and diagnostic development. This state-of-the-art facility was developed by former owner GlaxoSmithKline, working closely with the MRC and universities. Internationally we encourage exchange, and have established particular collaborations with: the University of California, San Francisco; University of California, Los Angeles; and the National Institute of Health, USA, to promote knowledge transfer. We also have multiple university links across the UK and globally. Our senior academics are leading international multi-million euro, multicentre studies aimed at accelerating advances in disease understanding and identifying new biomarkers and therapeutics, particularly in the area of mental health (including neurodegeneration, schizophrenia, autism spectrum disorders, informatics and dementia). We work closely with the **NIHR Office for Clinical Research Infrastructure (NOCRI)** to support the development of a cohesive national R&D Life Sciences strategy and this relationship will form an important role in our strategy to build new partnerships, particularly with industry. We are involved in a number of **NIHR Translational Research Partnerships (TRPs)** which bring together world-class investigators in the UK's leading academic and clinical centres to support collaboration with the life sciences industry in early and exploratory development of new drugs and other interventions. KHP is a centre of research excellence involved in the TRPs based on our proven ability to deliver in experimental medicine and translational research, working in partnership with NOCRI to deliver TRPs in inflammatory respiratory diseases and inflammatory joint diseases, and the **Translational Research Collaboration in Rare Diseases** with KHP leading the Skin Rare Disease research theme, and also in **Dementia** through the BRC and BRU at SLaM/loP. We will continue to harness the wealth of interactions between commercial companies and our Clinical Trials Unit to maximise partnerships such as these.

In addition to a strong formal partnership with Quintiles, we will seek to promote our infrastructure to industry to develop further strategic alliances where beneficial. Key industry strategic relationships include **GE Philips Healthcare** which focuses on research programmes in cardiac MRI, cardiovascular x-ray, PET-MRI and molecular imaging, electrophysiology intervention, and echocardiography; funding eight KHP researchers and with KHP hosting three of Philips industrial scientists on site.

## 9. WORKING WITH THE NHS ARCHITECTURE (2 pages)

Please describe the proposed AHSC's strategy for engaging with the wider NHS architecture including:

- The strategy for ensuring that:
  - the AHSC is fully nested within the relevant local AHSN;
  - that there is integrated working with the local AHSN, emphasising the complimentary roles of AHSCs and AHSNs;
  - there is appropriate co-working with other AHSNs nationally to deliver improved outcomes for patients and the NHS.
- How the proposed AHSC will engage with primary, secondary and tertiary care sectors, NHS commissioning organisations and social care providers to improve outcomes for patients;
- How the proposed AHSC will work with other AHSCs to improve outcomes for patients and the NHS.

A core objective of KHP since its inception has been to improve health outcomes for patients in the local health economy with its diverse population, having high levels of deprivation and ethnicity and unmet health needs. This objective can only be achieved through close partnership - working with local health and social providers and with commissioners. KHP has an important leadership role within the south London health system, based on demonstrable clinical and academic excellence and specialist expertise and maintained through a philosophy of mutually respectful partnership working.

We have been systematic in our development of strong local relationships, which are described in more detail below. However, in order to tackle the considerable challenges of the local health economy in a sustainable manner, we believe that more fundamental solutions must be sought. The AHSN will provide a critical vehicle for delivering change across the geography and there is a strong relationship between the South London AHSN team and KHP. In addition, we are working with partners to lead the development of a radically new academic integrated care organisation (CAICO) which will transform the delivery of care in Lambeth and Southwark. This AICO will be piloted and evaluated over the next five years.

### Relationship with the South London AHSN

The development of the South London AHSN was initially driven by KHP's members, who successfully engaged the broader membership across south London (local authorities, hospitals and mental health trusts, GPs and CCGs and HEIs) to build a strong independent identity for an innovative new network organisation. We are building close links and strong synergies between the two organisations in a number of respects:

- Governance – AHSC Executive Director sits on AHSN Board, AHSN Managing Director is a member of the KHP Executive;
- Shared priorities and work programmes between the AHSC and AHSN, including integrated mental and physical health, alcohol, dementia, diabetes;
- South London AHSN has a national 'systems leadership' role in mental health across all AHSNs, working closely with KHP mental health senior leaders;
- Relationship with the CLAHRC- shared priority areas. AHSN provides matched funding to CLAHRC, and CLAHRC provides the evaluative 'engine' for the AHSN's service improvement programmes (including through academic innovation fellow posts) and the two organisations collaborate on industry engagement and PPI.

Concrete examples of joint working which emphasise the complementary nature of the two organisations can be seen in two of the clinical priority areas;

**Diabetes:** AHSC service developments (Diabetes Modernisation Initiative), research initiatives (3D4D) and commercial partnerships (Novo-nordisk) can be evaluated and scaled up as appropriate across the AHSN. CLAHRC theme on diabetes is led by a KHP clinical academic, providing evaluative capacity to the AHSN's service improvement theme.

**Alcohol:** AHSC and AHSN clinical academic leadership are both provided by Prof Colin Drummond, whose work is internationally recognised. This presents a further opportunity to roll out proven interventions from the AHSC to a broader geography by engaging the AHSN (e.g. screening and brief intervention, with the AHSC driving uptake in A&E and other hospital specialties, whereas AHSN may focus on primary care). Alcohol is also a CLAHRC theme (also led by Prof Drummond), ensuring the work of the AHSN is properly evaluated.

Collaborative working with other AHSNs will focus areas where the AHSC and the south London AHSN have joint priority work programmes and other AHSN partners are drawn in where they also have an interest and can add specific expertise. Current examples include dementia (i.e. work led by south London, with NHS

Improving Quality and the National Clinical Director, together with 3 other local AHSNs).

### **Primary care and CCG engagement**

Transformation across the entire health system is essential in order to make significant changes to health outcomes in a sustainable manner. The integration of local community services in Lambeth and Southwark within KHP (hosted by GStT) was an embodiment of this philosophy and Southwark and Lambeth Integrated Care (SLIC) is an ambitious partnership which will deliver system-wide change locally over the coming years. SLIC is jointly led by KHP, Southwark and Lambeth commissioners (CCGs) and local councils.

Developments include closer a working relationship between primary care and hospital elderly care through regular case reviews, faster access to specialist advice via 'GP hot line', improved discharge planning and improved patient experience. In addition, we have a closer working relationship with adult social service, and community diabetes services have been strengthened through better engagement of diabetes CAG with primary care – resulting in a significant increase in the new case detection rate. This collaborative working is being underpinned by joining up of IT systems between providers and patient-held records. Formal linkages include the KHP Clinical Strategy Director sitting on CCG boards in both Lambeth & Southwark and CCG membership on the KHP Performance Council.

In support of its strong public health ambitions, KHP has also led the establishment of a local Urban Public Health 'Collaborative', drawing in academics and practitioners in public health from local authorities. In this case, the geography of the collaboration extends to Lewisham. The focus will be on areas of mutual priority, such as obesity and alcohol. This focus on local population health has been strengthened through the support of all three trusts' charities, who are working closely together and have endorsed KHP's strategic goals.

We work closely with our local CCGs who commission the majority of our services, and NHS England as the national commissioner of specialist care. As a proportion of total income, nearly half of the services provided by our Trusts are commissioned by NHS England – for SLaM the figure is 30%, for GStT the figure is 40%, and approximately 50% for KCH.

### **Local healthcare providers**

More recently, the failing provider regime in south east London has led to fundamental changes in healthcare provision. KHP, through KCH, is playing an important role in helping to resolve long-standing problems within the local health economy by the acquisition of the Princess Royal Hospital in Bromley. This will involve a significant financial and operational challenge in the short-term, but real transformation can be delivered as a result of this change which will lead to higher quality and more sustainable services for a wider population in the future.

KHP's leadership role across a wider geography was reinforced earlier this year with the signing of a formal Strategic Alliance with St George's Healthcare NHS Trust and St George's University of London. This alliance provided a strong platform for the successful CLAHRC bid for south London, which was jointly let by KHP and St George's. Work programmes are being developed in areas of complementary strength.

### **London-wide systems leadership**

Both the AHSC team and the AHSN leadership have strong working relationships across London, based in part on the established relationship between the three London AHSCs and through multiple individual working relationships and a wide range of joint projects. South London's leaders continue to be influential, with both the Managing Director of the AHSN and the Executive Director of the AHSC being invited to join the Mayor's Health Board.

### **Working with other AHSCs**

As indicated above, the three London AHSCs have been meeting regularly for some time, and have initiated a number of joint projects, including most recently a pan-London 'drug discovery' initiative, which has been supported by the Mayor's office. The strong relationships will be further cemented as planning for the Francis Crick Institute progresses and the 3 universities have collaborated on the academic strategy which will underpin the new institute. KHP has also maintained good relations with other AHSCs and aspiring AHSCs and is frequently hosting delegations from other centres keen to learn from our experiences over the past five years. This has also extended to a number of international visits, complementing the existing partnerships with other centres such as Johns Hopkins and USCF. There have recently also been a number of specific project-based collaborations, including joint BRC projects and collaborative MRC bids. We will continue to grow these collaborations, playing to individual strengths in each of the partner organisations.

## 10. INTEGRATION OF RESEARCH, HEALTH EDUCATION AND PATIENT CARE (3 pages)

Detail of the proposed AHSC's strategy over the next five years for the furthering integration of research, health education and patient care including:

- Evidence that the partnership's ability to translate discoveries from basic science into excellent translational, clinical and applied research, and into benefits for patient health and improved health outcomes. Please provide 5 examples from over the past 5 years;
- A description of how the partnership will achieve further integration of research, health education and patient care over the next 5 years as an AHSC;
- How this increased integration will lead to improvement in research, health education and patient care;
- The partnership's vision and strategy for maximising the impact that multi-disciplinary and multi-professional working across the AHSC;
- Details of the partnership's close working with the Local Education and Training Board and how this will further the aims of the AHSC.

### 1. Track record of translating discoveries into real patient benefits

We have pursued our objective "to improve clinical quality and health outcomes, through application of excellent research and education" (**section 3**), actively for the past five years and are seeing positive results. We have developed new structures, our CAGs to drive changes in culture and behaviour, through bringing together academics and clinicians in unified structures. The five examples of research translation given below have been made possible through the effectiveness of this mechanism for driving excellence through integration across the tripartite mission.

**i) Dementia** - To address the growing challenge of dementia, we are bringing together clinical and academic activity across our organisations in support of integrated clinical pathways (i.e. memory clinics shared between geriatric medicine and psychiatry) and by providing a line-of-sight from basic science to implementation (including £4.5m investment from NIHR in Dementia BRU), we have been able to accelerate research in this critically important therapeutic area. E.g.:

- Identification of GSK3 as a therapeutic target in Alzheimer's disease and associated multicentre Phase II trial.
- A 10-year programme of investigation into retinoic acid receptors, generating small molecules that will enter Phase I trials in 2014.
- Studies showing that anti-psychotic medication used to manage behavioural disturbance increases rate of cognitive decline and that patients with moderate or more advanced dementia benefit from cholinesterase inhibitors.

**ii) Dental** - The Dental CAG is internationally recognised and its high quality, high volume research earned 1/3 of the HEFCE QR funding awarded to the sector in the 2008 RAE. Current research funding includes £8m on craniofacial development and stem cell biology (MRC, BSRC, Wellcome Trust and US NIH) and £1.6m European Union funding on mucosal infections, including anti retroviral microbicides.

The CAG trains over 20% of England's dentists. Working on multiple sites, including in the community, it sees 300,000 patients each year with diverse morbidities creating unmatched opportunities for clinical research and care. Examples include:

- third molar surgery is one of the highest volume surgeries in the NHS (1.2m cases/year). Many patients experience neuropathic pain resulting from nerve damage. The Dental CAG has pioneered an innovative surgical procedure, removing only the crown and leaving the root undisturbed. This procedure has now been adopted by the NHS and the American Dental Association;
- the CAG has developed a system using bioactive glass powders to clean, seal and desensitise teeth, thus alleviating dental pain. A spin-off company was formed to commercialise the system and has raised over £4.5m from institutional and venture capital investors. Three product lines have been launched in the past 24 months, treating over 700,000 patients across the EU, USA and Asia.

**iii) Addictions** – The Addictions CAG includes the National Addiction Centre, the most productive research group in Europe (responsible for 13% of Highly Cited Papers in England over the past decade, RAND Europe) and is the national lead on the development and implementation of clinical guidelines. E.g.:

- The CAG's seminal Randomised Injectable Opiate Treatment Trial gave evidence of major improvement to the health of long-standing heroin addicts previously considered untreatable. The results of this trial have influenced Department of Health policy and the CAG is shaping best practice models for national delivery.
- The development of the KHP alcohol strategy, bringing together A&E clinicians, psychiatrists and addictions specialists, liver specialists, nurses and academics to create a robust improvement plan recognises the huge clinical and economic burden of alcohol misuse. This is supported by the CLAHRC (implementation science) which is taking established research evidence (such as brief

intervention, developed at KHP) and finding new and sustainable ways of delivering this across broader populations, such as modern social media. A further focus is on improving care for 'frequent flyers' with alcohol and often multiple other conditions, who are high consumers of healthcare. Co-leadership across the AHSN alcohol programme means that we maximise use of resources and our expertise has impact across south London.

- The CAG offers a taught Masters in Addiction Sciences and PhD level study, as well as a distance-learning International Programme in Addictive Studies in collaboration with colleagues in the US and Australia. The scope and profile of the CAG has meant that many senior clinicians across the UK and internationally have either trained at KHP or have had secondments with us.

**iv) Diabetes** - The DENOVARs CAG (diabetes, endocrinology, nutrition, obesity, vision and related surgeries) works as part of the recently designated CLAHRC South London to implement the findings of diabetes research to fundamentally change clinical practice and training;

- KHP runs an educational programme to help local patients control their type 1 diabetes: 'Dose Adjustment for Normal Eating' (DAFNE) is a five-day course that teaches patients to match their insulin dose to their food intake and equips patients with the skills they need so that they can more effectively manage their diabetes.
- **3D4D: (3 Dimensions of Care For Diabetes)** programme for those with poorly controlled diabetes is an integrated model bringing together medical, psychological and social care for patients with persistent suboptimal glycaemic control. This approach has demonstrated overall improvements in glycaemic control, reduced psychological distress, improved quality of care and reduced health service use costs.

**v) Genetics, Rheumatology, Infection, Immunology and Dermatology (GRIID)** – our researchers are in the vanguard of personalised genomic medicine and pharmacogenomics e.g:

- Developing bio-banking techniques and establishing one of the largest infectious disease bio-banks in Europe, which has already permitted the CAG to develop a model for a commercial partnership with Galderma to fund genetic susceptibility studies in acne. The CAG has received grants from Pfizer to investigate medical barriers to optimal outcomes in severe psoriasis and has a strategic partnership with Becton-Dickenson to design immune monitoring platforms in psoriasis and rheumatoid arthritis.
- The CAG developed programmes for assessing treatment response in chronic inflammatory and infectious diseases to improve outcomes and reduce drug costs and toxicity. Studies are identifying key biologic endpoints that permit more accurate and appropriate tapering and withdrawal of therapies. We will therefore be able to develop a new generation of immuno-diagnostic techniques to support genuine personalised therapeutics. A planned initiative is the integrated immunologic, genetic and clinical assessment of ~1000 KHP patients treated with anti-TNF (Tumour Necrosis Factor) biologics. The capacity to investigate across disease boundaries and clinical specialties is uniquely provided by the CAG structure.
- The KHP Twins resource is unique in the world. The IoP contains the TEDS twin cohort of ~10,000 twins followed since age 2 for twenty years with exomes and genomic information exploring developmental and behavioural traits and run by Professor Plomin. The TwinsUK cohort comprises 10,000 adult twins also followed for twenty years with the deepest phenotyping and omics of any cohort in the world – with gene sequence, expression, epigenetics, metabolomics, microbiome and over 2000 phenotypes. Both cohorts have many internal and external collaborations and have many high impact papers annually.

## **2. Strategy for integrating research, education and patient care**

Our aim for the next five years is to build on our existing strengths to achieve further integration of the tripartite agenda. We will:

- **provide research evidence to improve care delivery as well as new treatments and therapies.** We will use improvement science to inform practice and develop improved evidence-based care models. Researchers in KIS will work closely with clinicians to take practical, effective decisions about safe and efficient service organisation and design, to benefit the health and well-being of patients. Our inter-disciplinary team of over 300 engineers and physical scientists in imaging science are developing novel diagnostic and image guided interventional tools that will have a major impact on the management of children and adults with cardiovascular disease, cancer and neurological problems. In cancer, we are trialling imaging technology for use during surgical resections to ensure complete tumour removal. In cardiovascular, we expect that our current work on biomarkers to translate into novel diagnostic markers for patients with heart failure. In dental our research commercialisation will enable teams to visualise the extent of dental decay without x-rays;
- **drive Southwark and Lambeth Integrated Care (SLIC).** We will deliver a radical new approach to integrating services across secondary, primary and social care. Local people are playing a major role in shaping this vision and have a leading role as members through a Citizen's Forum;

- **train our students and staff to deliver more integrated care (including physical and mental health).** We will integrate care around the patient by bringing together our academics and clinicians to overcome traditional distinctions between mind and body (for example through routine screening for depression, alcohol and dementia);
- **we will ensure all patients with chronic physical disease are screened for mental health co-morbidities** through extending the IMPARTS programme, supporting our objective to deliver integrated care for the 'whole person'. Data collected will drive research and promote continuous improvement in clinical practice;
- **build on our position as Europe's lead provider of health education, striving for international excellence** whilst seeking to widen local access to healthcare careers, provide innovative learning opportunities and extend our reach into our communities as a local employer. We will work together to transform our workforce, giving staff the skills and expertise necessary to excel in the demanding tripartite environment of the modern AHSC;
- **build on our strong culture of learning** that is informed by research and central to clinical practice, overseen by our Education Academy to ensure consistent standards of excellence. Roll out more innovative courses, including MScs, and further develop our online Learning Hub so that within five years it is a national and international resource for healthcare staff, students and trainees;
- **prioritise patient experience.** Believing that patient experience and outcomes are the most appropriate measure of the success of our mission to integrate research, health education and patient care, we will measure and share key outcomes across our CAGs, recording metrics including academic outcomes as well as quality of care and clinical measures;
- **better exploit patient data for research through integrated IT systems** across KHP and with external healthcare organisations and industry. Leveraging the scale of electronic clinical data, we will establish a larger number of patient trials addressing the health issues that matter to our local population, in partnership with our AHSN and CLAHRC;
- **increase staff, students' and trainees' access to research opportunities** across all our organisations and the AHSN, improving research infrastructure and support for a greater range and number of health professionals enabling them to be involved in research;
- **focus on achieving world-leading excellence in our key specialty areas** by pooling clinical and academic expertise within our CAGs, using our research infrastructure to accelerate the translation of research into new drugs and treatments;
- **extend opportunities for students to undertake more joint or intercalated degrees** with other academic disciplines. We will support new professional roles, such as integrated care practitioners, who work across physical and mental health and social care.

### 3. Our approach to multi-professional working and training

We have a well-established programme of multi-professional education, giving our students and trainees the opportunity to learn with, from and about other healthcare professions both within KHP and in external clinical placements in order to develop their skills as a collaborative practitioner, thereby strengthening health systems and improving health outcomes. We have implemented processes to underpin multidisciplinary working across the AHSC, including the development of Honorary Passports and a Mutual Recognition Agreement, allowing full mobility of staff across organisations avoiding duplication of recruitment checks.

Our future strategy aims to maximise the impact of our programmes and build on our past successes. We will:

- develop new and exciting multi-professional learning opportunities, including clinical team simulation. The KHP Simulation Programme supports simulation centres on all campuses. Training includes treatment and prescribing, decision making and team functioning to improve safety and outcomes;
- highlight gaps and demands in training needs and refine our Clinical Education Master's Degree to strengthen inter-professional and multidisciplinary working;
- roll out multi-professional training across CAGs, sharing best practice and improving outcomes, for example the Medicine CAG has brought together the two elderly care departments to share research and clinical experience, aiming to reduce length of stay, complications and mortality;
- involve patients and public in the co-design and delivery of our education programmes, for example SUITE is a service user-led department that delivers education programmes to staff at SLaM;
- continue to invest heavily in clinical skills facilities and faculty training to maximise the effectiveness of multi-disciplinary and multi-professional working;
- drive Safety Connections, a KHP-wide programme to enhance patient safety with a Health Improvement faculty that is multi-disciplinary and multi-professional.

### 4. Working with the LETB to deliver this strategy

We provide local leadership to the commissioning of health education. Our leaders are key members of the Health Education South London (HESL, formerly the LETB) Board and its sub-committees. The HESL and AHSN share a single south London Membership Council and the HESL is explicitly supporting the clinical priority areas of the AHSN (including cancer, diabetes, dementia and alcohol). KHP also supports the

Workforce Planning Group, whose aim is to ensure appropriate education and training to meet future workforce needs to deliver integrated and whole person care across care pathways, particularly for patients with long-term conditions.

#### **5. Benefits for patient care, research and education**

We believe that our five-year strategy for integrating the tripartite agenda will have considerable benefits for patients, research and education.

- **Benefits for patient care** - including improved outcomes, resulting from evidence-based care pathways and improved patient access to cutting edge treatments and participation in research.
- **Best for staff and students** with education programmes at the heart of the AHSC, enabling staff to work across the mental and physical range and to be excellent as clinicians and researchers. Offering inter-professional education means that professionals who work together, train together.
- **Best for research translation**- bringing academic activity and research infrastructure close to clinical services encouraging innovation and an increased focus on translational research.

## **11. FINANCIAL PERFORMANCE (1 page)**

**Please describe the current and prospective financial performance of the partnership's constituent NHS provider and university organisations.**

The KHP partners comprise three NHS Foundation Trusts and a university, all of which are financially strong.

All three NHS providers have been Foundation Trusts (FTs) since before the AHSC programme began. Each has adopted, maintained and continually developed robust and effective systems of financial control and corporate governance. The quality of management controls and the financial strength of each organisation are continuously and closely monitored by the regulator, Monitor specifically:

- Each of the three FTs in both of the last two completed financial years reported underlying surpluses.
- Each of the three FTs have submitted three year financial projections to Monitor that anticipate underlying surpluses in each of the three years.
- For the latest full year reported (being the year to 31 March 2013) each of the FTs had a Monitor overall Financial Risk Rating of 3.
- The three year financial plans submitted to Monitor indicate annual risk ratings under the new Cost of Servicing Risk Ratings metric of four for SLAM and GStT and three for KCH.
- As at 31 March 2013:
  - GStT had net assets of £929m and cash reserves of £129m;
  - KCH had net assets of £258m and cash reserves of £41m;
  - SLAM had net assets of £293m and cash reserves of £82m;

Whilst all FTs are faced with the challenge of constrained healthcare budgets, the requirement to make annual efficiency savings and growing demand for their services, the NHS providers within KHP each have a track record delivering significant annual savings which in aggregate have exceeded £150m over the last two years. The FTs also seek to grow and diversify their income base by pursuing opportunities to enhance revenue from non-NHS and commercial sources.

King's College London (KCL) is regulated by the Higher Education Funding Council for England which funds teaching and research, monitors financial health, ensures teaching quality is assessed and ensures compliance with charity law. Specifically as regards financial performance:

- In the last two academic years, KCL's published accounts reported significant net surpluses of £27.5m and £43.6m.
- The unaudited accounts for the current year ended 31 July 2013 indicate a net surplus of £7.1m during a period of significant change for English higher education.
- KCL has prepared financial projections which anticipate net surpluses in each of the next three years.
- At the date of its last published accounts, KCL had net assets of £776m and cash reserves of £221m.

KCL plans to leverage its reputation as a leading university by a programme of investment in student and faculty resources to achieve a further sustained uplift in academic quality, including the quality of the student body, and the quality and volume of research.

The KHP partners are currently going through a process to consider options for closer integration, which include an option for a full merger of the three NHS providers. Closer integration will only be undertaken if it enhances the clinical, academic and financial strength of KHP. To this end the Full Business Case process includes a rigorous assessment of the additional opportunities for economies of scale, cost savings, income growth and commercial ventures that may be possible from closer integration. The FBC process is expected to be completed during the first half of 2014.

Notes: Underlying surpluses exclude non-cash technical accounting adjustments for impairments to the value of fixed assets and non-recurrent exceptional costs.

## 12. ADDITIONAL COMMENTS (1 page)

Please use this section to address directly any feedback provided by the Panel on your application at the shortlisting stage, including any highlighted issues with quality of patient care such as adverse Monitor or CQC ratings.

The three NHS Foundation Trusts confirm that during the lifetime of the AHSC they have not been subject to formal regulatory action by their regulators, including Monitor and the Care Quality Commission. All three work to maintain and improve their financial position and service quality and are committed to providing the highest quality care for their patients and users.

## 13. DECLARATIONS AND SIGNATURES

*By signing the declarations the named individual is agreeing that they are authorised to do so on behalf of their organisation.*

**Please print this page, have it authorised and return it by post by 7 October 2013 to the address stated at the bottom of this form.\***

The applying English NHS Provider/University Partnership fully endorses the application for an Academic Health Science Centre award and assert that appropriate support will be provided to the AHSC should the application for designation be successful.

English NHS Provider/University Partnership: King's Health Partners.

**Name, job title, address, email and telephone number of the lead contact for the proposed AHSC:**

Professor Sir Robert Lechler, Executive Director, King's Health Partners [Robert.lechler@kcl.ac.uk](mailto:Robert.lechler@kcl.ac.uk)

PA: Jane Pearson, [jane.pearson@kcl.ac.uk](mailto:jane.pearson@kcl.ac.uk) 0207 188 8794

Signature:



(Lead contact for the proposed AHSC)

Date: 30/09/2013

If you have questions about the completion of this form please e-mail Sonja Tesanovic at [sonja.tesanovic@nihr-ccf.org.uk](mailto:sonja.tesanovic@nihr-ccf.org.uk).

This form must be submitted by **1:00pm on 30 September 2013**. The 'wet-ink' Declaration and Signatures section of the application form should be received by NIHR CCF on **7 October 2013**, and sent to:

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TW1 3NL