Academic Health Science Network Prospectus

November 2012
Foreword

The primary purpose of Academic Health Science Networks (AHSNs), as proposed in the Department of Health’s paper on Innovation, Health and Wealth (December 2011), is to deliver proven innovation into practice at scale, both to improve patient and population health outcomes, and to create wealth for our nation.

UCLPartners is fully committed to address these challenges. This prospectus sets out our vision and plan for creating an AHSN that will mobilise the innovation of some of the world’s leading clinicians and academics, in collaboration, across an extensive range of partners involving our whole health and well-being economy and local government, to achieve measurable health gain and economic benefit – both for our six million-strong local population, and across the UK.

In the three years since UCLPartners was founded we have already made great strides in strengthening collaboration between patients, the National Health Service (NHS), Higher Education Institutions (HEIs) and industry, to overcome the common barriers to diffusion and implementation of healthcare innovation. Our bid to become an AHSN, which will significantly broaden our network of collaborators and scope for impact, is the next stage in our evolution. As Charles Darwin is supposed to have said:

‘In the long history of humankind (and animal kind, too) those who learned to collaborate and improvise most effectively have prevailed.’

This prospectus shows how UCLPartners AHSN will harness such collaborations to drive a whole system approach to health improvement, including the wider determinants of health, and thereby create resilience to address future financial and clinical challenges. Additionally, the prospectus shows how we will enable our partners and affiliated organisations to implement best practice systematically, as defined in National Institute for Health and Clinical Excellence (NICE) guidelines, the NHS Outcomes Framework, or already established elsewhere in the network, the UK or internationally.

We have already reached out to new and existing members of the network through a series of stakeholder events to develop this prospectus. We have shared our approach openly with aspiring peer AHSNs and others throughout its development, and learned from them. We welcome many and diverse new partners who share our ethos of collaboration and delivery, and are delighted that they wish to join us in delivering health improvement at scale, and in creating wealth for the UK.
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<tr>
<td>AHSC</td>
<td>Academic Health Science Centre</td>
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<td>AHSN</td>
<td>Academic Health Science Network</td>
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<td>ARHP</td>
<td>Anglia Ruskin Health Partnership</td>
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<td>ARU</td>
<td>Anglia Ruskin University</td>
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<tr>
<td>BHRUT</td>
<td>Barking Havering and Redbridge University Trust</td>
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<td>BLT</td>
<td>Bart’s and The London NHS Trust</td>
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<td>BRC</td>
<td>Biomedical Research Centre</td>
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<td>BTUH</td>
<td>Basildon and Thurrock University Hospitals</td>
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<td>CAMHS</td>
<td>Child and Adolescent Mental Health Service</td>
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<td>CCG</td>
<td>Clinical Commissioning Groups</td>
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<td>CEO</td>
<td>chief executive officer</td>
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<td>CG</td>
<td>clinical guideline</td>
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<td>CHAPTER</td>
<td>Centre for Health Service &amp; Academic Partnership in Translational eHealth Research</td>
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<td>CI</td>
<td>Clinical Investigator</td>
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<td>CLAHRC</td>
<td>Collaboration for Leadership in Applied Health Research and Care</td>
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<td>COPD</td>
<td>chronic obstructive pulmonary disease</td>
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<td>COPs</td>
<td>Communities of Practice</td>
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<td>CQUIN</td>
<td>Commissioning for Quality and Innovation</td>
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<td>CRN</td>
<td>Clinical Research Network</td>
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<td>CTU</td>
<td>Clinical Trials Unit</td>
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<td>CVD</td>
<td>Cardiovascular disease</td>
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<td>DEIPP</td>
<td>Developmental Early Identification and Prevention Programme</td>
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<td>DFID</td>
<td>Department for International Development</td>
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<td>DTP</td>
<td>Designated Trial Pharmacist</td>
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<td>eCRF</td>
<td>electronic case record form</td>
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<td>ELFT</td>
<td>East London NHS Foundation Trust</td>
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<td>EoE</td>
<td>East of England</td>
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<td>EOI</td>
<td>Education Outcomes Framework</td>
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<td>EOI</td>
<td>expressions of interest</td>
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<td>EPR</td>
<td>electronic patient record</td>
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<td>FAST</td>
<td>Families and Schools Together</td>
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<td>GOSH</td>
<td>Great Ormond Street Hospital</td>
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<td>HASU</td>
<td>Hyper Acute Stroke Unit</td>
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<td>HEE</td>
<td>Health Education England</td>
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<td>HEI</td>
<td>Higher Education Institution</td>
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<td>HII</td>
<td>high impact innovations</td>
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<td>IAAPT</td>
<td>Improving Access to Psychosocial Therapies</td>
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<td>ICC</td>
<td>inherited cardiovascular conditions</td>
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<td>ICVS</td>
<td>Integrated Cardiovascular System</td>
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<td>IHW</td>
<td>Innovation, Health and Wealth</td>
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<td>IRMER</td>
<td>Ionising Radiation (Medical Exposure) Regulation</td>
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<td>ISL</td>
<td>Improvement Science London</td>
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<td>IT</td>
<td>information technology</td>
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<td>ITAP</td>
<td>Intraosseous Transcutaneous Amputation Prosthesis</td>
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<td>LAAAs</td>
<td>light-activated antimicrobial agents</td>
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<td>LETB</td>
<td>Local Education and Training Board</td>
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<td>MCRN</td>
<td>Medicines for Children Research Network</td>
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<td>MDECS</td>
<td>Medical and Dental Educational Commissioning System</td>
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<td>MRC</td>
<td>Medical Research Council</td>
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<td>MRI</td>
<td>magnetic resonance imaging</td>
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<td>NCEL</td>
<td>North Central and East London</td>
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<td>NCL</td>
<td>North Central London</td>
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<td>NECLES</td>
<td>North East North Central and Essex</td>
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<td>NEL</td>
<td>North East London</td>
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<td>NELFT</td>
<td>North East London Foundation Trust</td>
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<td>NHS</td>
<td>National Health Service</td>
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<td>NIC</td>
<td>National Innovation Centre</td>
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<td>Acronym</td>
<td>Description</td>
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<tr>
<td>NICE</td>
<td>National Institute for Health and Clinical Excellence</td>
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<td>NICOR</td>
<td>National Institute for Cardiovascular Outcomes Research</td>
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<td>NIHR</td>
<td>National Institute for Health Research</td>
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<td>NIV</td>
<td>Non-invasive ventilation</td>
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<td>ODM</td>
<td>Oesophageal Doppler Monitoring</td>
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<td>PH</td>
<td>public health</td>
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<td>PIC</td>
<td>Patient Identification Centre</td>
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<td>PREM</td>
<td>patient-related experience measure</td>
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<td>PROM</td>
<td>patient-reported outcome measure</td>
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<td>QMUL</td>
<td>Queen Mary, University of London</td>
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<td>QS</td>
<td>quality standard</td>
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<td>R&amp;D</td>
<td>research and development</td>
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<td>SBRI</td>
<td>Small Business Research Initiative</td>
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<td>SEPT</td>
<td>South Essex Partnership Trust</td>
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<td>SINAP</td>
<td>Stroke Improvement National Audit Programme</td>
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<td>SME</td>
<td>small- and medium-sized enterprises</td>
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<td>UCL</td>
<td>University College London</td>
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<td>UCLH</td>
<td>University College London Hospital</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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<td>WSD</td>
<td>Whole System Demonstrator</td>
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Executive Summary

UCLPartners was designated as an Academic Health Science Centre (AHSC) in 2009 – a partnership between universities and healthcare providers to ensure that medical research breakthroughs lead to direct clinical benefits, at pace, for patients and populations. We have already achieved significant successes, ranging from clinical service reconfiguration and enhancement to the development and commercialisation of new therapeutic approaches. For example:

- UCLPartners AHSN facilitated development of the unified stroke service across North Central London (NCL), including a single-point-of-entry Hyper Acute Stroke Unit (HASU) to which all ambulances bring all patients with suspected acute stroke, 24/7. Early evaluation shows delivery of thrombolysis at 14–18%, compared with a UK average of 9% (National Institute for Health and Clinical Excellence [NICE] guidance TA264). This corresponds with a reduction in mortality of 30% (double the national average improvement), and a significant reduction in the total cost of care.

- A method for growing transparent tissue, developed by academics at University College London (UCL), was licensed to TAP Biosystems (formerly The Automation Partnership). Collaboration with the National Institute for Health Research (NIHR) Biomedical Research Centre (BRC) at Moorfields Eye Hospital brought therapeutic applications to cure some forms of blindness through the proposed generation of a complete ocular surface. We celebrate and share the entrepreneurial learning of such successes across the partnership.

We have progressively welcomed new organisations to the partnership, expanding our population focus and enhancing our academic strengths.

i. Vision and principal strategic goals

We have a bold vision for UCLPartners AHSN:

We will translate cutting edge research and innovation into measurable health gain for our local population of six million, and help achieve a step change in adoption both nationally and internationally.

This vision will be underpinned by an unrelenting focus on setting global standards of excellence in education, research and clinical practice. And it will rest on a deep commitment to building collaboration between patients, academia, the local National Health Service (NHS), local government and industry – thinking and acting in partnership to serve communities across a major health economy.

The principal strategic goals of UCLPartners AHSN, driven through all our work on service improvement, education and research, will be to:

- Improve health: support and facilitate measurable improvements at scale and pace in the health, healthcare and well-being of our population, while significantly reducing health inequalities.
• **Create wealth:** enhance economic gain for our population through improved health, innovation and implementation, while improving the return on research and healthcare investment.

**ii. Geographic footprint, partners and population covered**

UCLPartners AHSN will serve a contiguous population of six million people across NCL, North East London (NEL), South and West Hertfordshire, South Bedfordshire and South West and Mid Essex, mapping to 20 Clinical Commissioning Groups (CCGs). New members from Hertfordshire and Essex, included within the Anglia Ruskin Health Partnership (ARHP), will join as equal partners bringing complementary clinical and academic expertise and enhanced scale.

This UCLPartners AHSN bid includes support from a wide range of partners across the proposed geographic footprint, including: patients; CCGs; acute, community and mental healthcare providers; industry; local government; independent and third sector providers of NHS care; and international academic and clinical partners. Partnerships with local authorities and linkages with local health and well-being boards will play a fundamental role, given the importance of primary prevention in realising much of the AHSN’s vision. The AHSN also creates the opportunity for further partnerships, including progressive alignment of Clinical Networks, Clinical Research Networks, Local Education and Training Boards (LETBs), and the imminent call for Collaboration for Leadership in Applied Health Research and Care (CLAHRC) bids.

Close partnership involving providers, CCGs and Commissioning Support Units is a critical success factor for our AHSN. CCGs will transform the commissioning landscape. Our AHSN will deliver innovation into practice, which will enable commissioners to deliver their obligations and clinical priorities and to innovate. We have co-created this prospectus with commissioners to align priorities – commissioners are already key partners in creating our programmes. We start in a good place: UCLPartners has already been commissioned to deliver projects, both large and small, and CCGs have highlighted the role they can play in aligning the Commissioning for Quality and Innovation (CQUIN) payment framework for AHSN programmes to reward excellence.

**iii. Implementation of innovation**

We will build on substantial experience implementing National Institute for Health and Clinical Excellence (NICE) guidance in frontline services. For example, UCLPartners has already supported 188 primary care practices in outer NEL to translate NICE guidance into a package of interventions that are improving chronic obstructive pulmonary disease (COPD) outcomes and patient experience. We will work across the AHSN, with industry partners and with NICE to address individual, organisational and system-level barriers to implementation. We will also apply our experience delivering change to support our members to implement high impact innovations. We will draw lessons from our experience leading the ‘After the Light Bulb’ initiative, funded through NHS London’s Regional Innovation Fund, to diffuse innovations, designing the approach from the outset with those who will implement the change.
iv. Wealth creation

By increasing the health of our population, we will deliver a direct economic return by increasing work-force productivity. In addition, we plan to create a culture that celebrates wealth creation locally and for the UK, made manifest through promotion of entrepreneurship, industry collaboration and inward investment. Two new job exchange programmes have already been created with industry partners during the AHSN development, with many more to follow.

We will also seek strategic alliances to co-develop and drive implementation of biomedical, medtech and informatics solutions across the system and within our Integrated Programmes. There are already more than 400 life science industry contracts across the network, with a total value in excess of £60 million. There is evidence of significant progress over the past year, for example:

- Development of £4.7 million new commercial contracts in the past 6 months at Anglia Ruskin University (ARU) (from a minimal baseline).
- Increase in commercial contracts at UCL of 22% over the past year.
- Increase in the contribution of our AHSN partners to the total commercial trial patient recruitment in London from 13% to 47% in London over the past two years.

We will build on our collaborations with industry and provide further access to world-class discovery and medical technology, ability to deliver first-in-man studies, and the potential to offer access to clinical trials for the major population we serve.

v. Research

Our AHSN and AHSC Research Strategies will be fully integrated, overseen by a single research board working across the research translational pathway, championing broad participation in research and entry into clinical trials, and the translation of innovation into practice (see Chapter 5, Figure 5.1). The AHSC’s focus on discovery and proof-of-concept research will complement the AHSN’s focus on clinical trials and applied research. We will build on our experience of simplifying access and improving performance to attract new partners and investment.

Our AHSN strategy will focus on aligning research priorities across the translational pathway within research themes, delivering an AHSN-wide system to manage clinical trial performance and participation, building world-class Applied Health and Informatics research capabilities, building strategic collaborations with industry to enhance wealth creation, and using metrics to align and drive priorities and accelerate movement along the translational pathway.

vi. Education

Excellent education across the AHSN will be driven by a commitment to instil the fundamental values and behaviours required to enable high-quality patient experience and outcomes. UCLPartners already holds a contract with NHS London as ‘Lead Provider’ for many core and specialty postgraduate medical and dental training programmes, and recently launched an accelerated
postgraduate nursing and midwifery training scheme to ensure similar opportunities and wider multiprofessional development.

We will bring together universities, employers, practice opportunity providers, students, patients and other key stakeholders to plan education and training responses to the challenges that arise in reaching our goals: we will continue to marshal expert groups to advise LETBs and other commissioners, ensuring priorities are based on the best possible intelligence.

We have four priorities for education: developing system-level education, developing leaders with the capability to deliver health improvement, supporting ‘Integrated Programme’ delivery and increasing research capabilities, including its commercialisation. These align strongly with the North Central and East London (NCEL) LETB strategic goals.

Educational delivery will be integrated with the AHSN’s core programmes, ensuring that training is closely aligned to innovation in clinical service and research. For example, UCLPartners education programme is already integrated with London Cancer, so that innovations such as early diagnosis and improved multidisciplinary team working are rapidly incorporated into the training of our current and future clinicians.

vii. Informatics

As a world-leading AHSN we will also ensure that we are supported by a world-leading Informatics network, sharing information securely between multiple complex organisations to support improvement in direct patient care, population health, value and research, and provide a platform that will act as a catalyst for change.

We have four priorities for Informatics: aligning systems across the network to create a platform for the safe sharing of clinical information; supporting the AHSN Integrated Programmes by deploying technology enabling the delivery of programme objectives; enabling research participation; and increasing effectiveness and reach of education.

viii. Integrated programmes

UCLPartners AHSN will drive a series of major, collaborative Integrated Programmes. These programmes will, together, be the central vehicle through which to create, search for and apply innovation at a system level, and to put into practice the approach outlined above. Our programmes will integrate prevention, service improvement, implementation of innovation, wealth creation, research, education and informatics across the network, and create seamless pathways from prevention through to treatment, and (where needed) through to rehabilitation or end-of-life care. Informed by long-standing and extensive dialogue with our partners and population, we have identified five priority programmes for the AHSN, which together account for over 80% of both amenable premature mortality and current healthcare spend. Each programme will embody collaborative, cross-boundary working and includes many world leaders in the field. The five programmes are:

1. Integrated Cancer. Each year there are over 10,000 cancer deaths across our partnership. Many of these are avoidable through earlier diagnosis and minimising variation in access and treatment. UCLPartners recently built the London Cancer Integrated Cancer System across NCL,
NEL and West Essex, working to drive a step change in improvements to outcomes and patient experience. The AHSN provides an opportunity to partner across a broader geography.

2. **Integrated Cardiovascular Health.** Across UCLPartners there are around 12,000 deaths per year from cardiovascular disease. We will design and deliver an Integrated Cardiovascular System (ICVS) that maintains health, prolongs event-free survival, and provides world-class treatment for those with manifest disease.

3. **Integrated Mental Health.** Mental health disease represents a quarter of the nation’s overall burden of disease. The integrated mental health programme will focus on prevention, early identification and intervention, addressing social determinants and consequences of mental disorder, and additionally the promotion and integration of mental and physical health.

4. **Integrated Co-morbidities.** The programme will build on existing work to integrate the management of patients with multiple health issues, and diffuse it across the network. This programme does not take a disease or a disease-area/specialty paradigm: rather, it reflects the reality that many patients with long-term conditions have more than one co-morbidity, and there is urgent need to organise care around the needs of these patients rather than by disease ‘silo’.

5. **Life Course for Women, Children and Adolescents.** The life-course approach recognises that natural and often predictable events in women’s lives, such as pregnancy and childbirth, have far-reaching impacts on the health and disease of both mother and child. This programme builds on the established UCLPartners Women’s Health and Child Health Programmes, and focuses on subsequent teenage support through work with schools and Higher Education Institutions (HEIs).

We will encourage new integrated programmes to form in subsequent years, aligned with the AHSN’s objectives. We will continue to deliver pull-through of discovery and innovation into practice at a population level from all of our other established AHSC programmes, which are becoming embedded in the network: Ear, Nose and Throat (ENT), Eyes and Vision, Gastroenterology and Hepatology, Immunology and Transplantation, Infection, Neurosciences and Population Health. These all harness specific areas of academic expertise to translate innovation into practice. For example, Moorfields Eye Hospital and its associated UCL Institute of Ophthalmology provide substantially the largest clinical practice – and have the greatest academic contribution – to eyes and vision globally.

In utilising this approach we will enable delivery throughout all five domains of the NHS Outcomes Framework and the Commissioning Board’s Mandate for our AHSN. Each Integrated Programme has a clear focus on: preventing premature mortality, delivering better integrated care and support to those affected by long-term conditions, enhancing and accelerating recovery and rehabilitation, improving people’s experience of care, and protecting people against harm. We will also address Domain 5 through the UCLPartners Quality Forum – sharing good practice, knowledge and skills for quality and safety through peer-to-peer learning and support.

Table 1 below highlights examples of alignment between the five domains within the Outcomes Framework and our AHSN objectives.
Table 1. Five domains within the Outcomes Framework and the AHSN objectives

| Domain 1 | Reducing premature mortality from major cause of death (rf. Cancer and Cardiovascular Programmes)  
| Domain 2 | Ensuring people feel supported to manage their condition, improving functional ability in people with long-term conditions and enhancing quality of life for carers (rf. Cancer, Mental Health, Co-morbidities and Life Course)  
| Domain 3 | Improving outcomes from planned treatments: psychological therapies (rf. Mental Health)  
| Domain 4 | Patient experience of hospital care (rf. Cancer, Cardiovascular, Co-morbidities and Life Course)  
| Domain 5 | Reducing the incidence of avoidable harm and delivering safe care to children in acute settings (rf. ‘UCLP Quality Forum’ and Deteriorating Patient Initiative)  

**ix. Measuring and ensuring performance**

We will use **measurement** to ensure we deliver our core purpose as an AHSN. Measures will be co-created by those accountable for delivery and will drive continuous improvement in quality. Health and wealth improvements will be rigorously evaluated, specifically:

- Measures will be used to establish a **results-orientated system**, focusing energy on delivering the AHSN’s strategic priorities and on continuous improvement.
- Measures will play an important role in directing attention to areas that will have the **most health and wealth impact** (taking account of patient, population, clinical and health service perspectives, and contribution to jobs and gross domestic product).
- We will link measurement, where possible, to relevant internal and external **benchmarks** and focus on **trends over time** (e.g. variation within UCLPartners, comparison with national data and relevant leading international comparators).

To be of greatest benefit to patients and have traction with clinicians, we will measure and improve a small number of **quality metrics** (the ‘vital few’) that capture what matters most to patients at the level of each major disease state, pathway or cluster of conditions. By pairing health improvement outcomes with resource use measurements, we will track **value** in care delivery and develop whole pathway ‘value scorecards’ for each of our five priority programmes – so helping to maximise the outcomes delivered for patients per pound spent.
Finally, we have developed rigorous methods to produce rapid yet comprehensive evaluations that stand up to academic peer review. We will draw upon the considerable methodological expertise that exists within our HEI partners.

**x. Governance and leadership**

The designated AHSN and AHSC functions will be overseen and delivered through one legal entity, UCLPartners, which is a social enterprise set up in 2009 as an incorporated body limited by guarantee. The governance and leadership approach of UCLPartners will be as follows:

- UCLPartners will be led by an accountable officer (the Managing Director; post holder Professor David Fish).
- A single independent UCLPartners Board will provide oversight of strategy and delivery, ensure good governance and act as custodian of values (Independent Chair; post holder Sir Cyril Chantler).
- The UCLPartners Executive will define and approve strategy, provide leadership, allocate resources and ensure that the strategic goals are delivered.
- Executive groups will lead delivery on implementation of innovation, research, education and informatics and our portfolio of programmes.
- An Advisory Council will represent the views of the full range of stakeholders and members of the AHSN, and a ‘UK plc Group’ will help ensure that we drive the wealth creation agenda embedded throughout every programme.

**xi. Financial**

It is our partners – not UCLPartners directly – who hold the major budgets, which, across the geography, are in excess of £10 billion annually. The AHSN core budget will represent substantially less than 0.1% of the total budget deployed by the NHS in our geography. Clinical commissioners, healthcare providers, universities and the LETBs hold the major resources. UCLPartners will enable these organisations to increase return on the investments they make and generate more value from the system.
Chapter 1: Vision and Principal Goals

We have a bold **vision** for UCLPartners Academic Health Science Network (AHSN):

*We will translate cutting edge research and innovation into measurable health gain for our local population of 6 million, and help achieve a step change in adoption both nationally and internationally.*

This vision will be underpinned by an unrelenting focus on setting global standards of **excellence** in education, research and clinical practice, including: using the best science likely to deliver valuable new technologies; continually challenging mediocrity; disrupting inertia to change; and completing what we say we will do. The vision will also rest on a deep commitment to building **collaboration** between patients, academia, the local National Health Service (NHS), local government and industry – thinking and acting in partnership to serve communities across a major health economy (Figure 1.1):

Figure 1.1: Vision for UCLPartners AHSN

The principal **strategic goals** of the UCLPartners AHSN, driven through all our work on implementation of innovation, research, education and informatics will be to:

- **Improve health**: support and facilitate measurable improvements at scale and pace in the health, healthcare and well-being of our population, while significantly reducing health inequalities.

- **Create wealth**: enhance economic gain for our population through better health, innovation and its implementation, and improve the return on research investment.
Chapter 2: Geographic Footprint

This chapter sets out UCLPartners’ proposed geographic coverage, and the population and partner organisations that will make up UCLPartners as an Academic Health Science Network (AHSN). First, we provide an overview of the proposed geographic coverage and the partner organisations; second, and in recognition of the very real challenge of scale our AHSN will present, we set out the supporting rationale for our choice of an AHSN larger than our current Academic Health Science Centre (AHSC) footprint. We set this out in detail using the example of the inclusion of parts of Essex (new to UCLPartners) and North East London (NEL; currently part of UCLPartners AHSC), including detail from examples of work to date and their impact. The third section outlines our current and future plans for engagement and establishing a common identity, and sense of purpose across the partnership, here using Clinical Commissioning Groups (CCGs) as the main example.

Essex/NEL and CCGs are explored in detail because together they illustrate both the rationale and the method of building a partnership across more than 120 independent organisations: Essex and NEL share many of the opportunities (and challenges) that Hertfordshire and Bedfordshire and Luton present in terms of geographic relationships; and our focus on meeting the needs of CCGs illustrates our resolve to engage new types of partner as equals.

UCLPartners will share geographic boundaries with two other AHSNs in London (King’s Health Partners and Imperial College Health Partners), and two AHSNs outside London (the Eastern AHSN and Oxford AHSN). Extensive discussions with leads from the other AHSNs, with partner organisations and local discussions with other bodies representing the public’s view, have led to the proposals given here (and these proposed boundaries are mirrored in the other AHSNs’ submissions). Our collective aim throughout has been each to find a geography and set of partner organisations that best equip each AHSN to deliver its core function as a ‘horizontal integrator’ for faster delivery of innovation into practice. As such, our proposed geography, like that of the other AHSNs, must reflect natural economies, built around transport links, and populations of sufficient size.

Population flows and ties, transport links, employment and commuting patterns, combined with existing professional relationships and flows (across service, research and education) create a set of natural health economies defined by AHSNs whose boundaries often have much greater relevance and resonance with the public (and staff) than did the Strategic Health Authority boundaries. Historical arrangements, the Borough structure and role of National Health Service (NHS) London, and the River Thames make the geographic boundaries within London relatively simple to determine. Similar factors make for a relatively easily set AHSN boundary to the west of Hertfordshire and Luton.

By far the most complex border to determine is that between UCLPartners and the Eastern AHSN – but determining a border is essential. We recognise that, overall, residents of East and North Hertfordshire and of North East Essex have closer links to Cambridge than to London: their major acute providers and associated services/CCGs will naturally be partners with the Eastern AHSN. Therefore, in consultation with the key stakeholders, both UCLPartners and the Eastern AHSN propose a border that reflects this.

Toward maximising the benefits for the populations we each serve, the Eastern AHSN and UCLPartners are committed to working collaboratively to optimise and align structures wherever
possible that are most appropriate for the population, patients, trainees and staff. Both the Eastern AHSN and UCLPartners anticipate that the LETB and Clinical Research Network (CRN) infrastructure will progressively align with the proposed AHSN boundaries to facilitate training to meet population and institutional needs and harmonisation of research processes. This does not mean fewer resources are to be located within the counties; conversely, it means greater support to ensure strong local research and education bases are maintained and developed.

The boundary also needs to be spanned when appropriate: working together, the AHSCs will be flexible to ensure that where initiatives most appropriately span our border (e.g. county-wide initiatives), or where it makes sense to work with a larger population drawn from more than one AHSN/AHSC, we will work jointly to support local delivery. More broadly, we will ensure the boundary is always ‘porous’, promoting sharing of local learning and building of relationships for mutual benefit.

i. Overview of the proposed geographic coverage of UCLPartners as an AHSN

UCLPartners as an AHSN will serve a contiguous, direct population of six million people across NCL, NEL, South and West Hertfordshire, South Bedfordshire and South West and Mid Essex – mapping to 20 CCGs (see Figure 2.1). New members from Hertfordshire and from Essex, who are also members of the Anglia Ruskin Health Partnership (ARHP), will join as equal partners, bringing complementary expertise and greater scale.

Figure 2.1: UCLPartners geographic coverage
This ULCPartners AHSN bid includes support from a wide range of partners across the proposed geographic footprint, including CCGs; acute, community and mental healthcare providers; industry; local government; independent and third sector providers of NHS care; and international academic and clinical partners (Table 2.1). Partnerships with local authorities and linkages with local health and well-being boards will play a fundamental role, given the importance of primary prevention in realising the AHSN’s vision. The AHSN also creates the opportunity for further partnerships, including progressive alignment of Clinical Research Networks, LETBNs and Collaboration for Leadership in Applied Health Research and Care (CLAHRC) bids.

Table 2.1. Organisations involved in shaping UCLPartners AHSN proposal

| Clinical Commissioning Groups | Barking & Dagenham, Barnet, Basildon & Brentwood, Camden, Castle Point & Rochford, City & Hackney, Enfield, Havering, Haringey, Hertfordshire Valleys, Islington, Luton & Dunstable, Mid Essex, Newham, Redbridge, Southend, Thurrock Managed Care, Tower Hamlets, Waltham Forest, West Essex.

*Note: most of the above CCGs are currently still proceeding to authorisation as per NHS CB’s timetable to assume their duties in April 2013.*

| Government | Local government across our partnership, including the Greater London Authority and London Councils, Essex County Council, Southend-on-Sea Unitary Authority, Chelmsford City Council and Harlow Council.

| Acute, community and mental healthcare providers | Barking, Havering and Redbridge University Hospitals NHS Trust, Barnet and Chase Farm Hospital NHS Trust, Barnet, Enfield Haringey Mental Health NHS Trust, Barts Health NHS Trust, Camden and Islington NHS Foundation Trust, East London NHS Mental Health Foundation Trust, Great Ormond Street Hospital for Children NHS Foundation Trust, Hertfordshire Community NHS Trust, Homerton University Hospital NHS Foundation Trust, Luton and Dunstable Hospital NHS Foundation Trust, Moorfields Eye Hospital NHS Foundation Trust, North East London NHS Foundation Trust, North Middlesex University Hospital NHS Trust, Royal Free London NHS Foundation Trust, Royal National Orthopaedic Hospital NHS Trust, Tavistock and Portman NHS Foundation Trust, University College London Hospitals NHS Foundation Trust, Whittington Health NHS Trust, West Hertfordshire Hospitals NHS Trust, Basildon and Thurrock University Hospitals NHS Foundation Trust, Mid Essex Hospital Services NHS Trust, The Princess Alexandra Hospital NHS Trust, South Essex Partnership University NHS Foundation Trust and Southend University Hospital NHS Foundation Trust.

| Higher education institutes and research networks | City University London, CLRN for Essex and Hertfordshire, Central and East London CLRN, the Institute of Education at the University of London, London School of Hygiene and Tropical Medicine, London South Bank University, Middlesex University, University College London, London
<table>
<thead>
<tr>
<th>Category</th>
<th>Partners and Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td>Metropolitan University, University of East London, the Queen Mary, University of London, Anglia Ruskin University and the University of Essex. Across the partnership there are more than 100 established industry relationships. Specific recent and/or AHSN-related developments include with Roche, GlaxoSmithKline, Novartis, Pfizer, Merck-Serono, Quintiles, BUPA Home Care, Serco, Olympus, Essex and Suffolk Water, Ipeco, 20/30 Labs and Synergie.</td>
</tr>
<tr>
<td>International</td>
<td>There are many established international partnerships with our Higher Education Institutions, and specific healthcare delivery partnerships with several trusts. The core AHSN has focused on its formal relationship with Yale University and Yale–New Haven Hospital across many domains and with Boston Partners to collaborate on development of whole-system pathway measures and value-based healthcare.</td>
</tr>
<tr>
<td>Independent and third sector providers of NHS care</td>
<td>There are more than 100 established relationships across the partnerships already. Specific recent and/or AHSN-related developments include hospice providers, Macmillan Cancer Support, Marie Curie Cancer Care, Cancerkin, MediHome, Hospital at Home, The London Clinic, Hospital Corporation of America and the Thrombosis Research Institute.</td>
</tr>
<tr>
<td>Other organisations</td>
<td>Business and the technology transfer offices associated with the principal university partners.</td>
</tr>
</tbody>
</table>

**ii. Rationale for a larger AHSN than the current AHSC footprint**

UCLPartners was formed as an AHSC in 2009 as a partnership between one university and four acute/specialist NHS trusts in NCL. Since then, our partnership as an AHSC has followed a trajectory of broadening as well as deepening the partnership: UCLPartners currently includes all NHS trusts (including mental health) and multiple Higher Education Institutions (HEIs) across both NEL and NCL.
As set out above, our AHSN envisages substantial geographic expansion both to the east and the west. Because our history already involves eastern enlargement not only to include NEL but also much of Essex (in part through the North East North Central and Essex Health Innovation and Education Cluster [HIEC], NECLES), and because the question of the logical fit for Essex between UCLPartners and Eastern AHSN is more complex than the equivalent choices for Hertfordshire, Bedfordshire and Luton, the majority of this section focuses on the east. Across many specialties and disciplines, we have a track record of successful working for patient and population benefit with both NEL and Essex. This section is followed by a shorter analysis of the western geography.

A. UCLPartners Eastern Border: North East London and South, West and Mid Essex

1. What is the rationale for including Essex, and previously North East London, within UCLPartners?

Three complementary characteristics make the joining-together of Essex, NEL and NCL within an AHSN a logical arrangement – first and most importantly: population characteristics, migration patterns and transport links; second, existing patient flows, commissioning patterns, professional education and relationships; and third, greater academic strength and potential.

(i) Population characteristics, migration patterns and transport links

Essex has a population of 1.7 million of which over 20% of those in employment commute daily into London via stations with excellent onward public transport links to partner sites in both NEL and NCL. Overall, four major train lines link Essex with NEL and NCL, and three major arterial roads. In short, travel ‘radially’ into and out of London is in general much easier for patients by public transport than it is ‘orbitally’ across Essex itself or to Cambridgeshire. The development of Crossrail (due to open in 2018) will greatly improve these already strong rail links. Reaching Tottenham Court Road (where UCLPartners’ offices are located) will take 32 minutes from Romford and 48 minutes from Shenfield – all without change of train (and there will be a direct connection between Whitechapel and Tottenham Court Road).

Furthermore, over time, natural migration patterns take families and communities from inner to outer London and into Essex. NEL represents the melting pot: predominantly ‘inner London’ characteristics in Barking and Dagenham; ‘Essex’ characteristics over-represented in Havering. Partner organisations such as North East London Foundation Trust (NELFT) and Barking Havering and Redbridge University Trust (BHRUT) therefore have remarkably complex spectra of patients.

London is celebrated for its diverse population: the diversity of NEL and NCL is complementary; for example, Europe’s largest Bangladeshi community is located in Tower Hamlets and one of the largest Turkish communities lives in Haringey/Islington. But without Essex, London is uniform in one crucial respect: it is predominantly urban. Essex adds important diversity – rural, village and small town communities. This is important both for the design, testing and local tailoring of generalisable service innovations, but also to add diversity in all its forms to research populations. By including Essex it is very likely that UCLPartners includes one of the most diverse and complete spectrums of humanity internationally. This is a unique and likely sustainable advantage.
Finally, with diversity comes inequality. Spanning NCL, NEL and Essex, UCLPartners includes some of the most disadvantaged boroughs and wards in England. We aspire to, and we will bring, the best of the AHSN to these communities – to offer them greater access to world-leading treatments and institutions, to be served by the finest professional and provider networks, and to provide greater access to participate in cutting-edge research.

(ii) Existing patient flows, commissioning patterns and professional education and relationships

NEL is served primarily by three acute trusts (Barts Health – itself formed by the merger of Barts and the London Trust, Whipps Cross and Newham – Homerton NHS Foundation Trust and BHRUT, and two mental health trusts (East London NHS Foundation Trust [ELFT] and NELFT). The South, West and Mid Essex geography is served by four acute trusts (Basildon, Mid Essex, Princess Alexandra and Southend), as well as South Essex Partnership Trust (SEPT), and BHRUT, which sits on the NEL–Essex border.

Over 40,000 Essex residents each year are referred to London providers for specialist treatment and more choose to seek emergency care from London-based providers. Referral flows are both to NEL providers (centred on Barts Health, but including others such as the Homerton for certain specialist services, e.g. neonatology) and a wide number of providers in NCL.

Patient flows both reflect and are generated by long-standing professional relationships spanning service provision, research and education, in medicine and in other professions. Many clinical academic appointments in Essex, NEL and NCL link primarily to HEIs in other geographies, and deepening these joint appointments is core to the strategy of a number of partner institutions. Taking one trust, NELFT, as an example (although BHRUT’s strategy is similar): many NELFT clinical academics hold joint appointments with University College London (UCL) and Queen Mary, University of London (QMUL) (sometimes additionally jointly with Trusts such as UCLH, Barts Health and Great Ormond Street Hospital [GOSH]). These links to core primary and scientific research centres are crucial to NELFT’s ability to attract, retain and train the best, and accelerate the translational opportunities stemming from this research into service innovation, bringing more immediate benefit to the often disadvantaged communities NELFT serves.

Existing provider and commissioning patterns and networks frequently span two if not three of the NCL, NEL and Essex geographies (e.g. cardiac, cancer and mental health). The educational rotations, joint networks and professional meetings stemming from these are far too numerous to set out. Some subspecialties span all three geographies – for example, in neurology and neurosurgery, where educational rotations and academic/service appointments in several chronic neurological conditions (including multiple sclerosis, amyotrophic lateral sclerosis and epilepsy) and neurosurgical conditions (including cancer, skull base and vascular surgery) span NCL, NEL and Essex.

These networks facilitate the spread and adoption of innovation and learning for patient benefit, and this will only increase in both speed and scope as networks become deeper and more formalised with the AHSN. They also broaden patient choice and the ability to drive improvement from benchmarking to peer institutions.
Despite the development of Essex in recent years as an academic healthcare/health sciences hub in its own right, undergraduate medical education still spans all three geographies, with UCL medical students rotating to Basildon and QMUL students to Southend.

Professional rotation and migration is not confined to clinicians: it also applies to senior trust management and non-executive leadership: for example, one trust chief executive officer has recently moved from NCL to Essex, another from NCL to NEL; a trust chair has within the past three years been chair at trusts in NCL, NEL and Essex). Such migration fosters better working relationships and understanding.

(iii) Greater academic strength and potential
Essex’s population of 1.7 million takes the total population base of UCLPartners to 6 million lives – all of who have potential to benefit from the AHSN, and a sufficient population for research on all but the rarest of conditions. The diversity within this population makes for unique research potential. In public health, UCLPartners provides the ‘umbrella’ linking the National School of Public Health (based at UCL) to the population of both NEL and Essex, and links to expertise based at City, East London University, QMUL and UCL, creating the potential for the School’s work to focus on the needs of those populations in a much more direct way. Similarly, the Centre for Health Service & Academic Partnership in Translational eHealth Research (CHAPTER) represents a major new eHealth research portfolio, based at UCL, but offering through UCLPartners the potential to link datasets for research and delivery across NCL, NEL and Essex, including the telehealth applications, which are often of greater importance in non-urban settings.

In many fields and specialties, the academic strengths of all the HEIs within UCLPartners across Essex, NEL and NCL are complementary: separately these may be ranked in the top 10 or 20 in UK/Europe on a range of scales, but together they rank 1st, 2nd or 3rd. To take just one example – cardiovascular disease: QMUL has complementary strengths to UCL in blood pressure research and in specialist cardiac subspecialties. Together, UCLPartners can offer a highly attractive proposition, reflected in its recent shortlisting for a British Heart Foundation research ‘hub’, in which the complementary nature of the institutions was crucial. Individual strengths provide potentially wide applicability facilitated by the AHSN across different specialties and sectors: taking AHRP as an example, the rest of UCLPartners can draw on its strengths in a track record of close working with local government (via Essex County Council), innovative work in service delivery (e.g. SEPT in patient experience), and industry relationships with small- and medium-sized enterprises (SMEs) (e.g. medtech campus).

Taken together, these historic and current realities and future potential make it illogical that UCLPartners’ eastern boundary should be either City Road, Hackney, or the eastern fringe of London; rather, NCL, NEL and the parts of Essex included in our submission represent a natural ecosystem for the population, patients and professionals and these further strengthen the potential to deliver improved results for patients and populations, and to attract, develop and retain talented professionals and generate wealth across all academic fields.
B. What benefits have accrued to date from geographic expansion?

As the examples show, benefits have been delivered in diverse forms and been driven by a range of factors. In some cases, UCLPartners has provided a neutral space, fostering the development and deepening of relationships and common purpose, facilitating knowledge transfer and innovation spread – often combined with the injection of catalytic clinical academic leadership combined with project management and analytic capacity. In others, greater scale or the opportunity to capture an opportunity at scale has been the primary driver of progress – for example, creating effective ‘hub’ and ‘spoke’ provision, keeping care local where possible while centralising on fewer centres where this provides better value.

Despite UCLPartners to date not formally including Essex, for reasons outlined in the section above and from the work of the NECLES HIEC (which spanned Essex, NEL and NCL), many activities have to date included Essex as well as NCL/NEL. The examples below in respiratory, maternity, migrant health and eyes and vision stem jointly from work by the HIEC and UCLPartners (further details of many of these examples appear elsewhere in the prospectus; here the emphasis is on benefits across geographies).

(i) Integrated Cancer System: London Cancer

London Cancer, the UCLPartners Cancer Programme, has taken a values-based approach to the appointment of clinical leaders for its cancer pathway boards, open to all professionals across the NEL and NCL geography who were motivated to collaborate beyond organisational boundaries to drive change for local patients. This approach led not only to an equitable distribution of leaders across NCL and NCL, but also an appointment from West Essex. In the case of oesophageal-gastric cancers, the cancer pathway board – which faces the challenge of significant redesign – is being co-led by surgeons from University College London Hospitals (UCLH) and BHRUT.

Patients from the NEL Cancer Partnership Group have been instrumental in helping UCLPartners to focus its work on improving the experience of cancer service users across the whole of UCLPartners. They have designed and carried out reviews of facilities, processes and interviews with local people that have strengthened the patient-experience improvement programme across the system.

(ii) Respiratory

Respiratory work has focused largely on chronic obstructive pulmonary disease (COPD), and goes well beyond the ‘year of care’ COPD work (to improve implementation of NICE guidance across 188 primary care practices set out earlier in this prospectus). Work on COPD across geographies has driven results in the following areas:

- **Lung improvement projects:** five acute trusts in Essex and three in NEL worked together to tailor and implement a patient self-management plan and rescue medication. In patients using the package 30-day readmission was 17% compared with 29% in patients without the package (a statistically significant result at p=0.03).
- **Patient scorecard and self-management plan:** together with the Innovation Unit and the Health Foundation, the HIEC worked with patients to develop a patient scorecard, guiding patients
about disease severity, optimal treatment and access. Patient feedback was strongly positive, with patients reporting a marked increase in their confidence and motivation to manage their condition. Related work centred on delivering the self-management plans devised above: in Barking and Dagenham and Waltham Forest the number of patients with a plan increased threefold from 173 to 570 during the course of the work.

- **Discharge bundle and pulmonary rehabilitation**: the COPD discharge bundle developed and validated by the North-West London CLAHRC was tailored and implemented by five Essex trusts, and was associated with increased patient satisfaction and reduced admissions. The London Respiratory Team in NEL and Essex focused on benchmarking provision of Pulmonary Rehabilitation (a well validated, highly cost-effective intervention for COPD) which led to improved access in all geographies

- **Non-invasive ventilation (NIV)**: a joint working group audited NIV ‘door-to-mask’ times in Essex and NEL trusts and highlighted variation in delivery and models for this NICE standard. Work is underway to reduce unwarranted variation and raise standards in all centres.

### (iii) Maternity
Creating a community of practice across midwives and obstetricians spanning NCL, NEL and Essex (in 12 of a possible 15 sites), NECLES HIEC work focused on promoting normal birth. This led to a reduction in caesarean-section rates from 28.1% pre-intervention to 26.6% post intervention. As a result several trusts achieved local Commissioning for Quality and Innovation (CQUIN) targets and, more importantly, 900 more women had normal births. Further work, which was successful in winning sponsorship from by the Health Foundation’s ‘Closing the Gap’ programme, is focusing on putting mothers-to-be, not professionals, in the driving seat of how care is designed and delivered. This work centres on Newham and UCLH maternity units and initial feedback from mothers is strongly positive.

### (iv) Migrant health and health of homeless patients
The NECLES HIEC supported co-development and adoption of a primary care template across NEL and Essex for managing the health status and needs of migrants, including developing an Egton Medical Information Systems e-template. This allows general practitioners not only to record data on migrants, but also to target patients proactively for uptake of health checks, screening and other priority steps in care and disease prevention.

### (v) Stroke
Building on NHS London’s work to reorganise acute stroke care to eight Hyper Acute Stroke Units (HASUs) across London, UCLPartners has made stroke a focus for both its cardiovascular and neuroscience themes. From being lower quartile on Stroke Improvement National Audit Programme (SINAP) metrics nationally in 2006, London is now the top-ranked English region on most metrics, with NEL and NCL improving at a rate faster than the London average. Working together, the stroke teams have developed a minimum quality dataset spanning the whole pathway from public awareness of risk factors and prevention to rehabilitation. Joint teams from NCL and NEL meet monthly to review data and this is now driving work that the UCLPartners integrated cardiovascular programme will take forward including the ‘root cause analysis’ of all strokes in Camden, and early
supported discharge. Dialogue has started with Essex stroke leads to broaden the stroke outcomes work to Essex.

The HASU at QMUL (a BHRUT site) is not yet in the top quartile on SINAP data, but, like the other two HASUs in NCL and NEL, shows marked improvement in rates of thrombolysis and mortality. The BHRUT and Barts Health HASUs are currently exploring uptake of ‘stroke pad’, a handheld electronic medical record device developed at UCLH, which captures key patient, quality and resource use data routinely in the line of care.

(vi) Deteriorating Patient collaborative quality initiative
UCLPartners Deteriorating Patient Initiative seeks to reduce the number of cardiac arrests in hospitals by adopting a quality improvement and collaborative learning approach across trusts. Originally a collaboration of six trusts in NCL, the work has rapidly progressed to include total 13 trusts including all three acute trusts in NEL, and all four acute trusts in Essex. NEL and Essex trusts are benefiting in the following ways through participation:

• **Learning and applying quality improvement methodology:** NEL and Essex hospitals are making substantial use of the Improvement Advisor (a former Darzi fellow and general practitioner, who has a background in quality improvement) who supports the collaboration. They are also drawing on expertise from the original partners, for example, the Transformation Team at GOSH, who supplies charts of data on a monthly basis. At Basildon and Thurrock University Hospitals (BTUH), sharing data has driven positive change by ensuring that Deteriorating Patient is a key priority of the Trust’s Patient Safety governance. Like the other trusts, BTUH is clear that capturing and sharing data with peers is critical to driving improvement. At Southend University Hospital, data collection has been underway for 3 months and is the basis on which the team is prioritizing where to focus its improvement efforts – for example, Southend is currently undertaking root cause analysis of cardiac arrests and mapping patient journey to the intensive care unit.

• **Working collaboratively across partner trusts:** Sharing success and challenges faced by trusts through attendance at learning sets every 2 months has helped to establish a sustainable network. World-class figures in safety and quality improvement have presented at learning sets, including Dr Paul Convery (Chief Medical Officer, Baylor Health, Texas, USA) and Dr Lloyd Provost (API, Texas, and senior advisor to Institute of Healthcare Improvement).

BHRUT hosted the most recent learning set, which was well attended by local leadership (including the chief executive officer and several directors). This meeting has helped BHRUT determine how it will implement the National Early Warning Score. Southend University Hospital will host the first joint learning set for 2013 in January.

Collaborative learning through discussion and sharing data has empowered trusts to try things that have worked well in other trusts rather than starting from scratch, enabling useful innovations to be deployed faster. For example, BTUH is tailoring the Treatment Escalation Plans successfully developed and deployed by Whittington Health NHS Trust to its local needs, and BTUH’s Deteriorating Patient
lead paid a visit to North Middlesex Hospital to gain first-hand experience of what is working well there, with several useful actions resulting in:

- **Virtual network**: the recent launch of the virtual Deteriorating Patient Network using the Doc.Com secure web platform is pivotal to engagement outside the learning sets, and has been well received by all trusts with over 60% of participants now signed up to the platform. This initiative is supported by the Health Foundation, which is currently offering trusts a bespoke package of consultancy towards building successful distributed networks.

- **Leadership education**: finally, trust leads from Deteriorating Patient will participate in early 2013 in the UCLPartners Staff College Leadership Introductory Module, and three other trusts (including BTUH) will join a bespoke leadership course, designed to develop and support individual and team leadership capability, to improve team performance and resilience.

**(vii) Education**

UCLPartners successfully applied to be the lead provider for postgraduate medical and dental education in our own geography for 15 of 16 specialties and won a pan-London role in two others. For 14 specialties offered by the London Deanery, the UCLPartners application was scored most highly across London. The LETB will complete commissioning of the remaining training packages with UCLPartners as the preferred bidder. Once all intakes have enrolled, UCLPartners will be responsible for the training of 5000 medical and dental trainees across NCL and NEL. UCLPartners led the design and delivery of the LETB for NCL and NEL as a partnership for excellence in education and training. The (former) UCLPartners Director of Education has been appointed by HEE as the full-time North Central and East London LETB Managing Director.

In nursing education, UCLPartners has pioneered ‘Excel’, an accelerated development leadership development programme to ward sister/ward manager level for high-calibre newly qualified nurses, whose placements span partner organisations in NCL and NEL. Essex is developing a nurse leadership programme based on learning from Excel and we envisage substantial crossover between the programmes for future intakes. All rotations include elements of community-based care and mental health, aiming towards building nurse leaders equipped and motivated to lead successfully in the future for the benefit of patients across the whole health economy.

Finally, Essex professionals now complete the UCLPartners Staff College Leadership development (see Appendix 3) programme in increasing numbers, rating it as highly as do participants from both NCL and NEL. Through participation they learn not only important leadership skills, but in many cases make enduring professional relationships with colleagues based in other parts of UCLPartners.

**(viii) Research**

Working together, UCLPartners to date as NEL and NCL, but increasingly now including Essex, is harnessing the talents of all its HEIs, and is starting to see greater success on major programme/framework agreements from national and international funders – see, for example, the CHAPTER and National School of Public Health and cardiovascular BHF ‘hub’ application described in
previously. Other examples of novel collaborations include partnership between Shift.MS, a patient group for people living with multiple sclerosis, and academics at QMUL and UCL, where Shift.MS (supported the academics) has been awarded a Wellcome Trust grant.

UCLPartners is working with academic leads inclusive of NCL, NEL and Essex on a joint CLAHRC bid, in anticipation of the formal call.

(ix) Barking Havering and Redbridge University Trust

BHRUT represents an example of deep UCLPartners involvement with a partner organisation in NEL. BHRUT is a large, complex trust serving a large, diverse population in outer NEL and Essex. It formally joined UCLPartners in April 2012. Feedback informally from a diverse range of staff, from board to ward, suggest that joining UCLPartners has helped BHRT address a number of current challenges, both through tangible inputs and the less tangible sense of connectedness, belonging and excitement that comes from being within a large and vibrant professional network.

BHRUT has made substantial progress in safety, clinical operations, finance and other areas in the past 6–12 months to deliver against its Care Quality Commission (CQC) action plan and NHS London and commissioner requirements (e.g. substantial improvements in quality and safety across services, no maternal deaths for a year, improving A&E performance, closure of 100 beds). Joint working between BHRUT and UCLPartners has focused on the following areas:

• **Building leadership and management capacity**: a largely new executive team is now in place, together with a new chairman, providing support and challenge to a group of 11 clinical directors appointed from within the trust in early 2012. The aim is to build a team to take the trust through to successful Foundation Trust application. A UCLPartners Director is based part-time at BHRUT.

• BHRT also has nine post-certificate of completion of training fellowships in an NHS London scheme: UCLPartners has supported fellows in their projects and development. The scheme is being formally evaluated by RAND Corporation and Improvement Science London. In early 2013, leads from BHRUT together with colleagues from NELFT, and local CCGs and councils will participate together in a UCLPartners Staff College module, focusing on improving care for frail elderly patients.

Through UCLPartners, world-class figures in healthcare and health innovation have either been to BHRUT (e.g. Tom Lee and Kelly Hall from Boston Health Partners, where a BHRUT Clinical Director paid a reciprocal visit), or BHRUT staff have been able to participate in events run by world-class faculty (e.g. Michael Porter and Richard Bohmer from Harvard, on organising and operating for value).

• **Leading and participating in UCLPartners programmes and other activities, which support local delivery**: BHRUT participates actively in many UCLPartners programmes and other initiatives. Beyond the five core AHSN themes (in a number of which BHRUT is a lead site, for example,
dementia jointly with NELFT) including: the Medical and Dental Educational Commissioning System (MDECS) and Excel education programmes, the Quality Forum, the Deteriorating Patient initiative and a number of activities to support improvement in the emergency care pathway.

- **Embedding new measurement and governance systems and processes:** BHRUT is an alpha site for the development and deployment of value scorecards in a range of services centring on an acute trust but spanning both upstream and downstream elements of the care pathway. This work, starting in BHRUT’s acute medicine specialties, is an important way to bring cost and quality into one conversation and to create shared purpose and alignment between different actors in the local health economy (including CCGs/primary and community care, local authorities/social care and public health). Once implemented these scorecards will track progress and provide relevant benchmark information across partner organisations, highlighting peer learning and improvement opportunities.

- **Mapping out a long-term financial plan and establishing a viable local health economy:** the challenges of the outer NEL health economy that BHRUT serves are complex, long-standing and well described. UCLPartners is supporting BHRT and other local organisations (including NELFT and local CCGs) to work in partnership toward finding a viable, stable long-term solution.

In summary, no geography can sensibly be ‘disentangled’ from the others. Further, Essex is no less a part of UCLPartners than NEL; and NCL is no more a part of UCLPartners than NEL. This applies both logically and in reality. Essex is not constrained to addressing only Essex priorities – it is already contributing substantially to UCLPartners across the whole geography. As the partnership matures over time, this can only accelerate delivery of benefit to patients, the population, staff and UK plc. Together we stand a much higher likelihood to achieve world-class status in more disciplines for more patient and population groups.

**B. UCLPartners Western Border: South and West Hertfordshire, South Bedfordshire and Luton**

The residents of Watford and Luton relate closely to London: travel by train from Watford and Luton into London terminals takes less than 30 minutes with frequent direct services. Many commute on a daily basis. These easy, natural travel patterns are mirrored by professional links: North Central and North East London and South and West Hertfordshire and South Bedfordshire all have long-standing clinical links, with joint appointments and training rotations across a range of professions and specialities including primary care, nursing, midwifery, allied healthcare professionals, secondary and tertiary care. See Boxes 2.1 and 2.2 for examples.
Box 2.1. Specific service provision/joint appointments between Luton and Dunstable NHS Foundation Trust and West Hertfordshire NHS Trust include neurology and neurosurgery, cardiovascular, cancer, orthopaedics, ophthalmology, oral health, burns and ENT. These two trusts are both major service providers in their own right, for example as hyper-acute stroke centres for significant regional networks, and West Hertfordshire Trust has one of the largest A&E services in the South of England. Both have made major contributions to service improvement methodologies in recent years, and the CEO of West Hertfordshire has taken up a new appointment as the CEO of Great Ormond Street Hospital in November 2012.

Box 2.2. In education

Medical students from UCL routinely rotate to Luton & Dunstable Hospital and primary care practices in Hertfordshire and Bedfordshire, and both basic and higher medical trainees on many specialties rotate between NCL and even NEL and these institutions.

(iii) Future plans for engagement and establishing a common identity and sense of purpose across the partnership

(a) Future benefits from inclusion of NEL and Essex in UCLPartners

A growing number of professional communities span the fully envisaged future geography of UCLPartners, and UCLPartners own governance and leadership in changing to reflect this. For example, ARHP leadership/Essex chief executive officers join monthly UCLPartners Executive meetings; ARHP/Essex sit on UCLPartners education and research boards; the UCLPartners medical and nursing director forums are extending to include Medical Directors and Nursing Directors in Essex as well as NCL and NEL. The UCLPartners Quality Forum now includes extensive Essex participation, and there are also contacts sparked by the AHSC/AHSN, which go beyond our formal programmes: for example, links between the UCL gait analysis laboratory and UCL’s Institute for Sport, Exercise & Health and ARU. UCL/NEL links are already being strengthened by planning around UCL’s proposed Newham Campus, and research, education and care delivery will be strengthened when the Olympic Polyclinic reopens as the Sir Ludwig Guttmann Health Centre serving new communities around the Olympic park.

As previously highlighted, a wealth of exchange and joint working is happening across the geography already, and this can only deepen with a successful AHSN. For example, SEPT is a stand-out provider in mental health and more generally for user engagement and active management of user experience: their ‘mystery shopper programme’ and related programmes (such as ‘dine with us’ where the CEO and employees have dinner with users, and real-time measurement and feedback of user experience ratings) are already inspiring both enquiry and action across the partnership, in mental health and beyond. Similarly, Essex County Council’s approach to managing long-term conditions and co-
morbidities, which uses personal budgets and focuses on re-ablement to independent living and rapid discharge, is spreading.

A similar logic and plan applies in the west to Hertfordshire, Bedfordshire and Luton.

**(b) How UCLPartners is being built around partnership with CCGs and primary care**

In the current transitioning commissioning landscape, the synergies and potential for partnership with CCGs are multiple and crucial. CCGs are central to the mission and success of every AHSN. The partnership includes 20 CCGs, with increasing involvement at board, executive, programme, project and pathway level.

CCGs offer an opportunity to harness and engage primary care through clinical leadership (and with direct patients and population involvement) to drive the service transformation required to deliver improved prevention, better integration of services and improved outcomes and, in so doing, to improve the health of the population and the value from care delivery. Moreover, a core duty for CCGs under the Health and Social Care Act is to support and participate in research and innovation. To achieve this, CCGs need and want to work with AHSNs to understand the link between commissioning, service delivery and evidence-based research, the importance of evaluation of innovation and the potential to up-scale successful models across larger populations. This is of particular importance in the UCLPartners provider landscape where there is a ‘many-to-many’ relationship between multiple CCGs and multiple referral centres. Both AHSNs and CCGs will drive and enable large-scale change, and (in the words of one of our CCG Chairs): ‘We see UCLPartners as a unique opportunity to bring CCGs together with providers and academics to share and disseminate new ideas and good practice.’

CCGs have, until now, rightly been focusing on developing their internal organisations prior to authorisation in April 2013. As this process draws to a conclusion, now is an excellent time to explore future models of collaboration, to define specific initiatives and in so doing to maximise the potential from CCG involvement within the AHSN partnership. Since its inception, UCLPartners has aspired to work with primary care and other community-based practitioners – for example, the work of the HIEC described above, and in education through MDECs and the Excel nursing programme. However, our transition to an AHSN has allowed us to redouble our efforts to build an organisation that truly serves and reflects the needs of primary care. In the past 3 months UCLPartners has:

- Changed its governance structure to include CCG expertise on the UCLPartners board, and ensured primary care roles are embedded throughout every level of governance (e.g. executive, education, research and programme boards); and primary care is strongly reflected on the Central and East London LETB (see Chapter 10) of the AHSN. CCGs and primary care research are central to our CLARHC bid and planning. We have also helped a number of CCGs recruit high-calibre board members, often from other partner organisations.
- Extensive engagement with all CCG Chairs and wider CCG leadership across our geography toward building mutual understanding and creating a shared set of priorities and ways of working: for example, we have held 1:1 meetings with all CCG chairs and been invited to speak/already spoken at CCG meetings by over two-thirds of CCGs. The strength and depth of
engagement is evidenced by over 70% of CCGs participating in the three co-design events for UCLPartners AHSN programmes in November 2012 (see Appendix 4).

CCGs are increasingly pulling UCLPartners core team and programmes into their priority setting, commissioning decisions, and innovative models of care delivery. For example:

- **Primary care forum:** January 2013 will see the first meeting of the UCLPartners primary care forum, Chaired by Camden CCG Chair Dr Caz Sayer. This forum of all 19 CCGs across UCLPartners will be shaped and run by CCGs toward maximising their opportunity to set joint priorities, to share knowledge and good practices, link into UCLPartners programmes and other activities (such as the Nurse and Medical Directors forums and the Quality Forum), as well as supporting the applied research agenda and access to populations for basic science. The primary care forum will also link closely to the Clinical Senate, Commissioning Support Unit and Regional Office of the Commissioning Board. Two pairs of CCGs have each agreed jointly to host one of the quarterly Quality Forums in 2013 – we are proud of this progress, since at the end of 2011 the Forum was still acute-trust centred.

- **Specific initiatives and knowledge transfer:** there are well-established clusters of CCGs in NCL, NEL, Essex and Hertfordshire. However, cross-boundary experience from different communities may enable disruptive innovation and step change. Hertfordshire Valley, Camden and Tower Hamlets CCG Chairs are in dialogue, sharing experiences and learning from the very different demographic settings to address common problems. These may include unscheduled care flows into the Major Acute Trusts they host, the optimum use of the ‘virtual ward’ and integrated care ‘hubs’ locally to manage long-term conditions and enable patients to be cared for closer to home at lower system cost. UCLPartners is supporting this cross-boundary approach.

- **Research and evaluation:** some of the most notable recent examples of improvements in outcomes been achieved through changing the care model for acute stroke (as described earlier in this document). Working with CCGs in NCL and increasingly elsewhere, UCLPartners stroke team are well advanced in designing and funding research into stroke prevention, early discharge and rehabilitation. More broadly, CCGs’ voice is central to UCLPartners CLAHRC planning, and the diversity of geography and population covered by UCLPartners (see introductory section 1 above) presents rich research opportunities.

- **Reconfiguration:** UCLPartners worked with general practitioners across local boroughs to provide the evidence related to a proposed major service reconfiguration (Barnet, Enfield and Haringey Strategy).

Finally, new models of care will require a work-force that will likely look very different from the current, especially perhaps for those looking after patients with complex and long-term conditions. Through the links with the LETB and its role as an education provider, UCLPartners is well placed to link CCGs’ commissioning intentions and the work-force requirements they imply to the planning and delivery of training across professions.

(c) Overview of engagement achieved in developing this AHSN proposal

Between April 2012 and year-end, UCLPartners will have hosted or co-hosted over 20 events, in total including over 1200 participants. Some of these have been specifically focusing on AHSN priorities and design (e.g. three co-design events for the Cardiovascular, Co-morbidity and Life Course
Programmes in November) while others have had more specific objectives – for example, design of the Excel nursing programme or the pathway for lung cancer. Our events have spanned seven areas: Cancer, Cardiovascular, Co-morbidities, Life Course, Education, Quality and Applied Research. A full list is given in Appendix 4. Based on the experience gained from running these events, we are continually adapting and improving our programmes as well as ensuring greater participation by, and ‘voice’ from, patients, carers and family members (i.e. greater citizen participation).

Early in UCLPartners history as an AHSN we saw the value of putting people from new partners at the heart of our work as the partnership grew – Professor Jo Martin from QMUL/Barts Health led a strategic review of UCLPartners AHSC programmes shortly after QMUL/Barts Health joined UCLPartners. This substantially advanced our thinking about our mission and success factors as both an AHSC and an AHSN, but more importantly perhaps it was instrumental in creating true partnership with QMUL/Barts Health and NEL more generally by demonstrating that new partners had equivalent voice. We are already identifying service themes and research areas where partner organisations joining more recently can lead for the partnership as a whole (for example, Essex partners/ARHP leading for UCLPartners in areas such as patient experience, assistive technologies in dementia, and building medtech capabilities).

Focusing on UCLPartners new geographies, we envisage our future operating model will include employing highly respected and capable people from partner organisations on a temporary or fellowship basis to deliver on a specific work-stream, but also to act as a key coordination point for the geography from which they come (this may be more prominent in Hertfordshire, Bedfordshire and Luton where there is no equivalent local partnership analogous to ARHP for Essex). Although our own partnership is large and complex, we recognise we have much to learn from (and much to contribute to) other AHSNs. We are delighted to be part of the current thinking to design the AHSN ‘Network of Networks’ and look forward to working with the NHS Confederation and other AHSNs to ensure this is something which the AHSNs themselves ultimately collectively own, for mutual benefit.

In closing: the recent London 2012 Olympic and Paralympic Games saw the greatest and most complex example of collaboration at scale in Britain since the Second World War. Many of our patients and population, and many of our partners’ staff, were directly involved with the Games as an employee or volunteer. The Games built a spirit of shared purpose, of new possibility and of energy across London. We aim to keep this spirit alive through our AHSN, and over time to build UCLPartners’ own spirit, toward delivery on our mission by all partners working together, harnessing the talents and energies of our population more broadly.
Chapter 3: Implementation of Innovation

Many of the solutions to public health deficits already exist locally, nationally or internationally. However, these solutions are not being systematically implemented. The consequences of this failure include unwarranted variation in quality and value for patients and commissioners; resources needlessly spent on ‘reinventing the wheel; limited system-wide, population-wide change or impact; and a negative impact on innovators and industry partners.¹

Our approach to the diffusion of innovation will focus on creating a system that is predisposed to the accelerated adoption and adaption of already-known healthcare innovations and enabling specific delivery through each of our programmes. This enabling, cross-cutting approach will build on our existing work with experts from many disciplines, and draw from the resources being developed through the Innovation, Health and Wealth (IHW) Board to address the generic barriers to implementation. UCLPartners has already focused effort on developing a deeper theoretical and practical understanding of the characteristics that enable the diffusion of innovation. We led ‘After the Light Bulb’, an initiative funded through National Health Service (NHS) London’s Regional Innovation Fund, working with a broad range of experts and practitioners to translate international insights into a set of system characteristics that will enable the NHS to diffuse innovations at greater scale and pace. The characteristics were successfully tested and refined through a large-scale behavioural simulation. Learning from this work has already informed our approach to the programme development and will become fully embedded in our work-streams as part of the Academic Health Science Network (AHSN).² This experience has highlighted a number of key elements that are required successfully to drive innovation into sustainable practice, including:

- Engaging and mobilising patients and carers
- Providing granular, accessible and comparative performance information
- Acknowledging necessary instability and fluidity
- Actively decommissioning and disinvesting
- Incentivising and rewarding scaling and spreading
- Encouraging competition
- Focusing investment and risk capital
- Building alliances across internal and external networks
- Strengthening and exploiting provider autonomy

Our AHSN will apply these techniques and create a culture of both innovation and specifically the diffusion of innovation, stimulating creative solutions to pressing health and well-being needs. We will identify, support and reward talented entrepreneurs, facilitate sharing of best practice between local authorities, community organisations, healthcare providers and Higher Education Institutions (HEIs) within the network, and work with the Local Education and Training Board (LETB) to support

educational programmes that develop an understanding and confidence to deliver such changes across the work-force. UCLPartners has supported a much deeper partnership approach to innovation with patients and carers that will enable their subsequent delivery. This engagement is exemplified by the work in multiple sclerosis (see Box 3.1). This is an area of significant focus for delivery of new therapies, for example fingolimod (National Institute for Health and Clinical Excellence [NICE] TA 254) from December 2012, preparation for new agents via NICE in 2013/14, and patient-pull for recent NICE guidance on spasticity management in young people (NICE CG145) and urinary incontinence in neurological disease (CG 148) (see Appendix 2).

**Box 3.1. Partnership for innovation – Shift.ms**

The UCLPartners Neuroscience programme supports Shift.ms – an online community run by its users, where people with multiple sclerosis meet and support each other. Shift.ms has 4000 members and has reached more than 40,000 people with multiple sclerosis worldwide. It was recently recognised by NESTA and The Observer as one of Britain’s New Radicals, celebrating the best people and projects making a difference to our communities. Using accessible formats, and bringing together scientists, clinicians, film-makers and writers, it combines the scientific skills of the clinicians and researchers with the presentation, interaction and visual expertise of designers. The result is a refined and innovative medium that encourages patient-clinical-academic engagement as demonstrated in the unique film Gallop (http://shift.ms/gallop/), directed by BAFTA-nominated director Michael Pearce. This co-creation and empowerment model, supported by the Wellcome Trust, creates the community of shared interest to support self-management and will enable future pull-through of new therapies.

There are three priorities for implementation and adoption of innovation:

1. Implementing NICE guidance
2. Supporting adoption of nationally agreed high impact innovations (HIIs)
3. Embedding an approach to innovation that considers diffusion from the outset.

**Priority 1: Implementing NICE guidance**

We recognise that as clinical care progresses, an ever-larger volume of NICE guidance exists to assimilate into practice. Research and practice highlights that there is no silver bullet to implementation – a multifaceted approach needs to be adopted based on a deep understanding of the barriers to implementation. Any implementation plan will require effective engagement with clinicians and commissioners to create a culture of delivery, and to co-design a range of solutions such as education and support packages for staff and patients, up-to-date and supportive formularies that take account of and harmonise best practice across the Partnership, risk- and reward-sharing models to overcome perverse financial incentives, and informatics to track and feedback performance. We also recognise with our programme directors the need to prioritise how we can make the greatest impact on population and patient health, and wealth creation. In developing our approach we will build on UCLPartners established track record of using collaborative approaches and novel methods to help implement NICE guidance and technology appraisals at scale – we have already seen the effectiveness of this approach in tackling the challenge of implementing NICE guidance to improve outcomes for patients with chronic obstructive airways disease (COPD) in the community described in Box 3.2.
We will work collaboratively across the AHSN, with industry partners and with NICE to co-create interventions that address the individual, organisational and system-level barriers to implementation. Building on the success of our work in COPD and learning from many other examples of good practice, we will support implementation of NICE guidance within our programmes through:

- Working collaboratively with IHW initiatives, the regional NICE implementation support resources (e.g. National Innovation Centre), and other AHSNs to ensure we learn from their experiences and maximise the use of already known and effective tools.

- Providing a single point of leadership with accountability for NICE implementation embedded within each of the AHSN’s programmes.

- Working collaboratively with partners to co-create interventions for implementation through ‘co-design’ of new initiatives to build implementation mechanisms, and use strategic alliances with patient networks and organisations to increase patient awareness and demand. Our approach will include education, templates, service and process redesign, and complementary technologies.
• Co-creating specific **scorecards** to feed performance data back to individual clinicians, teams and providers. This will enable peer support, mutual accountability and evaluation of interventions.

• These enablers will be supported by additional core staff within the AHSN as part of this proposal who will work as a cross-cutting team to support programmes and across our partner organisation. They will be responsible for codifying and sharing new knowledge on effective implementation interventions internally across UCLPartners AHSN programmes and externally across the network of AHSNs.

The delivery of NICE guidance **is embedded throughout every programme**, both the five priority Integrated Programmes (cancer, cardiovascular, mental health, integrated co-morbidities, and women, children and adolescents – each set out in Chapter 3) and also within each of the six other established AHSC-driven programmes (ear nose and throat, eyes and vision, gastrointestinal and hepatology, infection, immunology and transplantation, and neurosciences). Appendix 2 includes summaries of the programme-specific anticipated implementation priorities for NICE, or other national/internationally recognised guidance already agreed by the clinical programme director (subject to review dependent upon new guidance or nationally driven priorities) during 2013/14. Where we create additional programmes through collaboration across the AHSN, setting such clear goals will be a requirement for approval. Progress against these milestones will be reported through the Executive to the Board.

**Priority 2: Supporting adoption of nationally agreed high impact innovations**

We have reviewed progress across our existing partners on delivery of the six new national HIIs. One example of work in health service research is the evaluation led by City University, London into the role of assistive devices in patient care through the Whole System Demonstrator (WSD) project, which helped to inform and enable the Three Million Lives Campaign as one of the HII themes.

As part of our strategy to improve health in our population we will continue to extend our work to empower patients, encourage organisational change and develop tools to promote behaviour change and self-management in particular in chronic conditions, and diffuse this evidence based work throughout our network. There is a wealth of good practice that will form the basis for shared learning and adoption of the currently six designated HIIs through the proposed AHSN, which we can build on following this application, for example:

• **Oesophageal Doppler Monitoring (ODM):** use of the Doppler to improve intravenous fluid therapy and aid postoperative recovery in at least 80% of all colorectal and abdominal emergency operations in North Central London (NCL).

• **Assistive technologies:** the ‘Neuroresponse’ service supporting people with multiple sclerosis through online, telephone and electronic mechanisms, following successful local implementation now being rolled out elsewhere in the country.

• **Child in a chair in a day:** working with Whizz-Kidz, Tower Hamlets achieved no waiting list for children wheelchair services; the equipment provided is appropriate and more sophisticated than is routinely provided by the NHS in other parts of the country, and the model offered a saving of 60% for each wheelchair issued.\(^3\)

\(^3\) All Party Parliamentary Group for Paediatric Mobility Reform.
• **International and commercial activity:**

| Global health | Our partners make many important contributions to promoting global health. For example the London School of Hygiene and Tropical Medicine contributes to multiple Department for International Development (DFID), World Health Organisation (WHO) and European Commission programmes, to name but a few. |
| Commercial | Our partners have well-established collaboratives with pharmaceutical companies, biotech and medical device industries. The AHSC recently brokered an agreement to deliver harmonisation of clinical trial approval to transform approval times across the existing partnership for multicentre studies. This is now being piloted across all NCL and NEL partners. |

• **Dementia care:** NHS South West Essex and Basildon and Thurrock recently implemented a multiprofessional Dementia Intensive Support Team through close working between the Council, Acute, Community and Mental Health Services. This works alongside existing resources, for example to provide support to prevent people with dementia being admitted to a ward, if possible.⁴

• **Digital First:** use of eHealth to support, sustain and disseminate optimal care for juvenile diabetes, including the best use of insulin pumps in line with NICE guidance (see Box 3.3).

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**Box 3.3. A novel eHealth system to empower young people with diabetes**

In paediatric diabetes there is a pressing need to intensify insulin therapy and insulin pump therapy is an acknowledged way to achieve this goal. In the UK, pump usage accounts for only 5% of people with type 1 diabetes whereas now at University College London Hospital (UCLH) over 64% of patients receive intensive insulin therapy via a pump. NICE guidelines (TA 151) are clear on the criteria for commencement on pump therapy. The process for commencing therapy can be easily broken into a series of automatable steps removing chance and human error from the process, whilst also streamlining the process allowing for a more timely start after the initial decision has been made. To deliver on the guidelines, we co-developed a Patient Relationship Management system with industry partners, patients and their families, based on the Microsoft Customer Relationship management system. This system is embedded in the care pathway that starts with general practitioner/secondary care referral through a portal, through to a booking system to allow for timely consults and assessment, through to the pump start itself – all supported at critical points with targeted patient information and education tools.

The last National Paediatric Diabetes Audit showed an average clinic haemoglobin A1c of 7.8% vs a UK average of 8.8% for the 350 children we support. We are now working with other sector providers on a potential ‘intermediary’ provider model for local delivery of care.

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We are reaching out to both commissioners and providers to work together to implement national HIIs following an initial focus of support to ‘Digital First’. We will drive delivery of HIIs through our core programmes (e.g. dementia care will be a focus of the proposed mental health programme, Assistive Technologies will be a focus of the Integrated Cardiovascular Programme), ensuring we share practice across programmes. We have identified the HII priorities for every established UCLPartners programme in Appendix 2. We will work with our members to identify local priority areas each year where our partners want support in sharing best practice and learning on how best to adopt and adapt proven innovations. We will share these priorities with the IHW community to support national prioritisation and identification of future HIIs.

Building on the current examples of success within our partnership and our understanding of diffusion, the adoption of local and national HIIs will be enabled through the creation of Communities of Practice (COPs). COP leaders will be supported by knowledge experts and training sessions to develop their skills in, for example, diffusion tools and techniques, communications and messaging, establishing and sustaining COPs. The COPs will be multiprofessional and span sectors. Each COP will receive a small bursary (£20,000) for events and will maintain an online community. They will also be supported in developing business cases and ‘How to’ guides for sharing beyond our AHSN, and in negotiating with companies where a number of providers wish to use the same technologies or IT solution. We will support collaboration between commissioners, adopter sites and industry partners – to understand and embed the expertise, levers and incentives required to support the horizontal diffusion mechanisms such as Commissioning for Quality and Innovation (CQUIN), tariffs for assistive technologies, procurement, and risk and reward sharing agreements. Scorecards will be developed for all COPs to enable performance data to be fed back to clinicians, providers, commissioners and the relevant Programme Board. These data feeds and transparency in reporting will drive peer support and accountability.

Priority 3. Embedding an approach to innovation that considers diffusion from the outset

We will work with patients, carers and our partners to gain a deeper understanding of the challenges to delivering scalable health gain that cut across all our Integrated Programmes. Where solutions either do not currently exist or where the existing solutions to these challenges are not sufficiently effective, we will run an Innovation Competition to stimulate, test and diffuse innovative solutions. The 2013 innovative solutions challenge will be focused on asset-based community development – bringing primary care, public health and social care together with communities, industry and third sector partners to identify and test new ways of sustainably improving well-being, addressing health inequalities and building resilience at a local level. Innovation Bursaries of up to £125,000 will be awarded to successful innovators who will commit to actively collaborating to strengthen innovation and diffusion capability, enable the diffusion of their ideas beyond the initial test site and build a cadre of innovation leaders across the health service, public health and social care within UCLPartners.
Chapter 4: Wealth Creation

By increasing the health of our population, we will increase work-force productivity, which, in turn, will create wealth. We will focus on creating new jobs, building industrial research collaborations and supporting small- and medium-sized companies to grow. We will collaborate with industry to develop new biomedical, medtech, diagnostic and informatics technologies and within our Integrated Programme, embed new technologies into clinical practice and evaluate their value. To achieve this, we recognise the need to create a culture that celebrates wealth creation, made manifest through promotion of entrepreneurship, industry collaboration and attracting inward investment.

Building from a strong base

Our universities already hold more than 400 commercial contracts with a value in excess of £60 million. University College London (UCL) increased the number of commercial contracts by 22% over the past year and Anglia Ruskin University developed of £4.7 million new commercial contracts in the past 6 months alone. Our partners are increasing participation in commercials trials, with patient recruitment in London growing from 13% to 47% over the past 2 years.

Beneath these impressive statistics lie a series of world-leading commercial collaborations increasing standards of clinical care, increasing volume and quality of research, creating innovation and providing patient access to novel technologies. These collaborations stretch beyond the local geography connecting across London, UK and the World. We will draw lessons from the many examples of strong biomedical collaboration that exist within our established Academic Health Science Centre (AHSC) programmes and share best practice (see Box 4.1).
Box 4.1:

The Neuroscience Programme

The Neuroscience Programme, enhanced by the coming together of the four neuroscience centres in Central and East London and their associate extensive networks, is the second most productive neuroscience academic centre in the world, judged by citations. The Leonard Wolfson Experimental Neurology Centre at Queen Square is at the centre of neurology translational research (www.ucl.ac.uk/lwenc/) and has recently received a £20 million award. This centre will enable more rapid validation of new agents including gene therapy, small molecules and humanised monoclonal antibodies in major neurological and neurodegenerative diseases, including the major global health challenge of dementia. A PhD programme in neurodegeneration has been launched, with £1.25 million support from the pharmaceutical company Eisai. In the past month alone, major advances in the field of experimental neuroscience have been made; for example, the first successful treatment for the disabling progressive form of multiple sclerosis was presented in October – a phase II study of simvastatin – which will now proceed to a large phase III trial across the UCLPartners population.

Immunology and Transplantation

The UCLPartners Immunology and Transplantation Programme has shown a similarly strong upward trajectory, both academically and with industry, since its formation as a UCLPartners programme in 2009; in the past 2 years £5 million has been invested to set up a hub for translational immunology research. Four world-leaders in immunology research have joined this hub, including one joint appointment with The Francis Crick Institute. A world-first has been achieved with first-in-man cell therapy, gene therapy and synthetic organ transplant trials. This centre of excellence is supporting 44 principal investigator-led intervention trials and 26 commercial trials working with both large pharmaceutical companies and small- and medium-sized enterprises (SMEs). The Eyes and Vision Programme, based at Moorfields Eye Hospital, is an exemplar of best practice where industry investment has increased fourfold over the past 5 years.
We have four priorities for wealth creation, which span our AHSC and Academic Health Science Network (AHSN) (Figure 4.1).

Figure 4.1: Priorities for wealth creation

**Priority 1: Increase productivity of the working population**

A key contribution all AHSNs can make to the economy is through delivering health improvements that increase the productivity of the working population, particularly through disease prevention.

Our AHSN Integrated Programmes have been selected with due consideration to the impact they can have on creating wealth, with a particular emphasis on preventing disease and addressing the major causes of amenable mortality and disability suffered by our population (see Chapter 8). The integrated programmes all aim to address health issues before they impact on the work-force and have economic impact, and address survivorship/rehabilitation. We will build on exiting capability across the network to create and commercialise technologies that improve clinical care and work-force productivity.
**Priority 2:  Create a culture that celebrates wealth creation**

The AHSN will create a culture that celebrates wealth creation, manifest through promotion of entrepreneurship, industry collaboration and inward investment into the UK. We believe public money should not simply be spent, but rather should be invested to deliver health improvement and create wealth that can be reinvested.

The AHSN Board and Executive will lead a cultural shift across the network to lead by example and to celebrate wealth creation successes. A UK plc senior group will form part of our governance infrastructure (see Chapter 10). This group will bring together a group of outstanding commercial leaders to strengthen our wealth creation strategy, sponsor elements of the strategy and mentor senior executives in the partnership. UCLPartners will establish a community of senior leaders to share best practice and support one another to leverage existing best practice and industry relationships. Senior leaders will stimulate culture change by encouraging innovative collaborations between our partners and industry.

Wealth creation will be embedded in our educational programmes and we will implement staff rotations and exchange programmes with industry. We will create at least five job exchange programmes with willing industry partners over the next year (see Box 4.3).

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**Box 4.2. Computer keyboards as a source of infection**

Computer keyboards are a well-recognised cause of spread of infection. The National Health Service (NHS) is adopting electronic patient records, and keyboard use is increasing rapidly. Environmental studies show keyboards contaminate staff hands. Conventional keyboards are difficult to clean and waterproof keyboards rely on washing, which is rarely performed. To avoid an increase in hospital-acquired infection, a specification for a flat, smooth, non-adherent keyboard and mouse, with a prompt for cleaning, was produced. Three international companies were asked to produce prototypes and received support from Connecting for Health. The two models that best fitted the specification were tested in the critical care unit at University College London Hospital (UCLH). A NIC award enabled the network of AHSC to evaluate these specifications. Bacterial counts were lowest on the keyboard with a light alarm signalling the need for cleaning. The alarm sounded every 3 hours and required the surface to be wiped with alcohol and pressure to extinguish it. After demonstration to the Cabinet Secretary, the Department of Health bought £1 million worth of keyboards and distributed some to most hospital trusts in England. To reinforce cleaning compliance a software programme has been prepared with Esterline to put a reminder window on the screen. Photolytic dyes are also being tested in the covers as a test bed using a grant from the Academic Health Centre in cooperation with UCL Chemistry and UCLBusiness. These hold promise for future improvements in the prevention of transmission of infection in the healthcare environment.
Supporting the entrepreneur: we will support young entrepreneurs by creating a supportive environment; delivering a series of events to provide connections to investors, business support functions and mentors. Wherever they sit in the network we aim to provide access to practical business advice to protect intellectual property and enable translation of concept to commercial delivery. Our business and technology transfer offices have already formed an informal network to optimise access and support for business transactions. Innovation funds will continue to be made available to support innovation. We will also bid to host a Small Business Research Initiative (SBRI), which brings innovative solutions to public sector needs by engaging a broad range of companies in competitions for ideas. We will use our experience, capability and infrastructure managing innovation funds and link management of the innovation fund to the network of Technology Transfer Offices.

Priority 3: Evidence generation to support commercialisation

We will continue to build strategic partnerships with large pharmaceutical companies to support open innovation and to build new forms of collaboration to create innovation, and to support the medical technology sector where development times are shorter.

Our AHSC programmes will continue to attract world-class academics to global centres of academic excellence, which in turn will attract inward investment from industry to create evidence. We will build global research collaborations in early phase research and translate cutting-edge research and innovation into measurable health gain for our local population. We will build on experience working with industrial partners to create evidence (Box 4.4).

Box 4.3. GlaxoSmithKline (GSK)

A Senior UCLPartners Director is currently seconded to work in GSK 2 days per week to translate this concordat into delivery. GSK will enable delivery of the concordat by deploying resources and knowledge to improve efficiency of late-phase research and development (R&D) delivery and contribute to designing new ways to drive implementation of medical technology within our programmes.

Box 4.4. Cell Medical collaboration

UCLPartners clinicians and academics, based at the Royal Free Hospital and UCL, are working closely with Cell Medica, a SME focused on the commercial development of immune cell therapy. Currently, Cell Medica is sponsoring a randomised phase III efficacy trial in stem cell transplant patients, with UCLPartners expertise and facilities used for the production of the immune cells. This is the first phase III immune cell therapy trial worldwide, and it has helped Cell Medica to successfully complete US$27 million Series A equity financing in July 2012.
We support collaboration within the network and with small, medium and large companies to drive growth. Our universities are committed to open innovation and UCLPartners will support this concept within our network to unlock the potential of scientific discovery (See Chapter 5). We will support our universities, industry partners and NHS partners to create environments that enable the full translation of innovation into practice. We will use the combined strength of our universities and the NHS to encourage industry partners to work with us, co-locate with us or offer to embed our scientists within their companies. The value of this type of approach is well proven (see Box 4.5).

**Box 4.5. Percutaneous heart valve implantation**

Percutaneous heart valve implantation is an innovative, minimally invasive alternative to open-heart surgery for treating valvular heart disease. A UCL team in collaboration with Medtronic developed a pioneering percutaneous valve programme that involved UCL engineers, imagers and physicists as well as clinicians at Great Ormond Street Hospital and UCLH who performed the first 50 percutaneous pulmonary valve implants worldwide. The data acquired through computer modelling and meticulous follow-up refined the devices and defined appropriate patients and their outcomes, and was instrumental in achieving regulatory approval in Europe and Canada (CE marking) and FDA approval in the USA for both the device and procedure. Over 3000 patients worldwide have now benefitted from the procedure (marketed by Medtronic as ‘Melody’). The proof of concept established for percutaneous valve implant has led to aortic programmes with more than 40,000 percutaneous aortic valves implanted worldwide. This work, pioneered at UCL, represents a paradigm shift in the treatment of acquired and congenital valvular heart disease analogous to the percutaneous treatment of coronary artery disease.

**Priority 4: Commercialisation of technology and education programmes**

We will support the commercialisation of pharmaceutical, medtech, diagnostics, informatics technology and educational programmes. Our aim is to enhance communication and collaboration to create a system to advance technology development and commercialisation connecting academia, industry, regulators, universities and medical physics laboratories.

We have already started to increase information flow across the network to connect with the UCL Institute of Biomedical Engineering, Queen Mary School of Engineering and Materials Science and industry partners. By connecting our partners we believe we will enhance the level of business support capability from a strong base. UCLBusiness offers a significant capability to support business innovation and Queen Mary runs a thriving technology transfer office and incubator. We will support and connect these business support systems to create a fertile environment to drive translation of innovation to create jobs. The entrepreneurial potential of the system is exemplified by the way in which our universities and technology transfer offices operate (see Boxes 4.6 and 4.7).
Box 4.6. ApaTech

Innovation at Queen Mary, University of London was rewarded with a top prize in the PraxisUnico Impact Awards for spin-out company ApaTech. ApaTech was recognised in the Business Impact – Achieved category, which recognises projects that have made an outstanding business impact through successful knowledge transfer, where the impact can be quantified and measured. Established at Queen Mary’s Interdisciplinary Research Centre in Biomedical Materials nine years ago with an initial investment of £3 million (3i), to manufacture and market synthetic bone substitutes, ApaTech has become an excellent example of how innovative technology from a UK university can be developed and commercialised on a global scale. The company was acquired this year by global healthcare company Baxter International Inc. for a total consideration of up to $330 million, following a number of successful venture capital investment rounds, which underpinned significant expansion of the business including new manufacturing capacity, and enabled the company to continue the development of its lead products. In 2009 ApaTech was ranked number two in the Sunday Times Tech Track 100 Fastest Growing Private Medical Technology Companies listing and received a number of awards including North American Device Biologics Company of the Year at the Frost & Sullivan Excellence in Medical Technologies and Life Sciences Conference 2009 in recognition of its outstanding commercial success in the US orthobiologics market.
We will also create the environment for spin-out companies to thrive. We are exploring how best to work with the Stevenage Science Park. We already have a thriving MedTech incubator within Queen Mary, University of London (QMUL) and, during the term of the AHSN licence, significant investment will be made in both the Queen Mary incubator and the MedTech campus in Essex (see Box 4.8).

**Box 4.8. Anglia Ruskin MedTech Campus**

A major project has been established to work with industry, micro SMEs to large corporates, private financiers and local government with the aim of establishing the UK as a global force in a sector worth £170 billion per year. Specialising in near-market solutions for products and services, this cluster of expertise will be of enormous benefit to healthcare providers and commissioners, and the Anglia Ruskin MedTech Campus has already secured support from a number of key stakeholders in industry, local and central government and the NHS. The AHSN will provide the framework for all partners to contribute to, and benefit from, this and other significant investment and industrial links.

**Box 4.7. Periowave system**

The increasing prevalence of antibiotic-resistant pathogens necessitates the development of alternative therapeutic approaches for bacterial infections. Professor Michael Wilson has led a research programme at UCL Eastman Dental Institute on the use of light-activated antimicrobial agents (LAAAs) to treat periodontitis, caries and other infectious diseases. LAAAs have no antimicrobial activity until activated by light of an appropriate wavelength. They are intended to supplement or replace the use of traditional antibiotics and antiseptics and have the advantage that microbes are highly unlikely to become resistant. This work has been funded by the Medical Research Council (MRC), Department of Health and by commerce (Ondine Biopharma Inc) and has resulted in four patents. Preclinical studies have been carried out (funded by Ondine Biopharma Inc) and a clinical study of the effectiveness of this approach for the treatment of periodontitis has been completed at The Eastman Dental Hospital and at clinical centres in the USA, Canada and elsewhere. The patents protecting this technology have been licensed by UCL Business to Ondine Biopharma Inc. This Canadian company had approval from Health Canada to market this system (called Periowave [http://www.periowave.com/what-is-periowave.aspx]) in Canada and have applied for CE marking and FDA approval to market the system in the European Community and USA, respectively. In Canada, more than 70,000 successful treatments have been carried out using the Periowave system. Although an early version of the Periowave system received a CE mark, the next generation product (which uses a hand-held laser as a light source) will hopefully be approved for use in Europe. This novel concept is now being refined for application in the treatment of non-oral infections of the joints, bladder and upper airways and light-activated disinfection of keyboards.
Supporting clinicians and scientists to create spin-out companies by providing connections to expertise and an environment for them to build their businesses. To address this need we are developing a concept for a UCLPartners MedTech Accelerator. The Accelerator will address the NHS’s Innovation, Health and Wealth (IHW) challenge by harnessing the unique power of UK university-based innovation and experimental medicine. The Accelerator’s realistic and achievable goal – based on the tremendous potential of the UCL Partners’ membership of HEIs and research networks, clinical commissioning groups and healthcare providers – is to be the world’s fastest and most cost-effective deliverer of patient benefit via medical technologies. The Accelerator will do this by providing a service to empower our researchers and industry partners to develop High Impact Innovations (HIIs), coupled to provider-based Showcase Hospital Programmes (as described in the IHW Report) to accelerate the innovation pipeline. The Accelerator is a scalable vehicle designed with growth in mind. At the beginning it will provide a fully functional service for the partners, scaling-up delivery as more parties join. In time a service across the entire UCLPartners geography will be established, supporting training and adoption, business incubation and manufacturing.

Incubating new companies and creating spinouts: a very significant and growing opportunity exists to engage partners with industry, and potentially financial investors in the medtech and informatics sectors. UCLPartners has a wealth of medtech assets that are of high potential, which need to be further mapped and evaluated to assess their true clinical utility and commercial potential. We will also draw upon our experience in creating new companies (see Box 4.9).

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**Box 4.9. Stanmore Implants Worldwide Ltd**

Stanmore Implants Worldwide Ltd was established in 1996 as a development company through UCL Business as the culmination of collaboration between the clinicians at the Royal National Orthopaedic Hospital and the UCL Department of Biomedical Engineering. In 2008 Stanmore Implants Worldwide was sold by UCL for over £10 million to a private equity group and has attracted further multimillion innovation investment since then. It has doubled in turnover to over £10 million per annum with global income now matching income generated from within the UK. This partnership between Stanmore Implants Worldwide, UCL and the NHS facilitates the design, manufacture and marketing of custom-made implant service with a portfolio of orthopaedic implants for limb salvage and complex joint replacement, and is known for creating some of the world’s most successful implants, including the Stanmore Hip and the award-winning non-invasive extendible prosthesis, which has resulted in improved quality-of-life for many thousands of children through to adulthood. Current developments include the Intraosseous Transcutaneous Amputation Prosthesis (ITAP), a device for directly attaching prostheses to the skeleton of amputees. It is being developed for a wide range of applications including upper and lower limb, digits and craniofacial prostheses. ITAP builds on ground-breaking research undertaken by UCL with a design that, by mimicking successful skin-penetrating natural structures (such as deer antler), smoothly integrates with the skin, offering an effective barrier against infection, which has previously limited the application of percutaneous implants to dental implants and craniofacial applications.
We have significant potential to stimulate wealth creation in biomedical engineering by harnessing the power of university-based innovation and the opportunity to test new technologies within the NHS as validation to strengthen the propulsion for international markets. We are in the early stages of discussion with industrial partners with significant commercial expertise to create new models of industrial, academic and NHS collaborations. PA Consulting Group has committed to establishing partnerships with academic and science networks in the field of medtech value capture and commercialisation, and have are committed to explore this in detail with UCLPartners.

**Embedding and evaluating technology within Integrated Programmes:** We recognise the need to change from a transactional sales-customer relationship to a collaborative model, supporting industries to work with us to develop healthcare solutions rather than on their own, creating products that are then ‘sold’ into pathways of care. Our success implementing NICE-approved technologies will strengthen the UK’s capability to attract inward investment in research.

Our AHSN will offer industry healthcare knowledge, support of our universities, and capability to integrate technology and informatics into practice, and we will provide robust independent academic evaluation of the impact on health outcomes when fully embedded in pathways of care. This evaluation will create value by creating the evidence needed to market products across the UK, in the US and in other major global markets.

Industry representatives have highlighted the attraction of our partnership approach. They recognise the opportunity for working together to improve patient outcomes through the appropriate use of medicines and technologies, but also through the introduction of complementary services to maximise the benefits to patients (outcomes and well-being), members (quality, efficiency, productivity, financial), and society (productive work-force, economic growth). In this way new medical technologies can be designed to meet the needs of patients, and become more readily integrated into the care pathways. New technology will be created and embedded into practice by co-creating and co-delivering projects with industry considering their contribution alongside those made by patients, NHS, HEIs, local authorities and third-sector representatives. We will draw on experience developing new technologies to support the clinical and research needs of our AHSC Programmes (see Box 4.10).
We will work with selected companies that we believe have the foresight and the capability to work in this new model, offering them the opportunity to place seconded staff within our integrated Programme teams. By actively involving industry as core participants within our AHSN, we can mobilise a breadth of expertise, capabilities and resources for implementation, invention and diffusion. We will seek strategic alliances to co-develop and drive implementation of medtech and informatics solutions within our Integrated Programmes. We will draw upon experience working with commercial partners to develop the services required to support use of new technologies (see Boxes 4.11 and 4.11).
This joint approach will create medtech, diagnostic and informatics tools that respond to health priorities that have been co-created by industry and health professionals with global reputations, and which have been rigorously evaluated by academics in practice. Every UCLPartners Integrated Programme will include at least three new major industry major collaborations by 2015 and the specific priorities for delivery in Year 1 for every established UCLPartners programme are summarized in Appendix 2. We will build on existing capabilities that align with the priorities for our Integrated Programmes (see Box 4.12).

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**Box 4.11 DELTEX collaboration**

The CardioQ-ODM (oesophageal Doppler monitor) manufactured by DELTEX (Chichester, UK; www.deltexmedical.com) was developed in partnership with clinical academics at UCLH/UCL. This included the targeted use of the CardioQ-ODM to guide intravenous fluid management in patients undergoing surgery. This care package was evaluated by the National Technology Adoption Centre and was subsequently approved by NICE in 2011. The CardioQ-ODM was featured in IHW (5 December 2011) and the Innovative Technology Adoption Procurement Programme. CardioQ-ODM-guided fluid management is now an established component of the Enhanced Recovery after Surgery Programme, led by a clinical academic from UCLH/UCL. Latest results from the Enhanced Recovery Programme demonstrate increasingly NHS-wide adoption of the Cardio-Q ODM, better quality of care provided to patients, high levels of patient satisfaction and a reduction in the overall cost of care (thousands more major surgeries whilst using 77,000 fewer bed days and no increase in readmission rates)


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**Box 4.11. Olympus, Steris and 20/30 Labs**

In 2009, Southend Hospital was awarded a contract to provide an outpatient community-based clinic that included flexible endoscopy. However, there were no on-site scope-reprocessing facilities available in the community. The team at Southend worked with academics from Anglia Ruskin University and the MedTech industry (Olympus, Steris and 20/30 Labs) to deliver the world’s first pass-through hydrogen peroxide gas sterilisation unit for flexible endoscopes. The partnership faced several challenges including scope compatibility with hydrogen peroxide, developing a scope storage and transport system, complying with legislative and best practice standards, and delivering all this in a cost-effective sustainable manner. To date, 3000 scopes have been gas sterilised, with a spin-out company (Sterile Scopes Ltd) established to commercially develop the off-site scope-reprocessing business. Commercialisation included raising £2.3 million of private sector funding to build the new gas sterilisation unit. Most importantly, this development has improved both clinical quality of reprocessing and patient experience, through delivering flexible endoscopy services closer to patients’ homes.
We have already started discussions with commercial organisations to embed medtech and informatics capability into all our programmes.

**We see opportunity to create commercial value from knowledge and educational materials:** our universities have global reputations for excellence as education providers. We see education and knowledge as the means to creating wealth by capturing the health improvement knowledge generated. We will protect the value of the expertise we develop through copyright of new training materials and deliver training and consultancy services to overseas clients. Our education strategies will take advantage of the knowledge created within the AHSN through commercialising education and health improvement services, building on our reputational strength and educational capabilities to offer educational products and services to overseas customers.

**Summary**

UCLPartners AHSN will build on the considerable achievements of our institutions, raise the ambition for commercial partnership to a new level, and strengthen the offering to industry by harnessing the strength of individual institutions to provide an integrated offering, and create a culture and environment that supports the entrepreneur and their interactions with industry. Most of all, we will increase the pace of delivery. We will work to develop and apply suitable metrics that best support delivery and capture the enhanced gross domestic product contribution from our and other AHSNs. This will inevitably span process measures such as increased commercial contracts, patents, spinouts and international property as well as inward investment, but most importantly job creation. There will clearly be a substantial shift to greater partnership working with industry from the outset. For example

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**Box 4.12. Advanced Medical Diagnostics**

Prostate cancer is one of the four commonest cancers and a diagnosis causes considerable anxiety and morbidity even though it accounts for less than 10% of all deaths from cancer. There is therefore considerable interest in improving diagnostic accuracy and the capacity to offer treatments targeted to the diseased area of the gland, with the potential to reduce nerve and sphincter damage. **UCLPartners institutions host world-leading research partnerships with industry to improve this situation for patients. A partnership with an SME biotech based in Belgium (Advanced Medical Diagnostics) has provided £0.5 million towards the academically led development of a system that uses advanced computational methods to interrogate the data from the routine prostate ultrasound scan that is typically discarded. The resultant HistoscanningTM can predict the presence of prostate cancer about 80% of the time. Moreover, this can be done using a machine that is already in place in most radiology and urology units throughout the country. First-in-man studies using sound waves and laser light to target the cancer have led to ongoing multicentre phase III trials throughout Europe of focal therapy for prostate cancer conducted in partnership with industry (£1.1 million, US High Intensity Focused Ultrasound).**
we will measure success through our ability to get medtech assets commercialised as well as getting medtech advances with proven clinical utility ‘into’ the health system.
Chapter 5: Research

5.1 Background

UCLPartners research strategy will foster collaboration, connect the research translational pathway and champion research participation and excellence in delivery of clinical trials. We will also enhance partnership with the biomedical industry, small- and medium-sized enterprises and large pharmaceutical companies for biomedical and clinical research as described in the previous chapter on wealth creation.

Our Academic Health Science Network (AHSN) offers the largest and most diverse population in the UK with access to 6 million patients with diverse ethnic and genetic origins as well as socioeconomic diversity whilst including some of the strongest academic groups in the world.

Our Academic Health Science Centre (AHSC) and AHSN are enjoined by a commitment to generate population health and wealth. To that end, the broad partnership between our universities, healthcare providers and industry is designed to ensure that medical research breakthroughs lead to direct clinical benefits for patients across the population served by UCLPartners and through publication of evaluation studies to inform national and global practice (see Figure 5.1).

Figure 5.1: UCLPartners research model to improve health of the population

1. Discovery science
2. Proof of concept
3. Clinical trials
4. Applied health research in patients and populations
Reverse translation
Enabled by informatics
Our AHSN and AHSC research strategies will be fully integrated, overseen by a single research board working across the translational pathway, championing broad participation in research, entry into clinical trials, and translation of innovation into practice.

UCLPartners will join up the translational pathway from discovery right through to commercialisation and evaluation in practice. The spirit of collaboration, robust scientific platform, capability to perform large-scale trials, and to evaluate technologies within pathways of care creates an attractive offering to industry and a unique research platform that will draw inward investment.

**AHSC contribution to the network**

The AHSC’s focus on discovery and proof-of-concept research will complement the AHSN’s focus on clinical trials and applied research. We recognise the value of epidemiological studies and trials at a population level in helping to identify unmet health needs, requiring further discovery and innovation, so-called ‘reverse translation’. One example of reverse translation is the finding through population studies of a late toxicity of a newly licensed therapy, which, through pharmacogenomic analysis, may lead to improved stratification of patients in the future. This is exemplified by the finding that severe cutaneous hypersensitivity to the anti-HIV drug abacavir is restricted to carriers of HLAB*5701. This variant is now typed in routine clinical practice to assess eligibility for abacavir. Abacavir use has actually increased since the discovery of this pharmacogenetic adverse effect.

Our AHSC, which will be fully embedded within our AHSN, includes world-leading biomedical research capabilities in disease mechanisms, therapeutic target identification and validation, genomics, bioengineering and novel cell-based and device-based therapies. This is complemented by tissue bio-repositories for rare and common diseases, and will be further enhanced by our engagement with The Francis Crick Institute.

We will ensure that this exceptional resource for discovery and innovation is pulled-through into the development and robust evaluation of new therapeutics and diagnostics, and ultimately delivered to improve the outcomes for our patients. Close links between basic and clinical sciences are known to facilitate innovation and improved outcomes, and will be optimised by:

- Fostering of interdisciplinary fora for each major programme and across programmes
- Introduction of clinically orientated components to preclinical educational programmes
- An active process of ‘discovery audit’ to identify tractable discoveries
- Applying such principles to our developing relationship with The Francis Crick Institute.

In addition to the strong biomedical and applied research capabilities within the partnership, we also have an outstanding medical technology scientific platform developing innovation, which includes the UCL Institute of Biomedical Medical Engineering, Queen Mary School of Engineering and Material Science, Anglia Ruskin Med Tech Campus and Stanmore Implants. We aim to connect these research platforms more effectively both to the National Health Service (NHS) research platform and to industry.
We have already made substantial progress fostering a spirit of collaboration that is central to our mission regionally, nationally and internationally. This culture of collaboration across London and nationally that UCLPartners has helped foster is exemplified by the examples in Boxes 5.1 to 5.5.

**Box 5.1. The Francis Crick Institute**

The Francis Crick Institute is a £700 million partnership between the Medical Research Council (MRC), Cancer Research UK (CRUK), Wellcome Trust, University College London, Imperial College London and King’s College London. Due to open in 2015, it will undertake research into the basic biology underlying human health, and will draw on the translational strengths of its partners to drive forward clinical research and innovation for the benefit of patients. Recognising the importance of true integration to realise the Crick’s translational potential, UCLPartners engaged with the Crick at its planning stages, including the development of its academic strategy, ICT strategy, shared technology platforms, educational programmes, and national engagement strategy. Both Kings and Imperial Health Partners joined this collaboration to align the full strength of the London AHSC community with the Crick’s capabilities. Crucially, the Crick has also engaged the technology transfer offices of the AHSC partners, and will develop an integrated technology transfer facility to encourage engagement with industry at the earliest stages of academic research. London AHSCs continue to contribute to Crick’s forward-thinking strategic framework, to establish the Institute at the heart of an integrated life sciences ecosystem, and promote the UK’s reputation for life science innovation.

**Box 5.1. Imanova, a state-of-the-art imaging company**

A unique joint venture between the three London AHSCs, Oxford and Cambridge and MRC, became operational 12 months ago. Imanova accelerates the translation of great science into clinically and commercially relevant products and services and provides a platform for pharmaceutical companies to better understand how developmental drugs work in the human body. In its short existence, Imanova has already gained eligibility for MRC funding, and new awards for positron emission tomography imaging projects have been made to collaborative projects with the university partners. Twenty-two clinical studies are now underway, including those for GlaxoSmithKline and MRC-funded investigators, in research areas including oncology, mental health and neurodegeneration. Imanova has also established eight new radiotracers to allow imaging of a broader range of pathways and potential targets, and six studies have already been contracted with new commercial partners. A programme of magnetic resonance imaging (MRI) and functional MRI scanning is also being delivered.
Box 5.2. MRC-NIHR Phenome Centre

The Phenome Centre, funded by the MRC and NIHR, will deliver broad access to a world-class capability in metabolic phenotyping that will benefit the whole UK translational medicine community. The establishment of the centre will take advantage of an unprecedented opportunity offered by the legacy of the 2012 Olympics state-of-the-art drug testing/analytical laboratory. In addition to the £10 million grant, there will also be significant contributions of staff, equipment and technical support from major instrument suppliers of both mass spectrometry (Waters Corporation) and nuclear magnetic resonance (Bruker Biospin GmbH). The companies will work with the Phenome Centre to develop the technology and establish a major training centre. The NIHR BRCs are already engaged with the project, and opportunities for collaboration are being investigated.

Box 5.3. Biomedical Research Centre

Utilising the resources of their NIHR Biomedical Research Centres, we are working in partnership with the other Biomedical Research Centre (BRC) in England to provide sequencing and extensive informatic support focused on rare diseases. We are also pooling expertise with Global Medical Excellence Cluster, involving Oxford and Cambridge Universities to explore therapy potential for rare diseases with industry.

Box 5.4. Improvement Science London

The three London AHSCs have also established a joint venture, Improvement Science London (ISL) (which is co-located with UCLPartners), which aims to develop, promote and embed the science of improvement. We see this as a complementary science to the life and clinical sciences, one that helps to address the third translation gap, from best evidence to routine practice. ISL is actively supporting large-scale pan-London improvement projects that are rigorously evaluated to produce general usable evidence about how to improve the organisation and delivery of services. In addition ISL is developing innovative methods and approaches to encouraging evidence based implementation. UCLPartners rapidly expanding Applied Health Research Department is making an important contribution to the work of ISL.
We will continue to foster research collaboration and support our partners to build complementary capabilities across institutional boundaries. The same commitment to partnership is fuelling new alliances with industry (e.g. UCL’s institutional commitment to working with the Stevenage BioScience Catalyst), as both academic and industrial sectors seek to define models that optimize the productivity of the therapeutic pipeline.

5.2 AHSN research priorities

Our strengths in clinical trial delivery and population-based research complement our strength in biomedical research. UCLPartners will link up this system to move from research in small patent numbers, through to hundreds or thousands in trials, to tens of thousands in investigator-led cohorts, to million-plus scale in population-based records research – all in one research area.

This prospectus focuses on the priorities that can be exploited across the whole Network and shows how our AHSC Programmes and AHSN Integrated Programme will delineate a research strategy and build a community of practice to stimulate collaboration.

UCLPartners, as an AHSN, has five research priorities for the Network. We will:

1. Align research priorities across the translational pathway within research themes
2. Deliver an AHSN-wide system to manage clinical trial performance and participation
3. Build world-class applied health and informatics research capabilities
4. Build strategic collaborations with industry to enhance wealth creation
5. Use metrics to align and drive priorities and accelerate movement around the translational pathway

Priority 1: Align research priorities across the translational pathway within research themes

The connectivity of our AHSC capabilities and the delivery and diffusion potential of the AHSN needs to be owned and implemented at research theme/programme level, supported by collective efforts to overcome gaps in translation.

The focus of our AHSC will be to strengthen discovery science and proof-of-concept research and our overarching priority, as UCLPartners, will be to develop our community of researchers.

Experimental medicine is served by the portfolio of National Institute for Health Research (NIHR) Biomedical Research Centre (BRC) and Biomedical Research Unit (BRU) activities. Each has their own strategy, but all are defined by:

- Global excellence – pursuit of world-class activity
- Optimisation of external funding
- Optimisation of industrial engagement
- Improvement in effective exploitation of research funds
The connectivity of our AHSC capabilities and the delivery and diffusion potential of the AHSN will be owned and implemented at research theme/programme level, supported by collective efforts to overcome gaps in translation. The AHSC and AHSN strategies will be aligned with the BRC and BRU strategies through a single UCLPartners Research Coordination Board.

**Priority 2: Deliver an AHSN-wide system to better manage and enhance research performance and participation.**

We are starting to pull together performance statistics across the network (Figure 5.2). We are beginning to understand where best practice takes place and which trusts may need support. We have already reviewed the level of participation in commercial studies at the UCLPartners Executive, and agreed an action plan to support two trusts.

Figure 5.2: UCLP AHSN provider trusts research recruitment into NIHR portfolio studies

![Recruitment per 10,000 population](image)

Provisional data based on year to March 2012.  
Source: CLRNs, hospital websites (for catchment area)

We already see hospital trusts in central and east London (corresponding to the London component of the UCLPartners AHSN) playing a central role in London and the UK, leading and contributing to both commercial and non-commercial studies (Tables 5.1 and 5.2). Participation is also strong, with recruitment comparing favourably to London benchmarks (Table 5.3 and 5.4). The Essex and Hertfordshire Clinical Research Network (CRN) is also making a significant contribution to driving research participation (Table 5.5).

**Table 5.1: Lead (Clinical Investigator [CI]) for commercial studies**

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<tr>
<th>Year</th>
<th>Rest of England</th>
<th>London</th>
<th>% Total</th>
<th>CEL only</th>
<th>% Total</th>
<th>% London</th>
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<tr>
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<td>20%</td>
<td>9</td>
<td>11%</td>
<td>39%</td>
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<tr>
<td>2010–11</td>
<td>132</td>
<td>58</td>
<td>31%</td>
<td>25</td>
<td>13%</td>
<td>43%</td>
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<tr>
<td>2011–12</td>
<td>152</td>
<td>92</td>
<td>38%</td>
<td>48</td>
<td>20%</td>
<td>52%</td>
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</table>

CEL, Central and East London
Table 5.2: Lead (CI) for non-commercial studies

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<th>Rest of England</th>
<th>London</th>
<th>% Total</th>
<th>CEL only</th>
<th>% Total</th>
<th>% London</th>
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</thead>
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<tr>
<td>2009–10</td>
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<td>144</td>
<td>24%</td>
<td>65</td>
<td>11%</td>
<td>45%</td>
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<tr>
<td>2010–11</td>
<td>651</td>
<td>289</td>
<td>31%</td>
<td>132</td>
<td>14%</td>
<td>46%</td>
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<tr>
<td>2011–12</td>
<td>585</td>
<td>268</td>
<td>31%</td>
<td>176</td>
<td>21%</td>
<td>66%</td>
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Table 5.3: Recruitment into commercial studies

<table>
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<th></th>
<th>Rest of England</th>
<th>London</th>
<th>% Total</th>
<th>CEL only</th>
<th>% Total</th>
<th>% London</th>
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<tr>
<td>2009–10</td>
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<td>1707</td>
<td>12%</td>
<td>220</td>
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<td>13%</td>
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<tr>
<td>2010–11</td>
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<td>12%</td>
<td>650</td>
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<td>39%</td>
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<tr>
<td>2011–12</td>
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<td>2546</td>
<td>14%</td>
<td>1200</td>
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<td>47%</td>
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Table 5.4: Recruitment into non-commercial studies

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<th>Rest of England</th>
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<th>% Total</th>
<th>CEL only</th>
<th>% Total</th>
<th>% London</th>
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<td>2009–10</td>
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<td>38%</td>
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<td>2010–11</td>
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<td>155,158</td>
<td>31%</td>
<td>41,445</td>
<td>7%</td>
<td>27%</td>
</tr>
<tr>
<td>2011–12</td>
<td>445,809</td>
<td>108,531</td>
<td>31%</td>
<td>47,552</td>
<td>9%</td>
<td>44%</td>
</tr>
</tbody>
</table>

Table 5.5: Performance of NIHR portfolio research in Essex & Hertfordshire CLRN involving trusts within AHSN

<table>
<thead>
<tr>
<th></th>
<th>No of study/sites</th>
<th>Reported recruitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008–09</td>
<td>370</td>
<td>6990</td>
</tr>
<tr>
<td>2009–10</td>
<td>486</td>
<td>10294</td>
</tr>
<tr>
<td>2010–11</td>
<td>573</td>
<td>11705</td>
</tr>
<tr>
<td>2011–12</td>
<td>618</td>
<td>15260</td>
</tr>
<tr>
<td>2012–13 half year</td>
<td>464</td>
<td>9875</td>
</tr>
</tbody>
</table>

Research participation grew by 13% last year when four more Essex and Hertfordshire member trusts were recognised for their contribution in terms of patient recruitment to the NIHR CRN portfolio studies.
We have already made substantial progress over the past 3 years to improve median approval times in North Central London (NCL) and North East London (NEL) for commercial studies (Figure 5.3) – but accept that there is further to go to address outliers (studies and trusts) and overall performance.

Figure 5.3: Median time (calendar days) to issue NHS permission from valid submission for commercially funded research in CEL

Recruitment to target also shows a positive trend in Essex and Hertfordshire (Table 5.6).

Table 5.6: Performance of commercial portfolio research in Essex & Hertfordshire CLRN involving trusts within AHSN (CCRN portfolio only)

<table>
<thead>
<tr>
<th>Count of industry studies</th>
<th>Recruitment to target to time achieved (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009–10</td>
<td>1</td>
</tr>
<tr>
<td>2010–11</td>
<td>13</td>
</tr>
<tr>
<td>2011–12</td>
<td>30</td>
</tr>
<tr>
<td>2012–13 half year</td>
<td>20</td>
</tr>
</tbody>
</table>

Review of NHS permissions issued in 2011/12 revealed that almost 70% had local checks completed within 30 days from the receipt of a complete research and development (R&D) submission. Specifically for Essex and Hertfordshire Trusts joining UCLPartners (i.e. excluding East and North Herts NHS Trust and Colchester Hospital University NHS Foundation Trust) analysis of processing times for commercial studies shows an improvement over the past 3 years from a median of 66 days to 24 days (Figure 5.4).
Conversion of all submitted expressions of interest (EOIs) for industry studies within the CCRN portfolio into ‘selected’ sites improved to 47% in 2011/12 from 34% in 2010/11. This CLRN also improved performance in relation to ensuring submitted EOIs become ‘recruiting sites’ from 4% in 2010/11 to 27% in 2011/12. Average recruitment at the Essex and Hertfordshire CLRN-supported sites was 101%, compared with 69% for same industry studies elsewhere. A total of 61% of all closed industry studies recruited to Time & Target compared with 27% nationally at year-end.

Our partners recognise, however, that the way in which clinical trials are conducted across the system does not maximise the competitive position of the partnership. We see an opportunity to meet and exceed new national targets and guidelines. There is potential to offer a competitive advantage that will necessarily lead to increased volume of commercial studies, both nationally and internationally.

**Improving performance**

The UCLPartners academic and patient platform, complemented by a high-quality delivery service, will offer a globally competitive proposition to industry and strengthen academic grant applications. A synthesis of our clinical trials capacity will create the largest and most comprehensive set of capabilities in the UK, offering the full range of academic support, from entry level advice through to the development of novel methodologies to speed the acquisition of robust data from large and complex interventions. We believe that this combination of ingredients will increase investment from industry by 20% within 3 years and by 50% within 5 years.

We will deliver change in three phases:
Improving performance phase 1 – harmonisation

UCLPartners has made the first steps towards harmonising operational support for research delivery in the most research-active centres. Within this context a pilot went live on 29 October 2012 involving the following innovations for the UCLPartners NCL and NEL partner trusts for all commercial studies for a 6-month period:

- Studies will be processed for NHS permissions and contract negotiation using the NIHR costing template, through four Permission Centres, to which the partner trust chief executive officers (CEOs) have signed letters of delegated authority.
- Four Permission Centres are now in place, each of which now has a new Harmonisation Liaison Officer to work with sponsors and principal investigators across the following centres:
  1. Centre for Mental Health and Primary Care
  2. Centre for Child-Related Research
  3. Centre for Cancer; Ear, Nose and Throat; Genetics; Immunology & Inflammation; Infectious Diseases and Microbiology; Metabolic and Endocrine; Neurology & Dementia; Nervous system disorders; Ophthalmology; Oral and Dental; Stroke; Surgery
  4. Centre for Age and Ageing; Anaesthesia, Perioperative medicine and pain; Cardiovascular; Critical Care; Dermatology; Diabetes; Emergency Medicine; Gastroenterology; Urogenital and Reproductive Health; Health Services Research; Hepatology; Musculoskeletal; Non-Malignant Haematology; Renal; Respiratory

- Designated Trial Pharmacists (DTPs) will take responsibility for a research study based on specialty and their capacity to review the project, with a turnaround time of 10 working days, supported by a coordinator across the partnership.
- A Medical Exposure working group has agreed a review turnaround time of 10 working days for both Medical Physics and Ionising Radiation (Medical Exposure) Regulation (IRMER) reviews, working through a team of experts supported by a coordinator across the partnership.
- A standard Patient Identification Centre (PIC) contract has been devised and agreed by the costing and contract group so that when a patient comes from a patient identification centre (PIC) site and found to fit the inclusion criteria, a minimum payment will be made to the PIC (the fee amount being dependent on the commercial company negotiations).

Industry partners are keen to place studies using the new process that will allow them to open several sites within UCLPartners across NCL and NEL with one NHS permission. Obtaining only one contract, one costing, one medical exposure and pharmacy review reduces not only the time taken to set up a site but also the cost of set-up fees. A key part of the harmonisation project is an emphasis on the feasibility of commercial research. Providing industry partners with realistic, informed and achievable recruitment targets will support the ambition of opening more commercial research and allow research teams to deliver on the time to target metric.

The NCL/NEL UCLPartners harmonisation project will continue as a pilot over the next 6 months, during which UCLPartners will work actively to ensure the learnings and benefits of the delegated
authority model are incorporated into any future single NCL/NEL office. UCLPartners will use the 6-month period to develop its implementation plan to conduct in parallel appropriate consultation with stakeholders. This research harmonisation work across the UCLPartners London geography is matched by a similar project in Hertfordshire and Essex, creating the opportunity for considerable two-way learning – with Essex and Hertfordshire Partner trusts supported by the Essex and Hertfordshire CLRN already achieving very short times for industry trial approvals as described below.

Ultimately, we will aim to develop a single harmonisation process for research support across the partnership, utilising the existing synergistic strengths and learning from the current support structures. We can now bring together the research performance data from across all partner organisations to monitor performance at the UCLPartners Executive, creating the forum for shared learning, peer review and mutual holding to account.

**Improving performance phase 2 – Research Performance Programme**

The partnership recognises that the harmonisation work is an exciting forward-looking step to raise support for clinical trial research and that even more could be done to ensure standards are raised for both commercial and non-commercial research. We will develop a Research Performance Programme to address this need.

The partnership has commissioned an options appraisal to explore the benefits and risks of creating a single integrated structure/organisation to support the three most research active major acute NCL/NEL trusts in both commercial and non-commercial clinical trial research. Working with PA Consulting we have engaged senior leaders and experts within the partnership to understand the risks, benefits and processes to deliver an integrated function for commercial and non-commercial clinical trials within NCL, and NEL as the next step. UCLPartners Boards will evaluate the findings of this review in late November 2012 to decide on the most streamlined method of delivering an integrating function.

The review has:

- Identified the need for a step-change improvement in performance in both clinical and non-clinical trial research across the NCL and NEL trusts in the partnership.
- Demonstrated the broad support for collaboration and partnership through the creation of a single Research Performance Programme across the partnership.

We are developing a full business and implementation plan before year-end for the delivery of a unified programme to ensure that UCLPartners meets the needs of commercial and non-commercial sponsors, national targets, regulatory bodies and which (crucially) enables more patients to gain access to cutting-edge clinical research throughout the AHSN. Aligning the AHSN as proposed with existing CRNs so that resources, effort and accountability for the system-level challenges are progressed efficiently.

Where it makes sense we will provide support at a system level. We will encourage development of online and face-to-face systems to:
• Share news of developments across facilities
• Access protocols
• Access a UCLPartners-wide electronic case record form (eCRF) system from all environments where a research subject might be seen or managed across the partnership, and with the aspiration to link to primary care via our partnership-wide informatics platform.

Our ambition is to create a system-wide approach to managing research participation and performance. Our intent is to go beyond the expectation placed upon all AHSNs to request, receive and monitor information about research initiation and performance, and to leverage any necessary improvements in constituent organisations. We wish to support a system that enables our partners to outperform globally leading competitors (such as players in Germany and Switzerland) in the global market for commercial studies and to be positioned in the minds of NIHR’s leadership as the most efficient and effective place to do research in the UK.

**Improving participation**

We will create a Translational Research Academy faculty across the partnership to enable researchers to work more effectively; for example, offering support to access training to enhance clinical research skills and to refresh understanding of ethics and governance.

The UK is a long way behind other developed nations, especially the USA, in translating its university-led biomedical science into wealth creation. To change this requires a major cultural shift to inculcate our existing and future clinicians – both NHS- and University-based – with the mind-set that participating in research (including commercial research) is the norm: professionally ethical, personally satisfying and beneficial to patients.

We also believe that directly engaging staff that are not healthcare professionals and patients in research and innovation is a key step to deliver the research-rich environment we aspire to. One example is an approach to establish research registers across UCLPartners (currently present in Camden and Islington) to promote recruitment of patients to trials and observational research. On admission, or in outpatients, patients give consent for researchers to either access their records and/or approach them about recruitment into research (so-called ‘consent for consent’, as developed at South London and Maudsley NHS Foundation Trust). This approach overcomes a hurdle to getting to patient consent by placing an additional task on busy clinicians. Cultural shift, the efficient and effective management of existing resources, and improving knowledge of trial availability and patient cohorts are three key enablers of improved participation.

Work with both patients and professionals will help develop the expectation among both patients and professionals of expectation that translational research is routine business. With patient groups we will set expectations that, whenever possible, the patients will be offered the opportunity to participate in trials, building on recent work in cancer. For example, patient leaflets, and online resources will highlight current trials, and patient group work and open days will be opened up and advertised more widely, to encourage patients to ask about trial participation.
With professionals, workshops will be held to show Boards and primary care groups the broad and system benefits of research participation, and to emphasise that enrolling patients need not be an undue administrative burden.

We will also strengthen the culture of translational research through a staff-training programme to develop the skills to deliver late-phase studies. To break down cultural barriers and exchange skills and knowledge, staff rotations and exchange programmes with industry will be promoted. Two programmes have already been initiated, and we will create at least five major exchange programmes with industry partners.

Management of existing resources

There is an opportunity to provide better oversight of human resource in NHS research. We will ensure that time allocated for research, as part of a job plan, is linked to output. We will provide a set of job planning and appraisal tools that link time allocated to research and teaching with delivery; for example, a Direct Clinical Care Clinical Trial session will have a patient recruitment target. Performance against these targets will be managed through the appraisal system. Transparent allocation of research time, defining of specific objectives and a robust appraisal system will un-lock the resources needed to create a step-change in research performance across the network.

Priority 3: Build world-class applied health capabilities to support the AHSN mission

Applied health

We are committed to implementing evidence in service settings, and to assuring that evidence is adopted at an individual practitioner, patient and population level. We will achieve this in a range of ways including conducting research, which creates evidence to demonstrate the value of new technologies in a service setting and of new services and patient pathways. Evaluations of quality, service delivery and organisation, and implementation will be overseen by a cross-cutting Applied Health Research Programme, drawing on the evaluative and improvement science capacities of the Partnership and serving our programmes. The practical processes of implementation at scale will be conducted with the support of partners in Improvement Science London, and the UCL Clinical Trials Unit (CTU) is also developing methodological capacity.

We will also consider the population without disease. University College London (UCL) is a member of the NIHR School for Public Health Research whose driving force is to evaluate public health interventions. An important strand of the work is to collaborate with public health professionals to evaluate innovations they wish to roll out across the community. Here, the London School of Hygiene and Tropical Medicine brings significant academic strength to the partnership. We have encouraged our universities to build health economics research capabilities to evaluate performance of new therapeutic, diagnostic innovations and health systems. We have developed rigorous methods to produce rapid, yet comprehensive, qualitative evaluations that both stand up to academic peer review and are useful to decision-makers in the care services. We will draw upon the considerable methodological expertise that exists within the higher education institute partners of UCLPartners to undertake a programme of rigorous quantitative (preferably controlled) evaluations of complex interventions in the service setting. Many of the individuals involved have international reputations in their fields, which include health services research, improvement science, psychology, sociology,
anthropology, epidemiology, statistics and health economics. Our experts come from a range of professional backgrounds including medicine, public health, nursing, management and the allied health professions, as well as political science, social science, engineering and mathematics. All work within a culture that has long encouraged cross-disciplinary and inter-professional collaboration as well as the ability to work across the traditional silos of the biomedical, clinical and improvement/implementation sciences. We are strongly supporting a Collaboration for Leadership in Applied Health Research and Care (CLAHRC) bid co-terminus with our AHSN, which will enable us to further foster UCLPartners vision of focusing on value in care delivery (see Box 5.1). The CLAHRC will conduct applied health research to enable us to evaluate complex healthcare and public health interventions, services and pathways; and to understand and improve adoption, implementation and widespread dissemination of evidence-based healthcare and public health interventions to improve health and reduce inequalities. Priorities of the CLAHRC will be driven by patient, population and health service need and the research will be informed by perspectives of patients and the public as well as healthcare professionals and commissioners.

**Box 5.1. European Union (EU) QUASER project: organisation development for hospitals on a European scale**

The QUASER project, funded by the EU FP7 programme, is led by UCL and is collaboration between five European countries (England, Norway, Sweden, the Netherlands and Portugal). It centres on producing a guide for senior hospital leaders to develop and implement quality improvement strategies across their organisations. These guides are being developed using data from a longitudinal, multilevel, comparative study of quality and safety in hospitals in the five participating countries and in collaboration with a translational stakeholder group of hospital leaders, payers and patient representatives from a further 12 European countries. While other guides tell hospitals what indicators to use, this guide is a dialogical tool to help senior leaders develop locally relevant quality improvement strategies that address key cultural, educational and technical challenges.

The team has developed a follow-on proposal, linking implementation to industry, which envisages partnering with an small- to medium-sized enterprise with expertise in organisation development (Foresight Partnership) to work with senior hospital leaders to implement the QUASER guide. If UCLPartners is successful in securing a CLAHRC, this work would fit squarely with the CLAHRC’s scope of implementation at scale across diverse sites, with robust concurrent evaluation, and industry participation at its heart.

The emphasis of evaluations will be on scientific rigor, practical utility, service improvement and patient benefit. This will be achieved by encouraging a creative tension between the academic perspective on a problem, and that of service users and decisions-makers in health service.

We are committed to working closely with the private and third sectors where they will add value to our work. This includes partners from those manufacturing, service, consulting and media/creative industries, which have insights into change management, implementation and improvement
challenges faced by the health and social care services. They will play a part in encouraging innovative
models and methods to address established challenges at strategic and operational levels. Some of
these private and third sector partners will be the same as those with which we are working in the life
sciences and clinical research domains, but others (such as psychology-focused management
consultancies or data analytics companies) will have specific expertise in the areas of applied health
research. The evaluation programme will adopt three broad approaches (see Boxes 5.2 to 5.4):

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**Box 5.2. Large-scale outcome-oriented evaluations**

Rigorous methods will be utilised to evaluate the nature, implementation and impact (in terms of
effectiveness, cost-effectiveness, appropriateness and equity) of the complex interventions under
study. The nature of the methods will be determined by the research question, the intent of the
evaluation and by what is practically achievable. This will range from randomised controlled trials
through to descriptive studies. Whether or not it is possible to apply experimental designs, as a
principle we will always endeavour to measure changes over time and identify contemporaneous
controls to distinguish cause and effect. In all cases, our approach will be underpinned by
appropriate theories of change. Quantitative methods will be supported where appropriate by a
process evaluation to explore the way in which the intervention is implemented, why it works or
fails and how contextual factors influence with variations in outcomes. Barriers and facilitators to
widespread implementation will be explored from the perspectives of providers and users of the
intervention.

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**Box 5.3. Small-scale process-oriented evaluations**

Not all service changes will be at a scale or level of risk that justifies large-scale objective evaluation.
In the past, small-scale changes have not been subjected to evaluation and as a consequence
opportunities to examine the effectiveness of these projects and promoting learning have been lost.
It is important to provide evidence both to support the timely roll-out of potentially effective
interventions (which can later be the subject of large-scale, outcome-orientated evaluations), and to
discourage the further development of interventions that are unlikely to demonstrate added value.
We propose to address this problem by adopting a smaller scale and more pragmatic evaluation
offer in partnership with service providers, which will both draw on best evidence and offer new
empirical insights to implementation teams, using readily available data, surveys, interviews and
observational methods.
Our overarching philosophy is to invigorate the research-led capacity for ‘health and wealth’ from within the network and to enhance collaboration and partnership with the biomedical industry, small- and medium-sized enterprises (SMEs) and large pharmaceutical companies for biomedical and clinical research. In line with this trajectory, UCLPartners recently recruited as its Chief Operating Officer a senior manager with substantial pharmaceutical industry experience. Our members have already developed a series of collaborations with industry partners to support translational and experimental research (see Chapter 4).

Priority 4: Build strategic collaborations with industry to enhance wealth creation
UCLPartners provides the opportunity to build strategic partnerships with industry (large pharmaceutical companies, biotech/SMEs and device manufacturers) across the translational pathway to benefit the diverse population of more than 6 million patients in our geography. These relationships will continue to be supported through the co-operation of industrial liaison expertise within the Partnership’s Technology Transfer offices.

In November 2012 we built upon our successful collaboration with Quintiles to increase research participation. Quintiles is a US-based biopharmaceutical services company, and is one of the leading global clinical research organisations, managing a number of global prime sites to deliver studies more cost-effectively than working with a larger number of disparate hospitals. The prime site at Queen Mary, University of London (QMUL) was established in 2007 as the first of its international network of prime sites. Quintiles invested resource and capability to strengthen the QMUL clinical research facility and this prime site has become one of the most successful global centres, recruiting up to 200 patients each year into commercial studies. Whilst most patients are recruited in Barts Hospital, in the more recent past, the prime site has expanded its reach to neighbouring hospitals. In the next phase of evolution of the QMUL prime site, under the sponsorship of UCLPartners, we have agreed to expand the reach to provide a single point of access to providers across UCLPartners. Quintiles has also signed a complementary contract with Anglia Ruskin University, which will be further strengthened by the offer of access to prime site studies. Quintiles will invest resources and expertise to strengthen delivery capability as the prime site expands to include new hospitals. This

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**Box 5.4. Researcher-in-residence model**

In addition to developing new knowledge through evaluation, we are committed to using the expertise of our academic partners to embed established evidence into our programmes of work. The researcher-in-residence model builds on the experience of the educational sector in bridging the gap between academia and the front-line of services. Experienced academics will work in close partnership with decision makers in the health service to help them to understand complex and sometimes contradictory research evidence and to interpret it for their local context.
bold move will increase research participation within the UCLPartners network and provide Quintiles with a more efficient mechanism to deliver high-quality commercial studies.

**Priority 5: Using metrics to align and drive priorities and accelerate movement along the translational pathway**

We recognise the glacial pace at which new technologies move through the translational pathway and the lack of transparency in the process. If we can secure sufficient investment, we plan to build an interactive visual tool to enable research leaders to appreciate both the overarching aims and the individual goals of research activity across the network. The tool would be designed to enable all researchers to see how their efforts contribute to aligned research priorities, performance criteria and service beneficiaries. This tool will facilitate engagement across the network and help identify limiting factors or areas.

**Research governance and measurement**

The UCLPartners Research Board will champion research participation and support delivery, assessing to what extent each of the UCLPartners Programmes is exploiting the various steps in the translational pathway by providing support mechanisms across both programmes and the partnership.

The UCLPartners Executive will continue to monitor performance on trials at a trust level (for commercial and non-commercial trials) on a quarterly basis as a core key performance indicator, and it is this scrutiny that led to an agreement to harmonise the sign-off processes and focus on delivery.

Recognising the important role of the CRNs, the partnership employed the Director of the NCL/NEL CRN to lead on the NCL/NEL harmonization pilot work. We believe that it will be beneficial to further align the CRNs with the AHSNs over time, to enable the common data sets and work towards a single line of accountability to NIHR – one way to do this would be for the CRN contracts to be held by the AHSNs so that the whole partnership feels a sense of ownership rather than a single trust (see Chapter 10).

Our success will be judged not only by conventional academic metrics, but also by our delivery of new health and wealth business (i.e. new business partnerships with the pharmaceutical, SME and biotech industry, volume of first-in-man research, home-grown biomedical spin-out companies and patents, inward investment and local job creation). Each Integration Programme will include a target to develop new strategic industry partnerships, and we aim to at least double each of these health and wealth metrics within the first 5 years of the AHSN designation.
Chapter 6: Education

North Central and East London Local Education and Training Board

Excellent education across UCLPartners will be driven by a commitment to instil the fundamental values and behaviours required to enable high-quality patient experience and outcomes. This will build on our track record: UCLPartners already holds a contract with National Health Service (NHS) London as lead provider for several core and specialty postgraduate medical and dental training programmes. Education will be integrated with the Academic Health Science Network (AHSN) core programmes, thereby ensuring that training is closely aligned to innovation in clinical service and research. As an example, UCLPartners’ education programme is already integrated with London Cancer, so that innovations such as better early diagnosis and improved multidisciplinary team working are rapidly incorporated into the training of our current and future doctors.

UCLPartners has led the development of the North Central and East London Local Education and Training Board (NCEL LETB), and views the LETB and AHSN as complementary partners across the commissioner-provider axis in the creation of an integrated education and training system for our geography.

UCLPartners is working creatively and in partnership with Health Education England (HEE), NCEL LETB, East of England commissioners, Clinical Commissioning Groups (CCGs), health and well-being boards and other key stakeholders to produce the competent, capable and flexible work-force needed to improve healthcare in our community. The education, training and development systems we develop will be fair, responsive, and distinctive, and will attract the best staff, students and trainees to learn the skills and attitudes required to serve our population. We will deliver integrated education by collaboratively creating coterminous LETBs for UCLPartners and the Eastern AHSN. The LETB will be a crucial engine for change and we will continue to co-create our educational delivery to align with the LETB objectives.

Membership of the LETB will consist of a number of executive and non-executive positions, which includes providers within the UCLPartners geography. The NCEL LETB is chaired by Dame Christine Beasley and recruitment of the Board is close to completion (Table 6.1).

Table 6.1: Membership of the LETB

<table>
<thead>
<tr>
<th>Seats</th>
<th>Role / Constituency</th>
<th>Names</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mandated Roles</strong></td>
<td>Chair</td>
<td>Dame Christine Beasley</td>
</tr>
<tr>
<td><strong>(Executive)</strong></td>
<td>Managing Director</td>
<td>Professor Chris Fowler</td>
</tr>
<tr>
<td></td>
<td>Director of Finance / Deputy Managing Director</td>
<td>Helen Jameson</td>
</tr>
<tr>
<td></td>
<td>Director of Education &amp; Quality</td>
<td>Margaret Murphy</td>
</tr>
<tr>
<td><strong>7 Service Provider Seats</strong></td>
<td>Primary Care</td>
<td>Dr Sanjiv Ahluwalia</td>
</tr>
<tr>
<td><strong>(Voting)</strong></td>
<td>Primary Care</td>
<td>Dr Rebecca Viney</td>
</tr>
<tr>
<td>role</td>
<td>name</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------------</td>
<td></td>
</tr>
<tr>
<td>Mental Health</td>
<td>Matthew Patrick</td>
<td></td>
</tr>
<tr>
<td>Medical Director – Acute sector</td>
<td>Mike Gill</td>
<td></td>
</tr>
<tr>
<td>Dentistry/pharmacy</td>
<td>Ulpee Darbar</td>
<td></td>
</tr>
<tr>
<td>CEO – acute sector</td>
<td>David Sloman</td>
<td></td>
</tr>
<tr>
<td>Outgoing Chair of LETB Transition Board</td>
<td>Professor David Fish</td>
<td></td>
</tr>
<tr>
<td>3 Other Seats (Voting)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient</td>
<td>Mr David Burbidge</td>
<td></td>
</tr>
<tr>
<td>Non-Medical School HEI</td>
<td>Professor Judith Ellis</td>
<td></td>
</tr>
<tr>
<td>HEI with a Medical School</td>
<td>Professor Jean McEwan</td>
<td></td>
</tr>
<tr>
<td>In Attendance (Non-Voting)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Provider Finance Director</td>
<td>To be confirmed</td>
<td></td>
</tr>
<tr>
<td>Student/Trainee Fellow</td>
<td>To be confirmed</td>
<td></td>
</tr>
<tr>
<td>Student/Trainee Fellow</td>
<td>To be confirmed</td>
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</tbody>
</table>

The core LETB management team is also in place, with Professor Chris Fowler as the Managing Director. The NCEL LETB will work closely with the relevant divisions of the East of England (EoE) LETB covering Essex and Hertfordshire/South Bedfordshire until there is realignment of LETBs to be coterminous with AHSNs (given the complexity, we anticipate the work to take 1–2 years, and will involve both EoE and Health Education England [HEE]). The NCEL LETB has agreed to support the development of the educational and training requirements of the five AHSN priority programmes as part of its 5-year strategy. The crucial message is that we will want to work collaboratively and across boundaries with the adjacent LETBs to ensure we maximise opportunities for staff, and benefits for patients and trainees.

Integrating educational provision within UCLPartners will enable the delivery of an integrated approach to education, with health improvement, wealth creation and research programmes. We will deliver education in a cohesive, innovative way, whilst being responsive to learners’ requirements.

**UCLPartners education provider strategy**

Excellent education across the AHSN will be driven by the desire to instil the values of the NHS Constitution – the fundamental values and behaviours required to enable high-quality and improving patient experience and outcomes. UCLPartners will work creatively and in partnership with key stakeholders to develop fair, responsive and distinctive education, training and development systems.

We will provide system-level education and leadership development, and our education strategy will be integrated with our programme and research priorities, and be supported by informatics (Figure 6.1).
We have four priorities for education:

1. Developing system-level education
2. Developing leaders with the capability to deliver health improvement
3. Supporting Integration Programme delivery
4. Increasing capabilities and participation in research

Priority 1: Developing system-level education

We will articulate and guide the development and delivery of learning opportunities across the network so that we address employers’ requirements for an adaptable and flexible work-force.

UCLPartners already holds a contract with NHS London as lead provider for a number of core and specialty postgraduate medical and dental training programmes. In this role, UCLPartners convenes education experts from the local education providers to create effective faculty groups to plan, manage and quality-assure the training of 1500 doctors and dentists (and expects to increase to 5000). As a lead provider, UCLPartners will be an engine for innovation in education (all our trainees will have the opportunity to augment their learning with an MSc from our partner universities) and in service delivery and quality improvement (we are committed to the design of new rotations that will provide integrated learning across primary, secondary and community care). The lead provider currently also manages a substantial programme of faculty development and is creating a learning community by hosting a programme of courses open to all of our trainees.
The London LETBs have agreed that the lead provider model should be extended in scope to include the whole range of postgraduate medical and dental education. Provision for other professional groups may also be suited to a lead provider model, potentially reducing costs by minimising the number of contracts required and achieving economies of scale in programme management costs. It also allows a concerted effort across providers to innovate, improve quality and redesign education provision to deliver necessary service reconfiguration, work-force change and skills development. In the fully implemented model, the LETB will contract with UCLPartners (as a provider partnership across professions and organisations) to deliver excellence in interdisciplinary education and training. We will bring together universities, employers, practice opportunity providers, students, patients and other key stakeholders to plan education and training responses to the challenges that arise in reaching our goals: we will marshal expert groups to advise the LETB and other commissioners, ensuring priorities are based on the best possible intelligence.

By aligning approaches between professional groups (doctors, nurses, allied healthcare professionals, social workers and other health professionals) we will work in partnership with the LETB to support the development of the skill sets required to provide integrated care for patients. Students and trainees will be able to tailor programmes of education and training that suit their needs within the requirements of the regulatory authorities. We expect the Deans for postgraduate medicine and dentistry and for nursing, midwifery and allied healthcare professionals to be employed in partnership with the LETB and embedded in the educational team of the AHSN. Our university partners have already agreed to share academic credit, allowing trainees and students across the network to ‘mix and match’ interdisciplinary learning to build a portfolio tailored to their needs and those of their employers. By actively encouraging mutual recognition of academic credit, work-based learning and programme innovation, we will support staff, trainees and students to build a portfolio of accredited education that will enhance their work for the benefit of patients and the population.

We have agreed that a number of generic modules should build to a certificate-level qualification covering the core skills and attributes of a UCLPartners practitioner. Additionally, where applicable, we will encourage secondments to industry to support innovation, shared learning and wealth creation. By working alongside the growth boroughs, we will support the Olympic legacy and achievement of the 20-year convergence outcomes, supporting wealth creation by improving health and cultivating a capacity to learn, leading to employment gains and a reduction in poverty. Programmes for educating lay and peer educators across programmes will also be developed to strengthen the use of lay educators from different communities in tackling inequalities. We plan to be both responsive and innovative, considering original methods of education delivery, for example enabling AHSN wide e-learning across the AHSN.

We have the opportunity, with the Eastern AHSN and East of England LETB, working in collaboration, to realign boundaries once the AHSN designation has been completed so that we can maximise the benefits for both populations through close working of the AHSN and LETB. We will seek innovative ways to use our collective educational intelligence and firepower to enhance the capabilities of staff, patients and those who care for them, as partners in health and healthcare improvement, and strive for the eradication of inequalities in health and well-being.
The key system educational objectives are to:

- **Enable collaborative approach to design**, bringing members together to co-design and plan education and training for a committed, flexible and skilled work-force to deliver our joint vision and to create a culture of co-production, collaboration and a community of interdisciplinary learning that values the contribution of all participants across educational, professional and service boundaries. Engaging in local/community-based healthcare delivery research to promote the transfer of postgraduate education and training to community and primary care settings.

- **Deliver excellence by mutual support and peer pressure**, by bringing employers and educators to the table to define and measure outcomes that are most important to patients, trainees and the system as a whole, and to use these measures to drive continuous quality improvement.

- **Meet the needs of all professional groups**, offering all doctors in training posts the opportunity to undertake a Masters programme (subject to funding availability) and to ensure structured postgraduate training programmes are piloted, implemented and evaluated for nursing, midwifery and some allied health professions.

- **Ensure science and quality improvement skills are embedded** in all educational, training and development programmes and are a key area of focus for the AHSN.

- **Create sustainable opportunities for wealth creation** through development and delivery of educational programmes within the AHSN and outside.

**Priority 2: Developing leaders with the capability to deliver health improvement**

We will develop leaders who can work across traditional boundaries, inspiring new organisational and professional cultures, enabling innovation to flourish. We will increase capability in the following domains:

- Leading teams across organisational and functional silos
- Understanding the whole health system and how to catalyse collaboration
- Delivering innovation, diffusion and sustainability of change.

We will invest in faculty development specifically to promote the UCLPartners mission and shared values and to attract national and international experts to complement local faculty. Trainees, students and staff will have access to, and be inspired by, some of the best and brightest role models – practitioners, teachers and academics in care delivery, system-thinking, quality improvement and improvement science. Our education and training will underline a commitment to transparency and sharing so that benefit can be diffused across the network. We will provide opportunities and enable individuals to be excellent multidisciplinary team players and leaders, inculcating a comprehensive baseline awareness and skill in the organisational aspects of care delivery.

We will link existing leadership training (including the UCLPartners Staff College) with the NHS Leadership Academy, both nationally and in London, to support current leaders within our network. The Staff College Leadership Programme is grounded in practical, proven methodologies delivered by a tried and tested faculty of established leaders drawn from the NHS, the Armed Forces and Business and Education (see Box 6.1).
Programmes for nurses, midwives and other allied healthcare professionals will continue to evolve and develop, building on those currently in place and recently launched (see Box 6.2).

**Box 6.1 Senior Leaders Course**

UCLPartner teams are enrolled on the Introductory Briefing Team Senior Leadership Course, which facilitates a recognised leader and their team through a series of activities based on the ‘real’ issues facing the team. The programme is designed to develop and support individual and team leadership capability in order to create a real and honest cohesiveness that improves workplace performance and resilience.

**Box 6.2. The Excel Programme for qualified nurses**

The Excel Programme for newly qualified nurses provides a structured postgraduate training programme for nurse leaders of the future. Designed by chief nurses from UCLPartners, in partnership with the universities, this innovative programme offers each participant a structured rotation with oversight by a senior mentor and a programme of academic study leading to a Master’s degree. The model is being developed for other non-medical clinical professions.

We will also develop senior healthcare leaders of the future by creating opportunities for those with highest potential to join UCLPartners as Fellows on 12–18 secondments from partner organisations (see Box 6.3).

**Box 6.3. UCLPartner Fellows**

The UCLPartners Fellows will lead delivery of components of the Integrated Programmes driving health improvement and wealth creation. We will draw on best practice from other fellowship programmes to provide an outstanding development programme designed to develop health leaders of the future.
Our leadership objectives for education are to:

- **Provide wide access to leadership development** by developing a UCLPartners Practitioner Module covering essential core elements including leadership, improvement science, NHS values and behaviours, and to ensure this is available to all staff across the Network.
- **Develop outstanding leaders of the future** who can lead at a system level.

**Priority 3: Supporting Integration Programme delivery**

Leaders managing UCLPartners programmes will be supported to develop leadership, quality and health-improvement skills. Education and training initiatives will form part of programme implementation plans: education and training packages co-designed to support programme delivery. Learning from all programme implementation will be shared to diffuse best practice and maximise the impact of further learning, training and development across the AHSN. Additionally, expertise from other areas within the AHSN will be drawn upon to strengthen the education curriculum (i.e. development of health informatics in relation to education delivery). A number of programme implementation teams will be encouraged and supported to participate in a specific team leadership development programme run by UCLPartners Staff College.

The AHSN’s five priority areas will be delivered through Integrated Programmes (see Chapter 8), delivering service improvement, research and education at scale and across the network. Educational projects will be developed within each of these programmes to drive health improvement and wealth creation (see Box 6.4).

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**Box 6.4. Integrated programme education project**

*The Lane End Medical Group general practitioner practice in Barnet has worked with cancer geneticists within UCLPartners to design an educational programme based on breast cancer aetiology for sixth form girls, called ‘Befriend Your Boobs’. Aimed at the North London Ashkenazi Jewish population who may be at higher risk of breast cancer, this creative, fun presentation from specially trained staff includes small-group, hands-on sessions of breast examination, using a synthetic model and facilitated peer-to-peer discussion.*

*Topics covered include contraceptive use, pregnancy and breast feeding, Vitamin D intake, family history, talking to relatives, eating habits, alcohol intake, and exercise, with real-life examples and popular cultural role-models all featuring. UCLPartners is evaluating the impact of the programme and supporting roll-out to additional schools within the area.*
Our programme objectives for education are to:

- Support staff delivering programmes to develop their leadership skills and change management capabilities.
- Create bespoke educational projects to support programme delivery for every Integration Programme.

Priority 4: Increasing capabilities and participation in research

Our education research strategy will engage with provider organisations, commissioners and other research centres to promote research and establish a culture that celebrates participation in research.

Investment in training will increase the skills of those engaged in research, broadening participation and enabling delivery of and exceeding National Institute for Health Research (NIHR) targets.

We will also conduct education studies of the scale, quality and significance that will inform best educational practice as well increasing awareness, skill and capability in applied health research, improvement science and quality improvement, as well as traditional biomedical research approaches to innovation and improvement.

Our research objectives for education are to:

- Drive continuous, sustainable improvement in education, training and development and measure the impact of these programmes on the wider health economy ensuring, for example, value for money.
- Engage people and partners to participate in clinical research and achieve good practice.

Measuring and evaluation of outcomes against education objectives

We will be explicit about how we measure excellence in education (in terms of quality and value for money), developing and tracking key measures over time. We will devote resource and expertise to developing valid, transparent and reliable indicators to measure the domains of the NHS Education Outcomes Framework (EOF) and will perform as a pathfinder network in their implementation. We will support our partners to achieve and exceed the outcomes set out in the emerging EOF. Our approach will be informed by developing joint indicators with the LETB, based on the EOF and our delivery will focus and be measured against agreed objectives. We would like UCLPartners to be recognised as a major collaborator in the development, piloting and implementation of the NHS EOF. Our overarching goal is for 80% of network organisations to perform in the top 10% across key indicators in the EOF within 5 years, which should lead to an annual increase in all staff groups who choose to practice in the AHSN geography, evidenced by a 10% year-on-year increase in high-quality applications via the Medical and Dental Training Sponsorship Programme, including exchange arrangements with world-class healthcare training programmes overseas.

We will exceed the HEE target for the transfer of postgraduate education and training to community and primary care settings. We will also reduce attrition from pre-registration educational programmes (metrics to be agreed with HEIs and LETB on a profession-by-profession basis). We will
develop joint new methodologies to assess recruitment of students to match agreed LETB and AHSN values and behaviours. Student, trainee and staff surveys will rate 50% of local education providers in top 25% against comparator organisations. UCLPartners will take a lead in developing appropriate survey instruments where these are not already available, and ensure mechanisms are in place to capture and compare the resulting data.
Chapter 7: Informatics

As a world-leading Academic Health Science Network (AHSN), UCLPartners will ensure we are supported by a world-leading informatics network, sharing information securely across multiple organisations to support improvement in direct patient care, population health, research and education, and which provides a platform that will act as a catalyst for change. As set out in the Commissioning Board mandate, we will also work wherever possible to promote direct access by users to their own care records and encourage information about the care system, and the results it delivers, to be made available to users in a manner they find meaningful. We will share the expertise we develop in this area as widely as possible so that the full potential of the National Health Service (NHS) can be harnessed to benefit population health and wealth nationally. For example, we are already working with developers to provide a ‘stroke pad’ tablet device that will enable clinicians to collect data routinely in the line of care that captures not only the individual patient’s care record, but which also feeds datasets for local improvement (e.g. our own cardiovascular work in stroke) and national audits (e.g. Stroke Improvement National Audit Programme [SINAP]) and research.

To be a world-leading AHSN, UCLPartners must be supported by a world-leading informatics network, sharing information securely between multiple complex organisations to support improvement in direct patient care, population health, value, and research, and provide a platform that will act as a catalyst for change. We will use informatics to enable the AHSN at a system level, programme level and in research and leadership/education. We will share the expertise we develop in this area nationally so that the full potential of the NHS can be leveraged for the benefit of population health and wealth (Figure 7.1).

Figure 7.1: Informatics supports our research, education and health improvement programmes

We have four priorities for informatics:

1. Support the AHSN programmes by deploying technology to enable the delivery of programme objectives
2. Enable research participation and projects
3. Align the system across the network to create a platform for the safe sharing of clinical information
4. Increase effectiveness and reach of education
As our AHSN matures, we will use informatics to diffuse learning to other AHSNs where this would be beneficial to them.

**Priority 1: Align the system across the network to create a platform for the safe sharing of clinical information and improve access to research data**

We will deliver a platform for the safe sharing of clinical information, improve access to data by research colleagues, facilitate the development and diffusion of best practice, drive high-impact innovation, and support the quality agenda across the healthcare spectrum including primary care.

We already have some well-advanced platforms for clinical management that will incorporate research (trial identification, consent, and fast track refinement of clinical trials) and education development (clinical guidelines including National Institute for Health and Clinical Excellence [NICE] guidelines). These platforms will be developed to allow patient access to their own records and input for different pathway carers, including community-based units. These developments include open-source software products that will be freely provided across the AHSN and the UK (see Box 7.1).

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**Box 7.1. Developing a ‘stroke pad’ tablet device to facilitate data collection**

There is currently significant administrator effort involved in collecting data around our stroke pathway. We are working with developers to provide a ‘stroke pad’ tablet device that will facilitate the clinician collecting data at the point of care that can subsequently be used to provide clinical care and provide information to the national data sets.

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To deliver on our informatics strategy of alignment, our objectives are to:

- Work in collaboration with our provider organisations, clinical commissioners and research centres to promote research, identify and diffuse best practice and support the development and promotion of innovative solutions allowing them to be delivered rapidly at scale. We will bring together NHS and system supplier representatives early in 2013 to agree a joint development programme building on the excellent work that is already occurring within our partner organisations.

- Work towards capturing consistent data once only, as near to the point of care as possible, and enable the safe, secure use of the information, building on the significant investment in information technology (IT) systems that has occurred across our network, including a range of clinical systems, research systems, analytical systems and various portals. Starting in early 2013, we are looking to build on OpenEyes – open-source software developed by Moorfields Eye Hospital – to support the agile development of clinical content in other specialties.

- Agree a common strategy for providing interoperability and secure data sharing across the partnership, working towards a common informatics platform covering the provision of joined-up clinical data to support patient care across organisational boundaries including social care, support...
the provision of appropriate access by patients to their own records, and provide data at system, organisational and individual clinician level to support the delivery of high-quality care. We have several examples where systems are already in use or in late stages of deployment and over the next few months we will bring together the teams involved, share learning, develop best practice and diffuse the innovation.

- Co-create metrics with our Clinical Commissioning Groups (CCGs), Public Health England local units and clinical colleagues to support the evaluation of care delivered, and share information about public and population health.

- Embrace the development and use of innovative solutions to support the delivery of healthcare and the national agenda for ‘Digital by default’, which is about using technology in healthcare to reduce unnecessary face-to-face contact between patients and healthcare professionals by incorporating technology into these interactions where it can deliver the same high standards in a way that is more flexible and convenient for patients (see Box 7.2). There is a lot of interest from technology providers to test and evaluate innovative solutions to this problem. We will work closely with university partners to attract suppliers and evaluate solutions that can then be rapidly deployed across the partnership and beyond. We have established a strong linkage between University College London (UCL) and UCLPartners to act as a focal point for technology partners looking to collaborate in the development of innovative solutions supported by university research departments with the ability for rapid deployment across the health economy.

- Fund up to five pathfinder projects supporting data integration and the overarching platforms that may be required. We will agree a number of ‘quick win’ solutions within the programmes to support the sharing of clinical data likely to include discharge summaries, pathology results and medication. We are currently looking at standards produced by the Royal College of Physicians for referrals and discharge summaries to evaluate how they can be implemented into routine clinical practice.

Our multitude of different partners with different IT systems mean we will need to focus on interoperability standards and facilitate data sharing, working with new and existing suppliers to share information between systems in a safe way allowing an agile development process.

In the longer term we will work with our partners to ensure that future investment in IT is aligned with the integration goals of the partnership. Information governance is a vital key to success and we will look to adopt the guidance of the upcoming review being conducted by Dame Fiona Caldicott to ensure we promote best practice in this area from the outset. We are already working closely with academic and university partners to develop an overarching data-sharing agreement to support the Academic Health Science Centre (AHSC) that can be extended to the AHSN to ensure the safe management of shared clinical data.
Priority 2: Support the AHSN programmes by deploying technology to enable the delivery of our programme objectives.

For every scaled-up programme, we will ensure that informatics support is embedded within the project. Our objectives are to:

- Deliver at least one informatics solution to enable delivery of programme objectives each year, linked to an integrated platform.
- Support the development of public- and patient-facing information to promote choice and publicise the quality of care provided by our partner organisations. Each full-scale programme will deliver open access to performance information, providing accessible information for the public and enabling patient choice.
- Complete the translational cycle, robust measures of health outcomes will be required for all major programmes.

Building on the work of National Institute for Cardiovascular Outcomes Research (NICOR) in relation to cardiovascular intervention and outcomes, a suite of health outcome measures will be created. Data from the Partnership’s extensive population cohort studies will be mined and, through a process of reverse translation (see Chapter 5), will inform the discovery science agenda.

Priority 3: Enable research participation and projects

The common informatics platform will enable the development of optimal integrated clinical care, analysis of population health studies and the engagement of patients and defined cohorts in research. Working in partnership with the newly established Centre for Health Service & Academic Partnership in Translational eHealth Research (CHAPTER), one of four newly established eHealth Informatics Research Centres to support health research. Together, UCLPartners, CHAPTER and other academic partners will deliver at least three academic projects published in peer-reviewed journals for every full-scale programme.

Box 7.2. Using technology to reduce unnecessary face-to-face consultations

Communication with patients via Skype is occurring within the juvenile diabetes service and many general practitioners are using phone, text or e-mail to communicate with their patients, so reducing the number of face-to-face consultations.

In some general practitioner practices, facilities are available online for patients to book appointments and order repeat prescriptions.
Our objectives are to:

- Ensure all UCLPartners programmes are underpinned by high-quality information and use analytical techniques to focus on the key issues and manage performance. We will analyse information to underpin our strategies, and bespoke developments will be encouraged to support specific project initiatives (e.g. in rare diseases) to inform more sophisticated data handling.

- Promote the value of research within frontline NHS providers, including primary care, and use informatics as a vehicle to support the rapid transaction of research findings into frontline clinical care.

- Support UCLPartners’ objective to increase research performance by providing a system-wide informatics capability to hold feasibility data and report performance against National Institute for Health Research (NIHR) standards.

- Increase involvement of frontline clinicians and promote safe secure access to shared clinical data with appropriate safeguards in place to protect confidentiality.

- Build a feasibility database across the partnership to identify potential research candidates and to capture clinical data at point-of-care in both primary and secondary care to support consistent data collection for studies.

- Develop a project working with an industry-based research organisation(s) to support the use of electronic data in observational studies, thus reducing the cost and time of conducting this type of research.

**Priority 4: Utilise informatics to increase effectiveness and reach of education**

Education is a vital part of improving the delivery of healthcare across the partnership with the focus on delivering high-value healthcare and bringing all providers up to the level of the best nationally. Informatics systems are vital to support the delivery of these goals by providing reliable metrics, supporting feedback to clinicians and identifying areas that can be improved.

Our objectives are to:

- Co-create the metrics with our partners across our programmes of work to ensure that these support best practice and high-quality care.

- Provide feedback to individual clinicians and organisations so they can monitor their performance against these metrics as near to real-time as possible.

- Identify gaps in the delivery of care against a pathway so that these can be addressed both at local level and system level.

- Support the ‘transparency agenda’, providing feedback to patients and the public, and allowing comparison of services delivered.
• Develop a communications network that supports collaboration between clinicians and facilitates the delivery of high-quality educational packages using different electronic delivery mechanisms.
Chapter 8: Integrated Programmes

The UCLPartners Academic Health Science Network (AHSN) will drive five major, collaborative integration programmes across our population (Figure 8.1). These programmes, which have been identified through dialogue with our partners and population, will together cover over 80% of both amenable premature mortality and current healthcare spend in our geographical footprint. Three of these programmes are in an advanced state of development (Integrated Cancer, Integrated Cardiovascular Disease and Integrated Mental Health). The other two (Life Course for Women, Children and Adolescents, and Co-morbidities) have been identified as new priorities during the stakeholder engagement process. In particular the Co-morbidities programme represents the next stage of development to maximise value for holistic care, where the organising principle is not disease or specialty, but rather the needs of patients who live with a cluster of conditions that typically cross many health and social care boundaries. These priority programmes will be the AHSN’s central vehicle for developing, identifying and applying innovation at system level, and for putting into practice the approach set out in previous chapters. They will integrate implementation of innovation, wealth creation research, education and informatics strategies across the network – creating seamless pathways from prevention through to treatment, through to rehabilitation.

Figure 8.1: Population health needs driving the AHSN Integration Programmes

The Integration Programmes will have a licence within the UCLPartners AHSN to operate for 3 years and go through a cycle of diagnosis, co-design and implementation over that period. The programme review at 3 years would result in either continuation under the UCLPartners direct umbrella or devolution into one of the partner organisations, if appropriate, to enable capacity for new centrally supported initiatives. Each programme will have a strategy to create wealth from the intellectual property created either directly or with partners.
As a guide, we expect a typical Integration Programme to deliver a series of service improvement projects (informed by National Institute for Health and Clinical Excellence [NICE], high impact innovations [HIIs], local patient and population feedback, health and well-being boards and the multiprofessional work-force), and to have well-defined objectives for wealth creation spanning improved patient and population health (return to work/employability) research activity and industry partnerships. Our Academic Health Science Centre (AHSC), working closely with the AHSN, will lead a series of research projects to address earlier gaps in the translational pathway; and our education team, working closely with the LETBs, will deliver education projects to create the skills and culture to drive implementation. Virtual networks connecting staff, patient and stakeholder groups with key information and with each other will be created on the UCLPartners website for each programme and supplemented by programme-specific webcasts and webinars.

In addition to the priority Integrated Programmes, we will also deliver programmes that leverage particular areas of academic strength of our AHSC in order to translate innovation into practice. These programmes will be based on the globally competitive expertise of our existing AHSC work. The focus of these programmes, and the opportunities presented by the emerging and expanded AHSN, will be refined further by the end of 2012 to ensure maximum impact. Examples of how each of these programmes will enable delivery on NICE guidance, HIIs and wealth creation in year 1 are shown in Appendix 2. We will also encourage new programmes to form in subsequent years, aligned with the AHSN objectives, continually refreshing the AHSN. For example, local areas of strength include oral health, respiratory disease, renal medicine, dermatology, and trauma and orthopaedics. We will work collaboratively with other AHSNs to determine whether these areas should be led by UCLPartners or, if we adopt a fast follower strategy, with neighbouring AHSNs. Further details on the five AHSN priority Integrated Programmes are provided below.

8.1 Integrated Cancer System

Each year over 10,000 cancer deaths occur across our whole partnership, many of which are avoidable through earlier diagnosis and treatment. The national Cancer Patient Experience Survey 2011/12 shows that many of our communities report a poorer experience of cancer care compared with other regions of England, with all 10 of the lowest performing trusts located within London or West Essex. Cancer care in hospitals is estimated to cost commissioners around 11% of total spend on acute services. Over recent years, improvements in 1-year survival in the providers that make up UCLPartners have lagged those reported in England as a whole (Office for National Statistics 2011), reflecting previous fragmentation and lack of focus. Despite a significant volume of research taking place locally, less than one-quarter of UCLPartners existing cancer patients participate in clinical trials during their treatment, leaving considerable room for improvement (even though the current participation rate of 23% is amongst the highest in the country) when high-performing international benchmarks are considered.

UCLPartners has recently built an Integrated Cancer System, *London Cancer*, which currently covers North Central London (NCL), North East London (NEL) and West Essex, working to drive step-change improvements to outcomes and patient experience. The AHSN gives an opportunity to partner across a broader geography and involve our wider partner providers of primary, secondary and specialist cancer care, along with the third sector and industry in co-developing further priorities and how these are delivered locally to ensure that the system delivers (Figure 8.2).
We will continue to support the separate cancer network serving other partners across South and West Hertfordshire and South Bedfordshire (Mount Vernon Cancer Network), and those partners in Essex who are aligned with Anglia cancer services. It is likely that over time there will be a progressive alignment of networks in general with AHSNs where this makes the most sense for patients and staff. We will work constructively in partnership with other adjacent (cancer) networks to achieve whatever local solutions work best for patients – starting with shared learning and mutual support.

The next section refers to the work of London Cancer, which operates under a Memorandum of Agreement between 12 National Health Service (NHS) trusts in NCL, NEL and West Essex. By co-creating the mandate for improving cancer outcomes and services across the population, we established a groundswell of clinical commitment and patient and primary care engagement to advance this programme. We have appointed visionary and enabling clinical leaders through a rigorous evaluation process who are building on the Board-level agreement between the chief executive officers and medical directors to create a ‘virtual comprehensive cancer centre’ that offers globally competitive cancer diagnosis and care across the geographical area served by London Cancer. The chief medical officer and the clinical leaders of the 13 cancer pathways and 10 specialist areas each have a clear personal determination to improve the experience of care for local patients, and a global ambition for what can be achieved through equitable application of best practice, embedding research and planning service improvements at a large population scale. Through building trust amongst our partners and remaining focused on population outcomes, we can begin to drive behaviours and collaboration across organisational and sector boundaries. Crucially the Integrated Cancer System has evolved from organisational representation to being skill-based, patient- and population-focused, with strong peer pressure to ‘do the right thing’, enabled by our social enterprise acting as a horizontal integrator. These features will support working with the wider AHSN partnership.
**London Cancer** has co-developed, together with the evolving London cancer commissioners, a set of detailed ‘best practice’ pathways (including costings), initially for brain, breast, lung and colorectal cancers. The director of each cancer pathway board has been set ‘stretch’ targets to ensure not only that best practice according to NICE is accessible to all patients and that variation is reduced, but that they also take the opportunity of working at the scale of the Integrated Cancer Services population and resources of its partners, to go beyond NICE minimum standards and be at the forefront of technological innovation and implementation. These commissioner-agreed, costed pathways will ensure that the levers and aspirations for achievement of NICE best practice are in place (incorporating CSG Brain.cns, Clinical Guidelines 41, 80, 121, 131) and that value can be demonstrated for necessary investment. Performance of providers against key pathway metrics will include NICE-recommended care, and form ‘vital few’ whole system metrics for our clinical pathway boards. A patient-facing information and communication system is going live in November 2012, to enable cancer patients and carers to contribute in ‘real time’ to continuous monitoring and improvement of the London Cancer Integrated Cancer System.

We will work in new ways to deliver NICE guidance, such as the NICE guidelines on referral for suspected cancer (CG27), by providing new mechanisms for primary care to access advice and guidance from hospital specialists rapidly through electronic channels, and multidisciplinary case-study education, as we are currently delivering in partnership with a NICE fellow based at Barnet Clinical Commissioning Group (CCG) and University College London (UCL), with targeted recruitment of practices to education based on current performance in national cancer referral practice profiles. We will also work in partnership with industry to implement new guidance, such as technological appraisals of new drugs and therapies.

The integrated cancer programme has focused on three priorities so far:

1. **Earlier diagnosis, working in partnership with primary care and public health**

   - Improving understanding of the route to diagnosis of cancer patients, by prospective analysis of previously undiagnosed cancer patients presenting as an emergency in our system (within our geography, we have the highest proportion nationally of new patients diagnosed in this way, at 26% in NEL). This prospective continuous audit and feedback cycle, which began in October 2012 and was funded by the Department of Health and an industry grant, will treat such cancers as serious incidents, conducting root cause analysis of the underlying factors, including interviews with patients, relatives and both primary and secondary care providers.

   - New models of diagnosis for common cancers that support general practitioners to achieve a definitive diagnosis in all symptomatic patients and help to improve accessibility of specialist services to hard-to-reach populations (see Box 8.1). Through enhancing local diagnostic hubs, the AHSN will provide an opportunity to resource pilots to introduce nurse-led triage of suspected cancer patients straight to test, as already agreed in Waltham Forest (NEL), for early 2013. We will evaluate the improvements in value for the whole diagnostic pathway and its impact on earlier diagnosis and patient experience.

   - Working in collaboration with industry, using innovative models of general practitioner segmentation in terms of their referral behaviours, developing new interventions to improve diagnosis and referral in high-risk groups. We began in November 2012 delivery of new
symptom-based general practitioner education using local case studies, which will be evaluated by UCL for its impact on referral behaviours and general practitioner engagement.

- Partnerships with health and well-being boards on public awareness and influencing screening uptake, particularly to address evident inequalities in these areas. Helping to build insight into population and behavioural factors to receiving help, as currently under development with Camden CCG.

**Box 8.1. Innovative partnership to successfully engage ‘hard-to-reach’ communities**

Responding to the problem of a threefold increased risk of prostate cancer among black men and their tendency to present late with advanced disease, a community-based prostate clinic was established in the Newham African Caribbean Resource Centre. Men could self-refer and did not need an appointment to attend; opening hours were flexible and extended into the early evenings. As part of the consultation with a specialist nurse or doctor, service users were offered information and support about all aspects of prostate health and could access simple diagnostic testing on site (urinary flow rate, digital rectal examination, blood taken for prostate-specific antigen testing) with a follow-up in secondary care if necessary.

Of the 328 men who attended in the pilot phase, 55% had urinary symptoms for which nearly half had not consulted their general practitioner, citing a number of reasons including fear, embarrassment or simply not thinking their worries were warranted. Nearly one-third of the symptomatic men required further management in secondary care and 7 of 9 cases of prostate cancers detected were early stage.

Men scored the clinic very highly in terms of access, convenience and provision of a safe environment to express fears or concerns that were not being addressed elsewhere. One-quarter of service users attended after word-of-mouth referral, showing good reach into the community. Service lead, Mr Frank Chinegwundoh, Consultant Urologist at Barts Health, won a Quality in Care, Excellence in Oncology award for this initiative, presented at the National Cancer Research Institute conference in Liverpool, November 2012.

2. Optimising care along a ‘best practice’ pathway to reduce variation and improve patient outcome, experience of care and access to innovation

- Redesign of pathways for cancer treatment, to strengthen quality of diagnosis and risk stratification, to deliver high-volume centres that improve outcomes that matter to patients per pound spent, and to provide education and training to match international benchmarks. Our approach is exemplified by the involvement of all stakeholders in the production of a ‘Urological cancers: why we need change’ document, accompanied by a detailed specification for the provision of care at local units and the reconfigured high-volume specialist surgical centre. Agreement on the implementation process is expected by calendar year end.
Improvements will be demonstrated through patient reported outcome measures that will be published transparently. Within 6 months of London Cancer’s launch as an integrated system, all executive cancer pathway boards have agreed collective action plans to adopt a similar approach towards harmonisation of services and guidelines by the end of 2012/3.

- Helping patients to be better informed about what will happen during their treatment, through a personalised, interactive website that provides real-time feedback to professionals on experiences of care. Designed with extensive input from local patients, from 29 November 2012, all our patients with breast and haematological cancers will be able to access local information, sign-posting to other trusted resources, and to feed back to us directly and confidentially about their experience of diagnosis and treatment at points along their cancer journey.
- Training a new generation of professionals to support patients in choices and coordination of their care. Working with patient groups and charities to ensure this meets patient needs, and the relevant Local Education and Training Boards (LETBs).

3. Driving research and innovation

Within UCLPartners, Queen Mary, University of London (QMUL) and UCL continue to develop synergies across the basic and translational research portfolios, maximising the strategic ‘added value’ of complementary Cancer Research UK centres of excellence. These are embedded in their respective biomedical programmes, and a formal Memorandum of Understanding is in place to facilitate collaborative working across the universities. The University College London Hospital (UCLH)/UCL Biomedical Research Centre (BRC) has a specific focus on developing academic radiotherapy, which will align with the proton beam therapy development described in Box 8.3.
**Box 8.2. Improving the quality of diagnosis and treatment decision-making in prostate cancer**

Just over half of the men who are treated for early prostate cancer do not benefit from treatment and may suffer harmful side-effects that are life-long. This problem of over-treatment is closely related to the problem of over-diagnosis. A multidisciplinary team within UCL Partners, led by Professor Mark Emberton, has been addressing this problem and become an acknowledged global leader, both at improving the accuracy of diagnosis of clinically significant disease and at offering focal therapy that preserves function (NICE technology appraisals IPG 424).

By introducing multiparametric magnetic resonance imaging (MRI) into the diagnostic pathway before biopsy, a man with an elevated prostate-specific antigen concentration can be offered quantitative risks to inform whether he should have a biopsy or simply be observed. The result is fewer men biopsied, with greater accuracy and reduced morbidity, fewer unnecessary cancer diagnoses and treatment, and reduced costs. This approach is currently being tested in a Medical Research Council-funded randomised trial. UCLPartners will ensure rapid diffusions of the results at a population level, providing higher quality diagnosis for patients, closer to home, assisting clinicians to read MRIs, register MRI to ultrasound and to target biopsies. Urology clinicians and bioengineering have worked in partnership to secure a large Wellcome Trust/Department of Health, Health Innovation Challenge Fund to support this work, including its evaluation and commercialization, attracting £4.6 million in grant support.

The UCL Cancer Research Institute has developed a strong partnership with the United States-based Sarah Cannon Research Institute, expanding access to clinical trials of novel cancer agents in a personalised manner.

Figure 8.3 shows the activity of the UCL/UCLH Cancer Clinical Research Facility; the number of early phase cancer studies is continuing to increase since the opening of the facility in 2010.

**Figure 8.3: Trials opened to recruitment by study phase**
Box 8.3. Proton Beam Therapy Service. Working in partnership for patient benefit nationally: creating a new platform for research and development

UCLPartners enabled and supported the development of the successful joint bid by UCLH and The Christie Hospital in Manchester to run the future national Proton Beam Therapy Service, serving the whole of the country in partnership. This is of particular relevance to cancer care in children and teenagers, brain, head and neck cancer and sarcoma. The joint plan provides a strong basis for collaboration with industry partners to enable the infrastructure development, underpinning rapid expansion of research capability in specialist radiotherapy. It will offer the unique opportunity afforded by the NHS for very long-term follow-up at a population level, to demonstrate the value of proton beam therapy in reducing late sequelae in vulnerable populations, building on the strengths of ‘late effects’ cancer research within the partnership. There will undoubtedly be further scientific technical developments both within and outside the partnership (both in the UK and internationally): our aim will be to foster collaboration with other centres to maximise the benefits for research and patient care.
Overall research and innovation priorities in cancer include:

1. Building on the underlying academic strength in cancer across our Higher Education Institutions (the cancer programme of the AHSC is now within the top 15 globally, in a highly competitive field, with a strong upward trajectory). We will realise the potential of the AHSN to initiate increased numbers of investigator-driven clinical trials for cancer.

2. Creation of an enabling connection for industry collaboration, spanning the complete phase I–IV spectrum of trials, offering access to approximately 19,000 cancer patients per annum with a unique ethnic and socioeconomic diversity.

3. Utilising improvement science methods to create new evidence about how to organise and deliver cancer services to improve clinical outcomes.

4. Leading in molecular risk stratification/biomarkers by supporting expansion of molecular pathology across the AHSN; delivering improved value for patients and the system offered by personalised medicine. We have worked in collaboration with industry partners (e.g. Merck Serono) to promote access to cost-effective DNA sequencing for patients across our network.

5. Strategic oversight of cancer research portfolio for the AHSN, minimising set-up times and increasing access for patients through low complexity studies being open at more sites locally, and clear pathways for inter-hospital referral for complex research. Expansion of cancer research portfolio to primary care, community re-enablement and social care through resourcing opportunities brought by the AHSN.
### Programme objectives for 2016 and 2018

#### Health and well-being objectives:

- Improvement in 1-year patient survival for all cancer types, to reach the level achieved in the rest of the South and East of England, with 250 fewer patients dying per annum from 2016/7.
- Improvement by 2018/9 in 1-year survival for all cancer types, to equal the best performing regions of England.
- At least 80% of local patients say that they would wish their loved ones to receive treatment locally, based on their experience, by 2016/7.

#### Value

- Show improvement in value to the local healthcare systems by improved 1-year survival and patient-reported outcome measures (PROMs), with projected efficiencies having been achieved on cancer spend in acute services by 2016/7.
- Delivery of high-volume specialist centres for surgery and radiotherapy as integral parts of ‘best practice’ pathways to deliver value and quality.

#### Wealth creation/ working with industry

- Support three new major industry collaboration partnerships on projects to progress the objectives of the Cancer programme by 2016/7.
- To double the proportion of commercial studies recruiting to time and target, and to increase the number of industry-supported cancer trials on the National Institute for Health Research (NIHR) portfolio by 20% by 2016/7.
- Have in place system-level integration of molecular information linked to clinical outcome data for all cancers amenable to targeted therapies by 2018/9.

#### Research objectives

- Research portfolio to be sufficiently comprehensive to offer every patient in London Cancer the opportunity to participate in a well-designed clinical study during their cancer care and treatment or as a survivor, contributing to continuous improvement of the system.
- Development of at least one patient-led trial per annum.
- Evaluation of at least one large-scale service improvement initiative per annum.

#### Education objectives

- To work with educational providers to design new roles for specialist advisors/counsellors and nurse specialists, and to have training for these in place.
- Offering comprehensive cancer programmes for medical trainees and attracting international applications.
- To train a medical and non-medical work-force sufficient to deliver a doubling in endoscopy capacity across the AHSN.
8.2 Integrated cardiovascular system

Background

Cardiovascular disease (CVD) remains the major cause of premature morbidity and mortality in the UK. Across our partnership, there are around 12,000 cardiovascular deaths per year. The predisposing causes are identifiable in over 90% of CVD events and most of these are treatable by lifestyle modification and/or medication (e.g. antihypertensive therapy, statins, anticoagulant prophylaxis for atrial fibrillation-related thromboembolic stroke, smoking cessation, diet and exercise), which have been available, well-described and well-evidenced for many years or decades. Effective management of CVD risk factors will also improve the outcomes in other long-term conditions (e.g. diabetes and chronic kidney disease), and reduce the burden of disability through stroke, chronic heart failure and CVD-related dementia. CVD is the major determinant of health inequalities in the population and, for example, results in a 7-year difference in life expectancy across London. The cost of interventions to manage patients with manifest CVD is rising, particularly the cost of long-term medical problems in survivors of heart attacks. The biggest opportunity to improve survival at a population level is therefore to focus on prevention of the onset of the range of CVDs and their progression to cardiovascular mortality. Despite major innovations in treatment, cardiovascular care remains fragmented within UCLPartners. There is insufficient coordination in prevention of disease progression/complications and in the implementation of prompt evidenced-based treatment. Currently primary and secondary prevention strategies are blighted by poor risk-factor detection, poor engagement with patients and patchy implementation of beneficial preventive interventions. Using Camden as an example, the rate of detection of hypertension, which translates directly into higher premature mortality, is less than 50% of the expected level. Patients with untreated hypertension suffer an eightfold increase in risk of a CVD event, and those with poorly controlled hypertension a fourfold increase. In West Essex and South East Essex, detection of CVD is also low and in outer NEL only 55% of patients attending primary care have had measurement of key cardiovascular risk factors in the previous 3 years. Low-volume secondary prevention programmes have poor adherence, with no long-term monitoring of outcomes. With several medium-volume cardiac surgical centres it has is hard to compare ourselves with larger volume, leading providers nationally, such as Papworth Hospital NHS Foundation Trust, or internationally, such as the Cleveland Clinic, who have been able to develop subspecialisation and attract a more complex case mix.

Our programme

We are co-designing an Integrated Cardiovascular System (ICVS) that will maintain health, prolong event-free survival, provide world-class treatment for those with manifest disease, and help drive wealth creation through the strong clinical and academic base in CVD across the AHSN.

Building on our experiences from the development of our Integrated Cancer System, we are currently working with a large group of stakeholders (from primary and secondary care, public health, CCGs, local government, academia and industry) to co-design the new cardiovascular programme for the AHSN. For example, over 90 stakeholders attended an evening workshop in November, where priorities for an integrated cardiovascular system were discussed and
refined as part of a series of CVD stakeholder engagement events. Prevention is a clear priority among stakeholders and this will be a strong focus for our emerging programme. There is also a shared appetite for driving improvements across pathways with the ambition to deliver comprehensive world-class services that are underpinned by excellence in research and education (for staff and patients), the widespread and rapid diffusion of innovation, integrated informatics and wealth creation. We are also actively participating in the development of the national outcomes strategy for CVD (due in March 2013) and working with Professor Huon Gray, Interim National Clinical Director, to ensure that our plans align appropriately with emerging national policy.

We have already appointed a new senior manager to lead our CVD programme and have started a recruitment process to appoint a chair for the new skills-based (non-institutional) programme board, which will be accountable to UCLPartners Executive, supported by programme-specific clinical leaders. By April 2013, we will have completed the programme design and appointments. We will also have begun the delivery of some ‘early wins’, including two projects in partnership with industry and the CCG in Camden, which will be the test site for specific elements of our work-stream on prevention described below.

Camden ‘test site’ pilots

i. **Root cause analysis of heart attacks and strokes** – our philosophy is to consider every heart attack and stroke as if it were a serious incident, representing failure of prevention. Through root cause analysis we aim to drive down incidence through a common approach to finding and managing CVD, and placing a spotlight on organisational and system failures and learning from them. UCLPartners has already been commissioned by Camden CCG to carry out a root cause analysis for all Camden residents who are admitted to hospital following a stroke or heart attack (approximately 450 patients/year). Most of these patients will have identifiable risk factors that could have been potentially diagnosed and treated more effectively years before the clinical event. This project, a collaboration between primary and secondary care, with UCLPartners and the cardiac and stroke network, will produce a detailed analysis of failures within the health system that lead to common preventable diseases. A qualitative analysis interviewing patients will also allow a clear understanding of why certain high-risk groups fail to engage with the health system. We will work with other communities across UCLPartners to ensure we engage in this approach early, enable shared learning and dissemination, and use the methodology to provide detailed local information and training vital for the broader cardiovascular prevention strategy.

ii. **3 million lives technology platform** – in partnership with Camden CCG, UCLPartners has recently been formally announced as a national 3 million lives pathfinder. As such, we are working with industry to design a project that will use telehealth to improve blood pressure monitoring in the community. Our project aims to improve detection and diagnosis of this major cardiovascular risk factor and will lead to opportunities to reduce risk of stroke, myocardial infarction, heart failure, chronic kidney disease and cognitive decline. The project links to recent NICE guidance and quality standards for increasing the percentage of patients with a potential diagnosis of hypertension whose diagnosis is confirmed by ambulatory blood
pressure monitoring. Underpinning this project is a strong collaboration already in place between UCL investigators and a medical technology small- and medium-sized enterprise (SME) in Singapore that has culminated in the development of the world's first device for clinical measurement of ambulatory central aortic pressure using a wristwatch-based device. This device received 'fast track' approval from the USA FDA for clinical use in recognition of its potential 'step change in practice' and the investigators were the recipient of The Times Higher Education award for 'excellence in innovation and technology' in 2011. It has also led to the recent award of a NIHR/MRC Efficacy and Mechanism Evaluation programme grant to evaluate the clinical utility of the device to improve treatment stratification for young people with high blood pressure. The device is being used worldwide by major pharmaceutical companies to evaluate novel drug targets, and the work has led to the establishment of a London-based global office for the SME.

Within our developing programme, we recognise that there also needs to be a strong focus on primary prevention. We are developing relationships with health and well-being boards, building on a strong foundation of partnership working between public health teams and local government on issues such as obesity, physical activity, and healthier lifestyles, particularly in East London as part of the Olympic legacy. In the delivery of the ICVS our partnership has two major advantages. Firstly, it is supported by a strong academic base across universities with a track record for collaboration (e.g. working in partnership, QMUL and UCL recently submitted a single bid, which has now been shortlisted for a UCLPartners British Heart Foundation Centre of Excellence designation). We believe that this will further enhance our ability to attract grant funding for research as well as industry support.

A second major advantage is the inclusion of the National Institute for Cardiovascular Outcomes Research (NICOR), which comprises the national outcomes registries for the major cardiovascular conditions and procedures. This will enable robust evaluation of outcomes for all of our cardiovascular initiatives, and together with health economics and improvement science expertise, will ensure that the ICVS delivers value and promotes wealth creation.

Our partnership also includes organisations with particular expertise in thromboembolic disease and the development of novel oral anticoagulants, and has contributed to global registration across broad indications. Working with industry, we will implement models to ensure rapid application of guidance around novel anticoagulants, measuring their impact on population outcomes. We will then provide these for adoption more broadly in the NHS, helping to address specific challenges in this area, recently identified by a joint NHS-industry working group. We are currently in a process of co-creating our Integrated Cardiovascular System with a range of stakeholders. Within the two priorities for the ICVS of prevention of cardiovascular disease and better management of manifest disease specific additional themes are emerging:

1. Prevention of cardiovascular disease

- Risk profiling the population using an enhanced vascular health check and innovative technologies/databases, reaching out to the population in non-traditional settings for healthcare delivery such as supermarkets and places of worship.
• Utilising behaviour change methodology, promoting self-management programmes for risk factors and disease as well as leveraging the prevention work-force by innovative use of community leaders to improve adherence.
• Redesigning care pathways to promote prevention for high-risk individuals.
• Application of novel lifetime cardiovascular risk calculators to assess risk, improve patient engagement and education.
• Building partnerships with health and well-being boards to develop population-based approaches to prevent CVD, including initiatives to promote physical activity and healthy diets in workplace and school settings, through city/transport planning, and through links to the London Health Improvement Board and the Mayor of London.

Key elements of the prevention work-stream will include:

• Linkage of primary care patient records at scale to national cardiovascular (NICOR) audits, HES data and cause-specific mortality with a focus on e-health approaches.
• Building on these linkages, conducting novel large-scale registry-based treatment trials within the primary care setting (taking advantage of increased cost-effectiveness compared with traditional randomised clinical trials).
• Collaboration with Department of Health policy groups to design and evaluate scalable, cardiovascular prevention programmes at national level.
• Building on our synergistic strengths in hypertension, evidenced by the leading role of UCLPartners clinicians on NICE guidance, and the various industry partnerships described in this section and in Chapter 4, we will enable better diagnosis and treatment, including informing more effective quality and outcomes framework (QoF) targets.
• Contribution to London’s Olympic health legacy, e.g. through further roll-out of ‘My Best Move’ general practitioner training, which promotes physical activity as both prevention and treatment for long-term conditions in collaboration with local authorities.

2. Better management of manifest disease

• Delivering the best possible outcomes (and cost) for specialist cardiovascular care by concentrating treatment expertise (medical and surgical); for example, specialist treatment of common arrhythmias in a large-volume centre. We anticipate the ICVS bringing together a range of such specialist services serving as a global centre of excellence within the overall single integrated system – enhancing value (outcomes that matter to patients per pound spent), enabling subspecialisation and a more complex surgical case mix, attracting national and international referrals, creating a magnet for the most talented trainees and researchers that will also feed into additional industry partnerships. Following on from the cardiovascular co-creation event, clinical and academic staff from across the partnership are working through each of the specialist areas in CVD to produce guidance for the ICVS, in a similar way to that described below for inherited cardiac conditions, to underpin the global excellence strategy. This material will come to the UCLPartners Executive in January 2013, to inform the operational plan for 2013/14.
• Building on existing successful models to embed nurse specialists in primary care to manage patients with ongoing needs around monitoring and medication. This will improve accessibility for patients and build expertise and collaboration across the care pathway.
• Prolonging event-free survival by developing and applying best practice; for example, rapid interventions and sustained secondary prevention for unstable ischaemic heart disease to improve long-term outcomes to those of heart attack and beyond.

• Implementing best practices in long-term condition management, telemedicine and integrated care so there is holistic and efficient care for individuals with co-morbidities (via the Co-morbidities Integrated Programme). A networked approach with engagement of the London Scientific and Diagnostic network will improve availability and adoption of NICE-endorsed care such as B-type natriuretic peptide testing in the diagnosis of heart failure, and help inform the ICVS going forwards.

• Diagnosis and management care pathways for inherited cardiovascular conditions (ICC) require access to expert multidisciplinary teams for the lifelong care/needs of patients and their families (estimated prevalence in our AHSN: 35,000 affected individuals). Consolidation of three existing leading ICC centres (The Heart Hospital, UCLH; The London Chest Hospital, Bart’s and The London NHS Trust (BLT); and Great Ormond Street Hospital) into a single functional centre will act as a virtual hub for integrated ICC services strategically located across the AHSNs. These three hospitals will share personnel, clinical and research governance and standard operating procedures. This initiative will create the largest clinical centre of excellence for the diagnosis and management of inherited CVD in the world, and will provide a unique platform for large-scale cradle-to-grave research programmes with strong patient involvement.

• Improve patient experience across pathways, identifying metrics and ensuring that patients have greater visibility of NICE guidelines to stimulate greater patient ‘pull’. Creation of a platform to design, develop and bring into clinical practice (first in man) novel diagnostic and therapeutic devices for CVD. UCLPartners already has a formal device development programme with Yale University and strong links between QMUL/Barts Health and UCL/UCLPartners cardiovascular teams. Expertise exists in devices such as Transcatheter aortic valve implantation and MitraClip (identified as the highest potential impact innovations by the United States Agency for Healthcare Research and Quality). UCLPartners also leads nationally on novel treatment for resistant hypertension using renal denervation (see Chapter 4).
Programme objectives for 2016 and 2018

**Health and well-being objectives**

- Identify and treat or tackle 25% more cardiovascular risk factors, which will result in reduced major adverse coronary events (MACE; and fatal and non-fatal myocardial infarctions/strokes) by 2017.
- As clinical events of myocardial infarction and ischaemic stroke represent a failure of clinical prevention, we will undertake a root cause analysis of cardiovascular events in a defined population to identify the most vulnerable subjects, areas of deficiency in cardiovascular risk assessment and priorities for resource allocation.
- Continue to reduce mortality rates from UCLPartners cardiac surgery to those of best performing centres internationally by restructuring care in high-volume specialist environments that enable subspecialisation and a more complex case mix to be undertaken, by 2015/16.
- Identify all patients admitted to hospital within the AHSN for decompensated heart failure and implement an intensive management programme to improve patient well-being, prevent readmission and prevent mortality.
- Creation of a web-based informatics platform to enable tracking of patients and relatives from referral to diagnosis and during follow-up across the AHSN.
- Enable delivery of new NICE-approved anticoagulant therapies into practice, replacing, where appropriate, older, less effective, or more difficult to administer alternatives.
- Increase the percentage of patients achieving optimal blood-pressure control in line with NICE quality standards through undertaking a rigorous review of control rates from QOF data, identifying and addressing the barriers to reduce inequalities across our populations.

**Wealth creation/working with industry**

- Creation of an entrepreneurial culture to drive intellectual property generation and spinouts with doubling of inward investment by 2015.
- Double the activity of phase I clinical research from local discovery and industrial partners through to phase III by 2015.
- Conduct three large industry trials within the primary care network (Servier, Amgen, Boehringer Ingelheim) for CVD prevention.
- Establish a platform in NICOR for independent device/treatment registries licensed to industry, with five commercially sponsored registries anticipated by 2014.
- Establish a culture of early collaboration with biotechnology and SMEs to develop further the novel diagnostics and therapeutics programme aiming to double the income generation by 2015.
Research objectives

- Develop a first-in-man devices centre, making the most of the Yale/UCL/Anglia Ruskin Med Tech collaboration to assess and introduce novel cardiovascular devices.
- Develop capacity for bioinformatics and eHealth platforms to enable integration of large-scale patient data, genomics, phenotypic characterisation and outcomes within the new National Centre for Cardiovascular Prevention and Outcomes and the Health eResearch Collaboration UK Centre for Health service and Academic Partnership in Translational Electronic health records Research (CHAPTER). This will provide a platform for discovery research, through trials, to patient journey outcomes and implementation.
- Develop nationally and internationally leading approaches to outcomes relevant to patients and the NHS Commissioning Board, CCGs and AHSNs (focusing on CVDs both with commonalities across the AHSN clinical areas). This will span methodological aspects (measurement, inductive and deductive methods of analysis), reporting with novel, policy relevant visualizations and harness a critical mass of data linked across primary care, hospitalization data, and disease and procedures registries with clinical and informatics expertise.
- Develop nationally and internationally leading approaches to research across the patient journey, examining missed opportunities of care across the whole system irrespective of primary, secondary or tertiary health, or social care, settings (focusing on CVDs both with commonalities across the AHSN clinical areas).
- Test new therapies and devices in innovative registry and primary care-based trial designs.
- Create fellowships with academic partners and industry to support CVD research.
- Rigorous evaluations of the implementation of a one-stop preventive service.

Education objectives

- Patient education by implementation of novel lifetime risk profiling consultation.
- Develop healthcare assistants in primary care able to conduct specialist cardiovascular risk measurement, conduct of trials and provision of clinical care.
- Engage all stakeholders to develop and implement a common pathway for cardiovascular best practice for prevention, as well as arrhythmia and heart failure diagnosis and management.
8.3. Integrated mental health and well-being

Mental illness represents a quarter of the nation’s overall burden of disease, including avoidable premature death. It affects 17% of England’s adult population and 10% of children aged 5–16 years. Annual direct NHS mental health expenditure is estimated at £14 billion with up to £100 billion total cost to the nation from mental illness.

Despite the vast scale of the mental health problems facing the nation and available cost-effective efficient interventions, only one-quarter of those with mental illness are receiving any form of treatment. UCLPartners mental health programme will help address this challenge by focusing on its three priority areas:

1. Prevention, identification and early intervention
2. Addressing social determinants and consequences of mental health problems (inequality, quality of life and recovery)
3. Better integrate the management of co-morbid physical and mental illness.

A cross-cutting focus will be to implement NICE Quality Standards and Clinical Guidelines in a systematic way throughout UCLPartners, through high-impact interventions such as assistive technologies, eHealth platforms and collaboration with industry. As an example, implementing NICE Quality guideline 136 ‘Service user experience in adult mental health: improving the experience of care for people using adult mental health services’, and Quality Statement 14 ‘service user experience in adult mental health’ will be a key priority for all our adult mental health work. Regarding digital by default, UCLPartners is already working in collaboration with the IT industry to create eHealth platforms to facilitate shared decision making technologies. Additionally we are co-creating IT platforms with service users that empower people in psychological therapy services to provide real-time outcome information to their counsellors and psychotherapists, enabling them to integrate PROMs into their routine clinical work, individual treatment planning, and use it to establish collaborative goal setting.

Each of the three priority areas is now set out in detail:

Priority 1: Prevention, identification and early intervention

Effective pre-emptive psychiatry means investing in those fields that demonstrate the best evidence-base for disrupting the natural course of mental disorder. For instance, the most effective way to prevent the development of lifelong mental health problems and promote mental well-being and resilience is to focus on childhood and adolescence. By intervening in adolescent antisocial behaviour, evidence shows reductions in the prevalence of antisocial personality disorder in adulthood that has potential to save an estimated £9000 per child per year. Our key objective around child and adolescent mental health is to improve outcomes through their intensive monitoring. Current effect size of the average Child and Adolescent Mental Health Service (CAMHS) on the Strength and Difficulties Questionnaire (the standard measure in use by the CAMHS Outcome Research Collaboration) could be expected in many services to be as low as d=0.10 relative to
spontaneous remission (based on the value added score5). Thus, achieving a 100% improvement would mean increasing the effect size to d=0.20. UCLPartners is leading on introducing a completely new way of working into CAMHS through improved access to psychological therapy (Improving Access to Psychosocial Therapies, IAPT), led nationally by the UCLPartners mental health programme director. We expect to see improving outcomes of 50%, from a combination of improving capacity to follow NICE-recommended treatments by training of clinicians, supervisors and service managers, and through the comprehensive introduction of intensive (session-by-session) outcomes monitoring.

Key elements of the Developmental Early Identification and Prevention Programme (DEIPP):

- Working with the Department of Health to establish an e-Platform nationally to provide evidence-based self-help interventions for children and young people, at the same time as offering expert professional mental health guidance to all those working with young people.
- Implementation of a bundle of care based on the NICE dementia quality standard (QS1) and NICE public health guidance around mental health of older people (PH16). A systematic approach to implementing each of the 10 dementia quality statements is already in place; for example, large-scale roll-out of a stepped dementia education programme for all staff (clinical and non-clinical) across UCLPartners Acute Trusts, created in collaboration with NHS London, will be completed by March 2013. Development of ePlatforms supporting shared decision-making technologies (QS5) is being developed. This programme is building on the world-leading reputation already existing within UCLPartners (at East London NHS Foundation Trust) by creating collaboration between the UCLPartners mental health programme and Dartmouth College, USA.
- The programme will be completing and rolling out the implementation of multisystemic therapy as a treatment for children and adolescents with conduct disorder as a means of implementing NICE guidance on Anti-social personality disorder (NICE CG77) and Conduct Disorder (NICE).
- Collaboration with industry, third sector and local authorities to implement NICE public health guidelines (PH28) on looked-after children.

Priority 2: Addressing social determinants and consequences of mental health problems (inequality, quality of life and recovery)

Rates of depression, anxiety and psychosis combined are much higher among people in the lower incomes quintiles. The demographics of treatment too often do not reflect this, demonstrating geographical, social and cultural inequality built into take-up of services; for example, psychological services significantly under-represent the Asian population. Patients with mental health problems have lower quality-of-life scores than those with physical health problems. Co-morbid depression with a range of long-term conditions was reported in the World Health Survey as having a lower quality-of-life score than for two or more long-term physical health conditions. By taking a community-wide approach, promoting self-determinism and autonomy through adopting shared decision making frameworks and developing innovative means of promoting access for hard to reach

5 Ford et al., 2009
communities and sharing best practice, we will improve equality of access and recovery for those with long-term mental health conditions. Some key elements of the programme will include:

- Collaboration with local authorities to implement NICE guidelines on support for carers of patients with dementia (CG42 and QS14).
- Implementation of a bundle of care based on NICE quality standards for user experience in mental health (CG136, QS1).
- DIALOG – a shared decision-making programme that promotes a patient-centred approach to patient-clinician communication, delivering more socially and culturally competent therapeutically effective care.
- PRIMROSE – development of a crisis house for adults with an acute mental health crisis. NICE guidance for schizophrenia (CG82) states that people should have rapid access to acute/crisis services. Referrals to PRIMROSE can be via self-referral, by other mental health users, or via mental health and primary care services. It has been shown to target those at highest risk of admission, be better at offering access to minority groups (86% of patients return to their usual accommodation and patient satisfaction is around 90%). As well as part of our programme for implementing NICE CG82, this model, in conjunction with others in development, will be used as part of a suite of methods for implementation of NICE QS14 (i.e. quality standard for Service user experience in adult mental health)
- Mystery shoppers – in a programme developed by South Essex Partnership Trust (SEPT), ‘Mystery shoppers’ are real service-users and carers who are invited to comment on their experiences of using the trust’s services. It is the first time such a formal programme has been developed in a UK mental health trust. Feedback is given in real time, giving greater authenticity and relevance and fostering urgency of action. As a result of this programme, services, facilities and individual clinician practices have been changed, with resulting improvements in user experience.

Priority 3: Better integrate the management of co-morbid physical and mental illness

Focusing on developing an integrated, patient-centred approach to physical and mental health provides the opportunity for greatest impact on improving the quality of life for physically unwell people with co-morbid mental health problems, and the identification and effective management of physical conditions in people with mental illness. Evidence demonstrates that addressing mental health and psychological needs can produce sustained reductions in admissions to hospital for people with a range of long-term conditions, including angina, diabetes and irritable bowel syndrome. As well as reducing symptoms and improving quality of life, interventions have been shown to lead to substantially reduced admissions and net savings per patient, per year.

Key elements of the integration of mental health and physical health programme will include:

- Focusing on the development of liaison services to improve identification and management of mental health in acute hospitals, raise better awareness across staff groups, and improve mental health training in primary care. In particular, the programme will focus on dementia, to implement quality statement 8 of the Dementia quality standard (QS1).
• Implementing a bundle of care in collaboration with primary care, mental health trusts and acute trusts aimed at those at risk of dying prematurely, based on NICE Public Health (PH) guidance (PH15): identifying and supporting those at risk of dying prematurely, and brief interventions of smoking cessation.

• Roll-out of stepped training in dementia for all staff in five acute hospitals across UCLPartners (implementation of NICE QS1), following a successful trial demonstrating reduced length of stay and improved patient outcomes.

• Implementation of cardiovascular risk screening of patients with severe mental illness across acute mental health trusts, with the aim of reducing the cardiovascular risk profile of patients with severe mental illness.

• Roll-out of a programme based in primary care aimed at training general practitioners in the identification and management of cardiovascular risk factors in those with depression. The programme will launch simple, innovative non-invasive technologies for assessment of cardiovascular risk as a part of psychological therapy through the IAPT programme.

UCLPartners regards education as a key driver to change and improvement. Developing a professional education programme, co-created with leading academics, providers, professionals, users and carers, is a priority for the Mental Health programme. A series of educational programmes is underway or in development, spanning each of the programmes’ priority areas. The training initiatives will be a major point of collaboration with our overarching aim of delivering on NICE quality standards through close collaboration with the NCNEL LETB, HEIs and partner trusts. These initiatives will be vital to our mission to disseminate best practice across the large geographical area we cover. We will make use of existing HEI technology and seek investment in establishing our own distance learning including online demonstrations of new techniques and approaches to intervention. To this end, we have begun the systematic identification and recruitment of key clinical leaders to academic faculties in honorary positions to put them into positions where they are ready to organize professional training in areas strategic for value and wealth generation and the implementation of service improvements in line with our mission to empower patients and bring about a step-change improvement in patient experience.

Three programmes are already underway or in development and planned to start in quarter 1 next year (Figure 8.4).
• Work-based Professional Training Portfolio: providing mental health training for a range of groups in key strategic positions to deliver or triage mental healthcare in the course of their work with clinical and non-clinical populations (e.g. school nurses, midwives, healthcare worker in sexually transmitted disease clinics, etc.). A key focus of this series will be to provide the training to support the delivery of the NICE quality standards and guidelines. The dementia training programme is underway and 2000 professionals in acute and mental health trusts will have received dementia training by April 2013.

• Behaviour Change Training: aims to teach evidence-based knowledge and skills for assessing patterns of behaviour and changing those patterns, focusing on patient behaviours (such as healthy lifestyle, smoking, medication adherence). The skills learnt will be applicable to a wide range of settings throughout the health system in primary, acute, integrated community provider and mental health trusts. The primary participants will be clinicians.

• Primary Care Mental Health Leadership Development Programme: featuring national and London-based primary care and mental health experts, and using a range of innovative and engaging teaching methods, content includes: personal leadership skills development, influencing and negotiation skills, commissioning tools and techniques, intensive clinical ‘best practice’ seminars, managing & improving service quality, user and carer engagement, performance & information management, mental health payment by results (Care Clusters), information for planning local services, best practice ‘solutions’ case studies. The programme has been designed specifically for those working in primary care (in particular general practitioners) who would like to develop their leadership potential in the delivery of mental health services, or planning and commissioning of mental health services, through CCGs.
The overarching aim of this programme is to enable communities of citizens, patients, carers and providers to stay well, reduce risks and better navigate routes to recovery. Programme partners are recognised world leaders in academia across the basic sciences, clinical sciences and health service improvement research. Furthermore, our partner SEPT is the largest mental health trust in England, who recently set a new record of excellence at last year’s prestigious Healthcare 100 awards, where they were awarded seven category wins and moved up from the previous year’s eighth ranking to take first place. SEPT was also voted Top Mental Health Trust in the Healthcare 100 survey that names the top 100 healthcare providers to work for in the UK. They represent a powerful portfolio in mental health research equating to approximately £100 million. The UCLPartners mental health programme is aligning organisations and creating a foundation with shared social mission, values and ethical principles that will leverage and develop these existing networks. The mental health community is already experienced in bringing together stakeholders that develop collaborative programmes of activity, demonstrating our ability to align organisations to deliver impact.

Mental health communities respect and respond to strong user and carer involvement and have pioneered the use of innovative shared decision-making frameworks. The architecture for delivery is sound, with established active leadership groups representing medical directors, nursing directors, chief executives, allied health professionals, commissioners, academics and service providers. The new NHS architecture has provided a further catalyst to integrate these established clinical leadership networks, enabling more effective and rapid translation of our existing world-class mental health research into tangible improvements to services for the benefit of people, with an increasing emphasis on improved individual and community outcomes.

There are many strong examples of co-creating education of healthcare professionals with users that we will share across the partnership. PROMISE (www.promise-mental-health.com), for example, is a European funded project led by Middlesex University. The aim is for clinicians, academics and service users to develop mental health promotion training guidelines and training resources for healthcare professionals to inform curriculum development of the major health and social care professions: nursing, social work, psychology and psychiatry, exploring how the professions can accommodate the issues and principles of mental health promotion. Mental health service users and their organisations have made key contributions: they have been involved in developing guidelines for mental health service user-involvement in local design and delivery of mental health promotion and illness-prevention training, and in developing model training programmes, including one with a special emphasis on positive mental health, healthy living, diet and exercise, as well as specific reference to suicide, depression, drug and alcohol misuse. Likewise, we will continue to build on the many opportunities to collaborate more closely with industry to enhance care; for example, SEPT is working with Janssen-Cilag on a programme to improve treatment compliance among mental health patients, and we will ensure we build on these, sharing practice and personal networks.
Programme objectives for 2016 and 2018 health and well-being:

<table>
<thead>
<tr>
<th>Prevention, identification and early intervention</th>
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<tr>
<td>• Continue to improve recovery rates in child and adolescent mental health by 50% by 2016 through better outcomes monitoring and modular treatment approaches.</td>
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<tr>
<td>• Continue to improve (earlier) diagnosis of dementia by a stretching target of 50%.</td>
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Addressing social determinants, experience of care and consequences of mental health problems (inequality, patient-related experience measures [PREMS] and PROMs):

| • Increase health-related quality-of-life scores to at least 80% in people with long-term mental health problems by 2016. |
| • Increase the number of patients who feel involved in decisions about their care, in dementia, child and adolescent and adult mental health. |
| • Improve the health-related quality of life for carers of people with mental health conditions, including young carers, by 25% by 2016. |
| • Increase the proportion of people who feel supported to manage their condition by 50% by 2018. |
| • Improve patient experience of care by improving their experience of inpatient and outpatient mental health services by 25% by 2018, including services for children, adults and the elderly who have mental health conditions. |

Integration of mental and physical health

| • Reduce premature death in people with serious mental illness by promotion of integration of mental and physical health and focusing on successfully managing cardiovascular risk factors. |

Resource use (enhancing value)

| • Reduce the number of young people taken into care by 10% through collaboration between mental health services, local authority and third-sector. |
| • Reduce the length of inpatient stays for both acute admissions of patients with dementia and those in mental health trusts by 25%, without increasing unplanned admissions or increasing the number of re-admissions within 1 month, through increasing the diagnosis of dementia and training of staff in both acute and mental health trusts. |
| • Reduce use of hospital beds associated with chronic conditions by 10% year-on-year for 5 years from 2018 through strengthened community services, improved collaboration of physical and mental health services, and better synergy with community organisations including the voluntary sector. |
| • Ensure cost-measurement tools are in use by 2018 across all partners. |
| • Pilot Time Delivered Activity Based Costing and roll-out of subsequent work-stream to enable patient level costing of mental health services across our area. |
| • Develop improved methods for examining return on investment (including social returns) while recognising that such priorities must be considered alongside the
impacts of investment on smaller groups whose needs are much greater and warrant the attention and resources deployed for them.

Wealth creation/working with industry
- Build on our national and international reputation to continue to develop the research and clinical environment that attracts, retains and develops the best academics and practitioners.
- Provide and nurture an environment that leverages additional research and investment streams by increasing research funding to UCLPartners Mental Health year on year.
- Reduce unemployment in patients with mental health by 10% by 2018 through better integration with major employers and making employment a key focus of mental health services.
- Promote better self-care and co-production of good health and mental well-being across London, Hertfordshire and Essex.

<table>
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<tr>
<th>Research objectives</th>
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<tr>
<td>Ensure year-on-year increases in the number of mental health patients actively participating in randomised clinical trials from 2015, with the ultimate aim of engaging every willing patient in research.</td>
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<tr>
<td>Utilise improvement science protocols to expedite effective translation of research to the front-line by increasing collaboration between the partners, universities, trusts, CCGs and other parts of the health system.</td>
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<tr>
<td>Build applied and health service research capacity, helping commissioners and clinicians to engineer change.</td>
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<tr>
<td>Build research awareness and capacity across all levels of the work-force.</td>
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<tr>
<td>Democratise and spread the knowledge and evidence that drives second order innovation across local communities.</td>
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<td>Develop better outcome frameworks and decision-making tools linking experience to individual’s voice.</td>
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<th>Education objectives</th>
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<tr>
<td>Design and implement multiprofessional education and training programmes for mental health with the LETB that attract a much higher proportion of staff than currently, and help to significantly redress the national shortage of entry in mental healthcare in all professions and at all levels but particularly in psychiatry and nursing.</td>
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<tr>
<td>Establish educational programmes that empower patients and enable shared decision-making to be the norm across mental health.</td>
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<tr>
<td>Aligned medical training with research priorities and increase the number of clinician-led research projects by 33–50% by 2017 through collaboration with primary care, LETBs (all mental health professionals) and roll-out a core psychiatry trainees’ education programme.</td>
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8.4. Integrated Life Course Programme for Women, Children and Adolescents

UCLPartners serves a diverse population with wide health inequalities, derived from profound differences in income, education, quality of housing, physical environment and community cohesion. The link between inequalities of experiences in early years and inequalities in later-life outcomes is well established. So persistent is this inequity, that ‘Fair Society, Healthy Lives’ – the review of health inequalities led by UCL Professor Sir Michael Marmot – identified improving parenting and experiences in the early years as the priority objectives for reducing health and other inequalities across the generations. These affect the education, employment and life opportunities of our children and young people. There is a major opportunity to help address these inequalities using the combined strengths of our extended partnership across health, mental health, schools and social care.

UCLPartners, as an AHSC, has already established a Women’s Health Programme based on the predictable needs for health and well-being that evolve over the life course. We made progress devising a new training programme to better address these life-course needs rather than reactive and episodic care, which is being adopted nationally (Royal College of Obstetricians and Gynaecologists, Tomorrow’s Specialist 2012). The life-course approach recognises that ‘ordinary’ events in women’s lives, such as pregnancy and childbirth, have far-reaching impacts on the health and disease of both mother and child through mechanisms that range from the molecular (genetic and epigenetic) to the social determinants of health. Furthermore, a life-course model of child health development has been well described6. The National Collaborating Centre for Women’s and Children’s Health has expressed support for the UCLPartners AHSN Life Course Programme, as well as the Royal College of Paediatrics and Child health.

Reducing inequalities and improving health and life chances for our population

UCLPartners has begun a process of engagement with the community of interest from across our AHSN geography to develop the priorities and outline objectives for the UCLP AHSN Life Course Programme. At an engagement event on 21 November 2012, colleagues from across public health, primary and secondary care, HEIs, local authorities, schools and the third sector came together to co-design priorities for the programme. The three agreed themes for action are:

- Promotion of health and well-being
- Identifying women, children and young people at increased medical or social risk
- Designing and delivering interventions for those at risk

Work will continue into 2013 to co-design the objectives and measures of success for this programme. There is a strong rationale for a leadership role of schools and academies within this programme given that school is second only to the family in its importance, gaining increasing influence over children from 10 years of age. The nine major HEIs in UCLPartners have many established links with over 50 local schools, academies and colleges, feeding young people into higher educational opportunities and providing professional and postgraduate education to staff.

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6 Halfon et al 2005
Promotion of health and well-being

Four opportunities have been identified within this programme for the promotion of health and well-being: pre-conception, pregnancy, early years and during school.

Through the AHSN, UCLPartners will aim to receive national accreditation for its current work developing definitive guidance for preconception advice. This will help optimise the health of women before pregnancy, and also have further benefits such as raising awareness of breast-feeding. Recent work by UCL has shown that preconception advice is not routinely provided to women through sexual health services, family planning clinics and general practitioner surgeries, even when woman are discontinuing contraception for a planned pregnancy. Highly trained practitioners often report a lack of knowledge on this topic. UCLPartners will standardise and roll-out preconception advice in these services, creating an off-the-shelf tool and evaluating its impact on awareness and behaviour change. We will collaborate with technology providers to develop innovative modes of delivering key health promotion messages to our population, and track impact.

A life-course programme implies a cradle-to-grave perspective, crossing generations, and pregnancy provides an important point of intervention: four of five women in the UK go through childbirth, and one in nine babies in England is born within the proposed AHSN. There are many interventions – lifestyle, psychological and pharmacological – to improve the prospects for women and their families and reduce health inequalities, particularly around the time of pregnancy when mothers may be more motivated towards healthy outcomes.

A report by the UCL Institute of Health Equity (An Equal Start 2012) shows that parents’ health, social networks, financial resources and knowledge about parenting collectively act as enablers or barriers to nurturing their children’s development. Parental influence on health outcomes is significant (e.g. 23% of children entering the first year of school the UK are overweight or obese\(^7\)). As demonstrated in Camden, North London, improved collaboration in the community between children’s centres, playgrounds and after-school clubs can support parents to improve health and well-being outcomes. UCLPartners will work with local authorities, schools, the NHS and community groups to scope opportunities for strengthening collaboration around the needs of families, and will identify and diffuse examples of good practice across the network. Box 8.4 reports an example of a family support service based in North London.

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\(^7\) NHS information Centre, 2011
For children, schools, academies and colleges provide a singular opportunity for learning about health and well-being, as well as delivering interventions and offering a secure environment and peer support. The Healthy Schools Programme has a well-established history, although implementation in the UK has historically been variable. Great opportunities exist to work with the education sector to enhance the health-promoting qualities of schools, academies and colleges to prevent problems across a range of physical and mental health outcomes. Interest has been expressed in the AHSN supporting the evaluation of different programmes to determine their impact on health, well-being, attendance and attainment. Furthermore, as the needs of children and teenagers have changed over time, new interventions may need to be co-designed. For example, according to a local estimate, 80% of school nurses’ workload relates to psychosocial issues, suggesting the need for new models of health promotion. UCLPartners AHSN will understand from schools what is already working in the promotion of health and well-being (such as after-school exercise, healthy eating and drinking, sexual health and resilience), and can then accelerate knowledge-sharing by examining how such practices are evaluated, and disseminate the transferable elements across the network.

Identifying those women, children and young people at medical or social risk

Through improved monitoring and surveillance across different members of the AHSN, we have the opportunity to ensure that risk factors operative during pregnancy and in childhood are identified early. Outstanding examples of innovation in the community by the voluntary/charitable sector show how women with complex needs benefit from more holistic approaches than current, often fragmented, health services can provide (Women at the Centre. Innovation in Community8). Drawing on the ethos of such exemplary work, the AHSN will seek to develop stronger cross-sectorial networks that can respond to the requirements of vulnerable women with complex social and medical needs.

8 Duffy and Hyde, 2011
Pregnancy, while natural, can be a ‘stressor’ on women’s bodies and minds, exposing conditions and risk factors that may affect their future health and well-being. Obesity, diabetes, high blood pressure, harmful alcohol or drug use, domestic violence and poor mental health affect at least 30% of pregnant women; are all modifiable disorders with major implications for the future health of pregnant women and their children. Unfortunately, establishing healthy trajectories for women and children at this crucial early stage can be hampered by disconnections between hospital (where most births occur), primary care and other community-based services. Several NICE guidelines are relevant in this area, including clinical guidance (Antenatal care [CG62], Hypertension in pregnancy [CG107], Pregnancy and complex social factors [CG110]) and public-health guidance (Weight management, before during and after pregnancy [PH27], Maternal and child nutrition [PH11]).

Each year, 2–5% of all births involve women with diabetes. Gestational diabetes accounts for nine of 10 cases and carries a 50% risk of type 2 diabetes within 10 years. NICE postnatal guidance recommends repeat testing for diabetes 6 weeks after childbirth and annually thereafter (NICE CG63; 2008) but, in practice, less than one-third of women re-attend maternity services for repeat glucose testing at 6 weeks, and subsequent management in primary care is uncertain.

In North London, general practitioners and maternity services are working together to exceed NICE guidance, and to provide a package of support to postnatal women, including advice on lifestyle and nutrition, glucose testing, regular review and establishment of a register of women at risk of type 2 diabetes. UCLPartners AHSN, as a ‘system integrator’, will seek to identify the transferable elements of this approach and diffuse good practice.

Box 8.5 UCLPartners Women’s Health Programme

The UCLPartners Women’s Health Programme has already achieved significant progress towards improving antenatal care through the M-power project in North Central London (UCLH) and North East London (Newham), including in-depth understanding of women and provider’s experiences, facilitating more socialised antenatal care, helping to support breast-feeding and designing a three phase IT system to enable sustainability and implementation at scale. We will continue to engage local women in this way across the AHSN to design services that empower them.

Identifying children and young people who may be at risk of significant illness will also form a key part of the UCLPartners Life Course Programme. Childhood deaths from illnesses that rely on primary care (e.g. meningococcal disease, pneumonia) are higher in the UK than in Sweden, France, Italy, Germany and the Netherlands, with an excess of up to 1500 British children dying each year.\(^9\) Reduction in time from the presentation of symptoms to diagnosis is required. A number of the NICE guidelines for children have focused on recognition of symptoms using a traffic light approach or use of risk thresholds (NICE Fever, diarrhoeal illness and maltreatment guidelines). UCLPartners will build on this approach and the expertise of the team that produced the ‘Spotting the Sick Child’ educational tool (commissioned by the Department of Health) and The Health Foundation

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\(^9\) Wolfe et al, 2011
‘HeadSmart’ project, both of which aim to support early recognition and early diagnosis. We will scope the current use of processes to respond to trigger factors (e.g. poor school attendance, constellation of ‘red flag’ symptoms, A&E attendances for long-term conditions or injury), to investigate potential for profiles of children at risk, and educational approaches for professionals in contact with children in improving identification of the sick child. We will also integrate this work with the diabetes work noted above, as children of parents with type 2 diabetes are at the highest risk of obesity and poor health outcomes.

**Designing and delivering interventions for those at risk**

A number of interventions already exist to support individuals at risk, which the AHSN will identify and diffuse. The focus will be on: pregnancy, long-term conditions in childhood, education and behavioural interventions in schools, and opportunities (e.g. apprenticeships) to increase employment. There will be a particular focus in this theme on integrated information and technology-enabled innovations.

Through development of health services research programmes, UCLPartners also aims to conduct an economic evaluation of impact (including any unforeseen consequences) across our maternity networks in NCL, NEL, Hertfordshire/Bedfordshire and Essex, beginning in NCL, of four innovations in maternity care:

- Two screening interventions, one intended to prevent premature labour and another to prevent premature rupture of membranes
- Outpatient induction of labour to improve patient satisfaction and reduce stay on labour ward – applying to 25% of all pregnancies
- Antenatal treatment with magnesium sulphate to prevent cerebral palsy in preterm babies.

To give every child the best chance of a happy and productive childhood and later life, early recognition of disease is critical, as is streamlining of a child’s pathway for treatment and support. Through this programme, UCLPartners will facilitate implementation of best practice guidance across our partners, including NICE guidance and clinical standards, aligned with national work underway to identify those recommendations with relevance to schools. This will include standards on asthma, epilepsy and diabetes in childhood and relevant public health guidance.

Asthma is one of the most common long-term conditions in childhood, with 1 in 11 children in England currently receiving treatment. Ninety per cent of childhood asthma deaths are associated with preventable factors, and every 17 minutes a child is admitted to hospital in the UK because of their asthma. More effective interventions offer significant opportunity to improve the experience of our patients and save costs through admission avoidance across UCLPartners. The use of media and technology is also an essential platform by which to engage more hard-to-reach groups (see Box 8.6). Children from ethnic minorities are known to be under-diagnosed and have a higher attendance rate at emergency departments with asthma-related symptoms. Emerging findings from a recent NIHR–Health Services Research project to develop co-produced, tailored interventions for south Asian children and families with asthma has identified the need for increased use of media, videos and mobile technology to raise awareness of symptoms in this group and support self-management.
The need to collect data, design and test interventions to implement evidence-based guidelines with support from technology is a theme across long-term conditions. Furthermore, technology (e.g. gaming) is likely to be a crucial enabler for engaging children and teenagers in their health and well-being. Within the previously established Child Health programme, we developed and delivered into practice a customer relationship management system to empower children with diabetes and their families to better manage their condition (see Box 8.7). The learning from one condition can often be applied across other disease pathways to bring generic learning for optimal management of most conditions appearing in childhood. The AHSN provides an opportunity for robust evaluation of models of dissemination of interventions, using our expertise in diffusion of innovation.

Box 8.6. Smartphone app

In 2011, a smartphone app to help children and young people manage their asthma better was developed by the North East London, North Central London and Essex Health Innovation Education Cluster in collaboration with QApps. My Asthma Log enables patients to log appointments and asthma attacks, and build up a history of their asthma that they can show to their doctor. The app also includes pictures of asthma medication and information on how it works, along with links to Asthma UK’s Facebook and Twitter forums, and YouTube videos about inhalers. The free app was developed by HIEC’s (Health Innovation and Education Cluster) Asthma in Children and Young People team, in association with QApps, Queen Mary’s app development venture, which aims to translate ground-breaking research and expertise into smartphone technology.

Box 8.7. Child Health Programme

UCLPartners’ earlier Child Health Programme in 2011 saw translation of ‘customer relationship management’ (a proven innovation in industry) to childhood diabetes through a Patient Relationship Management (PRM) approach that enables children and their families to access evidence-based care within their own homes. The learning from this project will be a platform for changing the dynamic between patients and providers of healthcare placing the needs and preferences of patients at the centre of their care across the AHSN.
All schools, academies and colleges are concerned with supporting the holistic emotional and physical health of their students and addressing the consequences of these for their learning. Optimisation of these is essential for local economic prosperity, helping to ensure our young people reach ongoing education, apprenticeship or employment. There are proven beneficial interventions using educational and behavioural methodologies known nationally that are not readily accessible. The AHSN can facilitate the deployment of these at scale. The alignment of the London Health Improvement Board on childhood obesity will also help to strengthen impact within London, as will work to maximise the Olympic legacy. Building on the Healthy Schools toolkit, UCLPartners will conduct a review of priorities for each locality, identifying where value can be added through partnership with schools.

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**Box 8.8. NIHR London and South East Medicines for Children Local Research Network**

Established in 2006, the NIHR London and South East Medicines for Children Research Network (MCRN) has facilitated very rapid growth in clinical research in children. Over the past 6 years, recruitment has increased by an average rate of 42% per year to over 2000 children in 2011–12 (one-quarter of the English MCRN recruitment). The impact has been greatest in commercial studies, with an annual growth rate of industry studies three times higher than publicly funded studies. The London MCRN is or has supported 86 industry studies to date, currently accounting for one-quarter of all commercial studies in Central and East London. At Great Ormond Street Hospital, synergy between the MCRN and the Clinical research facility has driven down start-up times for studies and achieved annual growth in income of 48% year on year since 2008. With a focus on early-phase studies (estimated 70% of CRF portfolio) there is significant capacity to develop long-term programmes of new therapies.

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**Box 8.9. Middlesex University Higher and Further Education Consortium**

This is a partnership between the university and eight further colleges in North London, Families and Schools Together: Middlesex University enjoys a unique partnership with Save the Children, which is rolling out an evidenced-based parenting programme called Families and Schools Together (FAST). This project is the charity’s biggest UK education programme to date. The partnership aims, by 2014, to have established over 400 FAST schemes across Britain, improving the life chances of 50,000 children and training more than 8000 new practitioners.

UCLPartners healthcare organisations and our HEIs provide more than 100,000 jobs across UCLPartners directly, and many more through associated support businesses. This is an important area for creating benefit to our young people, and we see UCLPartners AHSN as having a responsibility to working with local communities to improve access for apprenticeships and other direct employment schemes within health and HEIs; and through role modelling this approach within UCLPartners (as a social enterprise company) itself.

As with all the UCLPartners Integrated Programmes, Life Course will have support and expertise within the AHSN to integrate IT systems that are fit-for-purpose, both in supporting better healthcare delivery (such as an ambition to link maternity and child health records), but also as a crucial component of evaluation.

**Box 8.10. Great Ormond Street Hospital**

Great Ormond Street Hospital has used the secure online portal ‘Patients Know Best’ to empower patients with gastrointestinal failure and their families to be central to their care and treatment. They can ask questions of clinicians via the portal, view their medical records and share them with other professionals and significant others as they wish. This has had particular value in helping smooth the transition for teenagers from child to adult services across hospitals. Over 30 patients are actively using the system, which has been operational since October 2011 with positive user feedback.

Where relevant we will utilise resources relating to the Olympic legacy for example as described in Box 8.11.

**Box 8.11. The Olympic Polyclinic**

The Olympic Polyclinic, which served athletes in the Olympic Park during the Games, has been renamed the Sir Ludwig Guttmann Health Centre by the Secretary of State after the founder of the Paralympics. With proximity to world-class sports facilities and a new academy school, the Centre (which will reopen in 2013), will be a beacon for the health legacy of the Games, promoting health and well-being for all. We are working with partners in East London on a strategic outline case that includes primary care, pharmacy, sports and exercise medicine, dental education, academic links and a community development trust. We are exploring opportunities to nest elements of our developing ICVS and Life Course Programmes within the centre to support the adoption of innovation in service delivery and drive prevention in one of the most deprived communities in the UK. The services developed in the centre will provide a model for driving wider improvements in primary and community services across our AHSN partnership.
Programme objectives for 2016 and 2018

Given the early stages of development of this programme, specific metrics will be agreed in Q1 2013, but these may include:

### Health and well-being
- Increase the number of local women of child-bearing age who are aware of preconception advice, and those in antenatal care who changed their health behaviour following such advice.
- Improve women’s experience of antenatal care.
- Reduce deaths in babies and young children.
- Reduce the potential years-of-life lost in children with long-term conditions.
- Increase the time between childbirth and onset of diabetes in women with gestational diabetes.

### Value
- Reduce the number of emergency admissions to hospital for children with long-term conditions, due to exacerbation of disease or ‘failure to monitor’.
- Improve school attendance in vulnerable children including children with long-term conditions.

### Wealth creation/working with industry
- Support three major industry collaborations partnerships, at least one around development of new technological interventions for young people.
- Increase numbers of vulnerable school-leavers in further education/apprenticeship or employment at 18 including those with long-term conditions and care leavers.
- A scheme in place within UCLPartners’ constituent organisations to support local young people in work experience.

### Research objectives
- Demonstrate better health outcomes (e.g. reduced cardiovascular risk factors, alcohol use) through effective integration of best practice across different care systems.
- Evaluate scale-up of at least two examples of existing good practice or delivery of new initiatives per annum.
- Develop a model of evaluation that can be applied to ongoing service improvements.

### Education objectives
- Delivery of a system for training for those in contact with children and young people to deliver health promotion messages (including lay people and community members).
- Develop innovative education for primary and community care, schools and sexual health to improve pre-pregnancy and reproductive advice.
- Consider opportunities for education to help Spot the Sick Child.
- Innovative educational approaches to better link primary care and specialist services for child health.
8.5 Integrated Co-morbidity Programme

There is widespread agreement that the growing prevalence of chronic diseases and an ageing population, coupled with the NHS’s financial challenges, demands a different way of organising and delivering healthcare. Eighty per cent of healthcare spend is on caring for people with chronic conditions. To date, care has been organised by disease, and initiatives to integrate care across care settings have predominately focused on coordinating care for a single disease. Too often this has created silos, which leave the patient to navigate their care, since living with multiple conditions is the norm rather than the exception for many people: 50% of 65-year-olds have more than one long-term condition, rising to 75% of 75-year-olds. Multiple co-morbidity is associated with poorer quality of life, more hospital admissions and higher mortality, and has a strong social gradient with more disadvantaged individuals and communities having poorer outcomes.

Box 8.12. Innovation in managing patients with multiple health issues: Essex County Council

At a county level, Essex County Council has a well-established and innovative programme to manage complex and frail patients across health and social care. Examples of this work include:

- **Re-enablement.** Anyone requiring social care (whether on discharge from hospital or elsewhere) is enrolled on a focused re-enablement programme. This programme reviews and supports individuals with, for example, occupational therapy, equipment needs, assistive technology such as fall sensors, and assessments of home environment. More than 60% of people are independent after 6 weeks, whereas previously a majority would have required long-term residential care.

- **Hospital discharge.** Focusing on ward-led discharge and reducing time delays waiting for social care has reduced the burden on acute care.

- **Personal budgets.** By providing personal budgets to individuals requiring social care, care can often be more responsive and more easily personalised to individual requirements. This has led to improved outcomes (including patients feeling in control, and improved privacy and dignity), without increased cost. There are opportunities to further expand this work – for example, to patients with healthcare as well as social care needs.

The co-development of the AHSN bid with our members has confirmed the opportunity, collaboratively, to address how we organise services and research, to move away from disease and care-setting or specialty silos, and to be more comprehensively driven by populations with complex needs. There was explicit support from our members to move towards a system organised around people and their lives. The care of complex populations requires increasing integration across a holistic system of care, spanning health, social care and mental health. This poses fundamental challenges, not only regarding how services are organised, delivered and paid for, but also how professionals are trained and deployed, to foster a more generalist rather than ‘supra-specialist’ approach to care and to build-in greater flexibility of the work-force.
The principles of managing one condition can be expanded to managing multiple conditions, with similar tools required (e.g. care planning, integrated information sharing, patient education and self-management), as the outer North East London chronic obstructive pulmonary disease work has demonstrated (see page 22), where general practitioners and other stakeholders have been actively looking for ways to take approaches developed for COPD to groups of patients with multiple morbidities.

UCLPartners has supported a number of integrated care services either as new organisations (e.g. Whittington Health NHS Trust; see Box 8.13) or local initiatives that bring together primary and secondary care with social services to support the needs of complex patients (e.g. with Camden CCG).

There are numerous examples of integrated care initiatives across the partnership that have been locally designed and implemented, and which demonstrate the potential opportunity: one such example is the London Pathway for Homeless Patients. Originally set up to address the challenges of repeated and extended hospital admissions for this group of people, the model of care was changed to explicitly acknowledge and address their ‘tri-morbidity’ – physical illness, mental illness and social needs – rather than the traditional model, which organised support solely for the presenting medical condition. The solution – whose central focus is organising care around the particular needs of homeless people, and which includes a dedicated general practitioner, nurse and peer workers – is showing improved outcomes, patient satisfaction and lower total costs. The model is expanding beyond UCLPartners to other parts of London (within and outside UCLPartners) and beyond. Another example is work led by Essex County Council to manage complex and frail patients across health and social care, providing a broader perspective on the citizens’ needs from the outset.

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**Box 8.13. Integrated care model: Whittington Health NHS Trust**

*Whittington Health NHS Trust, an organisation formed in April 2011 covering acute and community provision for the population of Haringey and Islington in North London, is developing population-based models of care, focusing on patients with multiple co-morbid conditions, with community services organised and delivered in partnership with primary care around the needs and preferences of individuals. Historically, 40% of hospital patient admissions are for patients over the age of 65 years, who account for 70% of bed days. By changing how and where these individuals are cared for there is an opportunity to reduce reliance on acute-based care, consistent with the commissioning objectives locally and nationally. Success requires coordination across traditional boundaries – including care setting, profession, speciality – and the shift to a ‘proactive’ from a ‘reactive’ mindset.*

*Ongoing support and evaluation by UCLPartners is examining the ability of local models of care to achieve reduced reliance on hospital admission whilst improving the quality of care.*

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We aim to balance the dissemination of locally led work with programmes of work with reach across the partnership that will support broader delivery of integrated care at pace and scale. Our overarching aim in co-morbidities is to support our partners to organise and deliver services for
populations with multiple co-morbidities to achieve better outcomes that matter to populations per pound spent. Following our polling and co-design event we propose three areas of work for the programme. These will be subject to further refinement and iteration with partners and stakeholders in quarter 1 2013. Following our polling and co-design event, we propose three areas of work for the programme (Figure 8.5).

Figure 8.5: Integrated co-morbidities: three key priorities

1. Organise care around meaningful groups of people
2. Develop enablers to support whole-system change
3. Define and measure the outcomes that matter most to patients alongside costs

1. Organise care around meaningful groups of people

Both health services and research work to date operate in an unrealistic world of narrowly defined conditions and isolated diseases, too often conducted in idealised settings with optimised resourcing. For population benefit at scale, we need to understand the merits of diagnostics and therapies that work in the messy complexity of real-life settings, where patients have multiple conditions that need to be managed. Our programme of work will aim to define those cohorts, to work with services and researchers to implement improvements, and to work with industry to support collaborations in a more realistic patient environment.

We will:

- Work with public health research teams, industry and local communities to define and identify meaningful groupings of patients and populations. This will involve working with individual level data to test different groupings of individual and aggregated characteristics to identify the variables and their strength in determining levels of need and developing an appropriate tariff as illustrated in Figure 8.6.

- Create a Community of Practice, following on from UCLPartners successful work on cardiac arrests (see the ‘Deteriorating Patient’, Chapter 2), to create a forum to collate and share best practice and experience, and stimulate peer-to-peer collaboration in implementing interventions across our members that are known to be successful (e.g. care planning, polypharmacy review). This will include maintaining an active register of best practice with evaluation of impact.
• Support our partners to embed measurement and evaluation in all future programmes of work, collaborating with research teams and Improvement Science London as appropriate.

• Work with industry to develop cohorts of patients that can support trials to operate in a more realistic environment, where multiple co-morbidities need to be managed and the holistic clinical success and experience for patients comprehensively scrutinised.

• Work with industry to bring new medical technologies to our patients. We will focus on supporting self-management and adherence with medication regimes. Work is already underway with GlaxoSmithKline to explore areas of collaboration in relation to adherence and ‘home-care’ solutions for people on medication.

Figure 8.6: UCLPartners: developing a new tariff based on meaningful groupings of individuals

2. Define and measure the outcomes that matter most to patients, alongside costs

Central to the programme is the imperative to view care-needs from the individual’s perspective, encompassing the entirety of a person’s care-needs over time. This will lead to a model of care focused not on managing episodes of treatment or specific diseases, but on managing the health of meaningful groups of patients, genuinely focused on the individual. To this end, it is fundamental we work in partnerships with patients and our local populations to ensure they truly are at the centre of the work we do. We will achieve this by:

• Partnering with patient networks and voluntary sector organisations (e.g. Age UK) to better understand what matters most to different population groups. UCLPartners work in brain cancer with The Brain Tumour Charity (inspired by Samantha Dixon) and UCL researchers demonstrated the power of taking new approaches to understand what matters most to patients, to use this as the starting-point for defining how we will measure quality and then iteratively reorganising how care is delivered to improve performance. This will ensure initiatives are orientated around what ultimately matters most: patients’ needs and preferences in the context of their daily lives.
• Embedding patients’ perspectives and input throughout the programme through active engagement, and inclusion in both our project teams and governance models.

• Aligning with the Outcomes Framework and the Commissioning Board Mandate, including specifically a focus on the ‘experience of integrated care’, the degree to which people report ‘feeling supported to self-manage’ and the ‘quality of life for carers’.

• Working with partners to measure consistently a series of metrics that will allow for comparison and evaluation of progress towards increasing value for specific patient populations.

3. Develop enablers to support whole-system change

A far-reaching shift in the culture of our system and the broader public will be required for success. The system needs to support the transition from a focus on providers and institutions to a focus on patients and populations. UCLPartners is uniquely placed to enable this. Individual clinicians and staff need to shift from old habits to embrace new and innovative ways of delivering care. This is likely to challenge professional boundaries and encourage the emergence of a more multiskilled and flexible work-force. Patients and the public also have an important role to play: continuing efforts to encourage healthy behaviours and more proactive self-management will support the success of integrated care. Important enablers the programme will therefore include:

• Information sharing and IT: central to success is the timely access to robust information – for ongoing management of the system as a whole, for management of individual patients and for research and evaluation. We will work across UCLPartners to support and ensure that appropriate tools are in place and used. This will include support to facilitate the interoperability of systems to allow information to flow across settings and to collate information that reduces duplication, error and inefficiency. In addition, this programme will specifically test and implement initiatives that have been proven to be successful elsewhere, for example ‘Coordinate My care’, to ensure more immediate benefit for our patient populations.

• Funding mechanisms: we will develop and test new contracting models that encourage delivery of the full spectrum of chronic care – rather than reinforcing reliance on hospital-based care. This will be done in collaboration with CCGs and research teams.

• Education and Training: we will support and promote new models of education and training to enable multiprofessional programmes, and ensure the appropriate skills are in the right place for delivery of care. A key area will be patient education and supporting self-management.

Next steps

Our partners will work together in quarter 1 of 2013 to appoint formally the programme leadership (both clinical and operational), establish the governance arrangements, agree best practice models for roll-out, and co-develop more detailed implementation plans.
Programme objectives for 2016 and 2018

Specific metrics will be agreed in Q1 2013, and will include:

**Health and well-being objectives**

- Achieve health improvement and outcomes relevant to patients and populations we work with (e.g. mortality, morbidity, maintaining or improving functional state, patient experience measures).
- Improve quality of life, including:
  - Increase the extent to which the person feels able to live independently and do the things that matter to them;
  - Increase in the amount of control the person feels they have over their life and care package;
  - Improve quality of life for carers and increase the proportion of people feeling supported.
- Improve patients’ experience, including the proportion who feel all aspects of their care was coordinated and integrated.
- Increase the proportion of patients receiving active case management.
- Reduce the proportion of patients receiving active case management.
- Facilitate specification and reliability of implementation of integrated care.

**Value objectives**

- Reduce the number of unplanned admissions, length of stay and interactions with the health service where possible, and increase efficiency. Includes:
  - Decreasing the length and number of unscheduled hospital stays/A&E attendances (e.g. per year);
  - Increasing the number of days the person spends at their usual place of residence rather than in hospital (e.g. over a 6-month period);
  - Decreasing the extent to which patients have to ‘repeat their story’ when receiving care;
  - Creating true bottom-up costing of patient care in all settings to inform and support new funding mechanisms that incentivise reduced reliance on hospital-based care and support financial sustainability for the system.

**Wealth creation/working with industry objectives**

- Support three major industry collaborations partnerships, at least one of which focuses on self-management and medication adherence.
- Develop defined cohorts of complex patients to support future research and trial work.
- Increase employment of people with long-term conditions.

**Research objectives**

- Evaluate at least one large-scale service improvement initiative per annum.
- Work with *Improvement Science London* to create a model of evaluation that can be
applied to ongoing service improvements.

**Education objectives**

- Work with education providers to build multiprofessional education and training programmes that support the aim of the programme.
- Have established educational programmes that empower patients and enable shared decision-making to be the norm across the partnership.
Chapter 9: Measuring and Evaluating Performance

We will use measurement to ensure we deliver our core purpose as an AHSN. Measures will be co-created by those accountable for delivery and will drive continuous improvement in quality and value. Health and wealth improvements will be rigorously evaluated, specifically:

- Measures will be used to establish a results-orientated system, focusing energy on delivering the AHSN’s strategic priorities and on continuous improvement.

- Measures will play an important role in directing attention on areas which will have the most health and wealth impact (taking into account patient, population, clinical and health service perspectives, and contribution to gross domestic product).

- We will link measurement where possible to relevant internal and external benchmarks and focus on trends over time (e.g. variation within UCLPartners, comparison to national data and relevant leading international comparators).

To be of greatest benefit to patients and to have traction with clinicians, we will measure and improve a small number of quality metrics (the ‘vital few’) which capture what matters most to patients, at the level of each major disease state or pathway. UCLPartners has pioneered a three-part approach to measuring quality at system level spanning clinical outcomes, PROMS and PREMS across whole pathways. They highlight opportunities for systems not only to improve performance at each stage, but also to reduce disease progression. By pairing health improvement outcomes with resource use measurements, we will track value in care delivery and develop whole pathway ‘value scorecards’ for each of our five priority programmes, helping to maximise the outcomes delivered for patients per pound spent. We will also apply this measurement approach to ensure excellence in education in terms of both quality and value for money. Our goal is for 80% of organisations in the AHSN to perform in the top 10% across key indicators in the Education Outcomes Framework within 5 years. Finally, we have developed rigorous methods to produce rapid yet comprehensive evaluations that stand up to academic peer review. We will draw upon the considerable methodological expertise that exists within our Higher Education Institute partners. Each of these steps is discussed in further detail below.

9.1 Measuring and assuring performance across the AHSN

Measurement, for both assurance/performance management and for self-driven improvement is at the heart of any high-performing organisation and system. We will use measures to ensure we deliver our core purpose as an AHSN (see Figure 9.1). Measures will be co-created by those accountable for delivery and will drive continuous improvement in quality. Health and wealth improvements will be rigorously evaluated.
Specifically:

- Measures will be used to establish a results-orientated system, focusing energy on delivering the AHSN’s strategic priorities and on continuous improvement.

- Measures are being co-created in Programme teams with input from patients and advice from measurement experts, informed by best practice in measurement and in delivery internationally.

- The discussion which identifies the measures will play an important role in directing attention on areas which will have the most health and wealth impact (taking into account patient, population, clinical and health service perspectives, and contribution to GDP).

- We will link measurement where possible to relevant internal and external benchmarks and focus on trends over time (e.g. variation within UCLPartners, comparison to national data and relevant leading international comparators).

- Performance measures will be brought together to enable both our Partners and Programmes to deliver maximum performance, with appropriate accountability for agreed objectives.

Equal attention will be placed on generating wealth improvement measures and leadership focus on wealth creation measures will play a key part in driving culture change to embrace wealth creation. The measures chosen will, in the main, differ across programmes, since we are aiming to use measures tailored to the specific needs of each programme. However, it may be possible to identify some measures that can meaningfully span several programmes. We will measure success in our three principal activities: Programmes, Research and Education.

Oversight of delivery will occur through the UCLPartners Programme Board and reporting through the UCLPartners Executive.
To be of greatest benefit to patients and to have traction with clinicians, a small number of quality metrics (the ‘vital few’ measures) which capture what matters most to patients will be measured and improved at the level of each major disease state or pathway. UCLPartners has pioneered a three-part approach to measuring quality at system level spanning clinical outcomes, PROMS and PREMS across whole pathways. These pathways reflect the disease progression and the journeys patients follow. They are typically broadly defined, and may span lifestyle factors/primary prevention to rehabilitation/end-of-life care. They highlight opportunities for systems not only to improve performance at each stage, but also to reduce disease progression. The whole pathway approach encourages all professionals across a system to take accountability to address gaps in care.

Value represents useful outcomes delivered for patients per pound spent. By pairing health improvement outcomes with resource use measurements, we will track value in care delivery and develop whole pathway ‘value scorecards’, drawing on the model in use at Partners Healthcare, Boston. Here, key metrics for each pathway on both quality and resource use are routinely tracked and reported. These ‘score cards’ will be embedded in each of our five Integrated Programmes to focus attention on what matters most to populations and individual patients at each stage of disease progression and encourages joint accountability, focus and urgency around improvement.

UCLPartners has also successfully developed a community of interest in quality that is driving quality at a system level across the partnership: the UCLPartners Quality Forum. Quarterly forums have been hosted in rotation by partner organisations. From a group of around 20 mainly senior clinical leads from acute hospitals in 2010, the Forum now attracts attendance of nearly 100 participants, spanning all professions (clinical and other), seniorities (fellows and other trainees are particularly welcome) and organisations (participation now spans public health, general practice, mental health and commissioning). We are delighted that participants now also come from King’s and Imperial Health Partners. The Quality Forum chartered the UCLPartners Deteriorating Patient initiative, a collaborative across acute trusts aiming to halve the number of avoidable cardiac arrests happening on wards through more reliable care (see Box 9.1). We will continue to support our partners to evolve their quality improvement systems and encourage common adoption of scorecards across the partnership to drive quality.
Box 9.1: The UCLPartners Deteriorating Patient Initiative

Originally a collaboration of six trusts in NCL, this collaborative quality improvement initiative aiming to achieve a substantial reduction in cardiac arrests now includes 13 acute trusts across UCLPARTNERS, form Luton and Dunstable to Southend.

Resourcing: For its first year, the work had no specific resourcing, it built momentum from the energy and commitment of trust participants (mainly clinicians from outreach nursing and acute/ITU medicine and geriatrics). It is now resourced by an Improvement Advisor, a GP with a background in quality improvement and previous Darzi fellow. Vital expertise and infrastructure support comes from Great Ormond Street Hospital’s Transformation Team which has provided introductory quality improvement methodology training and collates data into monthly run charts for each trust.

Aim and Approach: The team set their own aim of reducing by 50% avoidable cardiac arrests in each trust vs initial baseline by focusing on a few key interventions and training ward staff in their reliable application. These are: 1. Reliable recording of vital signs; 2. Early identification of deterioration (timely referral); 3. Effective communication of deterioration (e.g. SBAR); 4. Escalation to higher level (timely response, timely transfer). More recently, 5. Appropriate use of DNR orders has been added.

Successes and challenges are shared at in-person learning sets every 2 months, which are hosted in rotation by participating trusts. These have a highly open and honest nature, with a commitment from all to learn from others and support others’ learning. We have been fortunate to have world-class educators in QI along to some of our learning sets, including Paul Convery (CMO Baylor Health, Texas) and Lloyd Provost (from API, Texas and senior advisor to IHI). Funding has been received from Health Foundation through their Building Effective Networks scheme to add a secure social network platform to deteriorating patient and Doc.com has been chosen. To date, 60% team members across trusts have signed up to the platform, which aims to create an effective virtual network to complement the in-person meetings.

Results: One trust has already have achieved a 50% reduction in 2011 vs 2010 arrest rates (and tied this to a CQUIN); two other trusts have seen a 35-45% reduction. The work has secured resource from the SHA to develop education modules, and funding from Health Foundation’s network development scheme. It has spun-off a parallel initiative focusing on the Deteriorating Child.

Education: Beyond specific QI skills, in 2013, trust leads will participate in the UCLPARTNERS Staff College Leadership Introductory Module, a programme to which builds high-performing, resilient teams with high degrees of trust and shared purpose.

Externalisation: The work has been presented at a number of national and international professional meetings, including the 2012 International Outreach conference in Sydney. In 2013, it will be presented at more meetings, including the BMJ/IHI International Forum on Quality and Safety and the NHS Patient Safety Congress.
Chapter 10: Governance and Leadership

Nested within the Academic Health Science Network (AHSN) will be Academic Health Science Centre (AHSC) functions, in line with our purpose to maximise delivery along the discovery-implementation continuum and embedding population-based feedback into further research and development objectives. The designated AHSN and AHSC functions will be overseen and delivered through one legal entity, UCLPartners. This is a social enterprise set up as an incorporated body limited by guarantee. UCLPartners will have a single Board and Executive.

Engaging partners, stakeholders, patients and the public across such a large network presents significant challenges and risks for UCLPartners. Our mitigation is, by necessity, an imaginative response, combining an extensive programme of face-to-face programme with virtual networks based on enterprise, social media and managed via a single stakeholder management database. The AHSN budget includes the investment required to facilitate and sustain involvement and engagement at all levels of the AHSN.

Governance and leadership accountabilities will be as follows (see Figure 10.1):

- UCLPartners will be led by an officer accountable (Managing Director; post holder Professor David Fish).

- An independent UCLPartners Board will provide oversight of strategy, delivery, ensure good governance, and act as custodian of values. It will be constituted with the skillsets required to oversee delivery of both the AHSC and AHSN functions.

- The UCLPartners Executive, chaired by the Managing Director, will define and approve strategy, provide leadership, allocate resources and ensure the strategic goals are delivered. The Executive has inclusion of all health-provider trust chief executive officers (CEOs) across the partnership, and appropriate senior university representation. The UCLPartners Clinical Commissioning Group (CCG) primary care forum will have direct access to the Executive and will be invited to send appropriate representation(s) once it is established across the new AHSN geography (see Chapter 2). Executive groups will lead delivery on education, research and our whole portfolio of programmes. As a programme reaches critical mass (as already achieved for London Cancer) focused, skill-based Integrated Programme Boards accountable to the UCLPartners Executive will be formed following our priorities for AHSN implementation.

- An Advisory Council will represent the views of the full range of stakeholders and members of the AHSN, and a UK plc Group will help drive the wealth creation agenda.

There are three important operational clarifications:

1. Our programmes of work are developed through a detailed co-creation process that engages fully with primary care and CCGs across the whole partnership to ensure alignment at every level.
2. Where there is a specific task requiring leadership by a nominated CEO on behalf of the group, this is agreed at the Executive – for example, specific CEOs have led/lead on: developing cancer governance and the informatics strategy on behalf of the whole partnership.

3. As part of our model the core company staff are independent direct employees of the partnership. Critically, this includes the Chair (who chairs the Board), Managing Director (who chairs the Executive), Chief Operating Officer and Finance Director. The company staff work overtly and equally for all partners.

Figure 10.1: Summary of UCLPartners governance

* London Cancer Board is an example of an integrated programme

CRN, Clinical Research Network; LETB, Local Education and Training Board; MDEC, Medical and Dental Educational Commissioning System

It should be noted that representatives from the Anglia Ruskin Health Partnership (established as an independent company) will sit on the UCLPartners Executive, and the Anglia Ruskin Health Partnership Board will provide a mechanism to lead delivery of AHSN programmes in South, West and Mid Essex.
Anglia Ruskin has developed a local partnership of four hospitals in the region, a provider of mental health and community services, and Anglia Ruskin University. This partnership will address the local health priorities of Essex, and contribute to and benefit from UCLPartners AHSN Programmes.

An additional connection to note is that the LETB will share a common Advisory Council with our AHSN. We have sought affiliation with the East of England LETB (for South and West Hertfordshire and South Bedfordshire and Essex) to ensure that we maintain alignment pending formal boundary changes to align with the Eastern and UCLPartners AHSNs. We continue to develop strong relationships with the Clinical Research Networks (CRNs) in London (North East London, North Central London) and Essex and Hertfordshire, and our three Biomedical Research Centres (BRCs). Two BRUs are represented on the UCLPartners Research Board. We will model partnership behaviour working with the other AHSNs in London (and with Improvement Science London), and nationally with all AHSNs (e.g. we look forward to being active leaders in the Forum, the network of AHSNs which the NHS Confederation is working to establish on behalf of the AHSNs collectively).

We realise the crucial importance and progress already made by NIHR structures (Biomedical Research Centres and Units, Collaboration for Leadership in Applied Health Research and Care, Comprehensive Local Research Networks, etc.) in driving forwards the research agendas. NIHR and the emerging AHSNs will need to work together to determine how to deliver on mutual objectives. To maximise outputs, we believe good governance with clear lines of accountability are crucial. This will not be ‘one size fits all’, but is likely to vary according to what each structure is trying to achieve. Where a single organisation (e.g. one National Health Service trust) is predominantly able to deliver the research benefit, it makes the most sense for that organisation to hold the contract with the National Institute for Health Research. Where delivery requires a system wide response – for example, delivery of recruitment of patients to trials throughout a population across an AHSN served by all its partners – we believe the contract should sit with the AHSN (if a legal entity) rather than with one of the partners. An individual partner Board that does not the have means to ensure delivery may in those circumstances act more as a ‘post-master’ than a truly accountable organisation. Setting up another formal network parallel to the AHSN covering the same geography would increase costs and dilute delivery.

UCLPartners already has the governance arrangements in place for delivery where this requires multiple partners to engage. The UCLPartners executive is well constituted to achieve this – allowing peer pressure and mutual holding to account between CEOs of partner organisations, and thence the managing director to the Board. Furthermore, UCLPartners is the established legal entity to hold such contracts, and has experience of doing so through, for example, being the contracted lead provider for medical and dental education across the partnership.

Information Governance and consent are vital to enable the changes, whilst providing appropriate safeguards for the patient and their data. We will work with our partner trusts, the outcomes of the upcoming review by Dame Fiona Caldicott and London Connect, who are responsible to the London Health Improvement Board to establish best practice in this area across London.
Risk management has been integral to UCLPartners since its inception as a new company in 2009. The Board of UCLPartners has received and reviewed regular detailed risk management assessments throughout the past 3 years, and these have been available to share with partner audit committees openly. The nature of the risks has evolved with the development of the company and the scope and scale of our activities. This will continue with the AHSN process, and the Board will continue to receive and review the full risk register regularly.

Finally, particular attention will be paid to research governance: the AHSN commits to achieving the highest standards of proportionate risk governance procedures, standards that capture efficiency and timeliness, as well as safety research quality measures.
Chapter 11: Financial plan

UCLPartners task is to maximise the value delivered and wealth generated across the Network. It is our partners and affiliated organisations (clinical commissioners, providers, Local Education and Training Boards [LETBs], Biomedical Research Centres, Clinical Research Networks and Higher Education Institutions) – not UCLPartners directly – who hold the budgets in the order of several billions of pounds for delivering clinical care, undertaking research and educating the work-force. UCLPartners aims to enable these organisations to increase return on the investments they make and generate more value from the system. The Academic Health Science Network (AHSN) core budget will represent substantially less than 0.1% of the total budget deployed by the National Health Service (NHS) in our geography – yet the impact delivered will be disproportionate because the principle of the AHSN is to pump prime and selective resourcing to catalyse change at scale. In this way, UCLPartners is a catalyst for change whose turnover and size will only ever be a very small fraction of our partners.

11.1 Human resource model

UCLPartners’ major financial investment will be made in people. We will maintain a lean core team, no more than 50 full-time equivalents, to drive collaboration, delivery and governance. Clinical leadership will be provided by members of the partnership whose time will be reimbursed to enable backfill to ensure their institutional commitments are maintained. Operational delivery of projects will be driven by our partners, through full-time UCLPartners Fellows working on development, implementation and evaluation. The Fellowship programme will provide a cohort of future clinical and managerial leaders.

We have already made substantial progress in recruiting and developing senior staff to fulfil many of these leadership roles through our work as an AHSC since 2009 (see Appendix 3). Funds are needed to complete recruitment of the core leadership team before the start of the next NHS financial year. This will allow us to make rapid progress following designation as an AHSN and provide future resilience.

11.2 Funding the AHSN priorities

UCLPartners is bidding for funding to create the capacity and capability to deliver this prospectus. An annual budget, as set out below, of circa £11 million is needed to deliver the AHSN priorities on an ongoing basis. Whilst this budget has been summarised for the Prospectus, the figures are based on a detailed bottom-up costing model, which we will be happy to share at the earliest opportunity.
Table 11.1: AHSN financial plan

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<td>7,513</td>
<td>1,767</td>
<td>2,000</td>
</tr>
</tbody>
</table>

Notes
1. The bursaries relate to Innovation: Communities in Practice and Innovation solutions; and for Informatics - pump-priming integrated programmes and development of integrated systems
2. Integrated cancer is currently funded by UCLPartners Ltd, non-recurrent costs due to the expanded geography will be funded from the additional priority programmes implementation phasing.
3. Overheads include facilities and corporate services such as IT, Finance, Calidcott guardian and HR support.

Janet Pressland FCA
Director of Finance
UCLPartners Limited

The investment from the Department of Health (DoH) in the AHSN will be matched with £5.2 million investment from partner contributions, commissioner funds, education funds and innovation grants. The AHSN budget assumes these income streams continue and that efficiencies will arise from bringing AHCS and AHSN funds together. Noted below is a brief analysis of UCLPartners current funding streams:

- Partnership contributions: £1.2 m (2013–14 – £1.5 m)
- Commissioner funds: £2.5 m
- Education funds as lead provider: £1.1 m

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10Cancer programme is currently funded from NHS East London and City, a primary care trust and the cardiovascular programme has been supported through some pump-priming funds from NHS London
The contribution model is fundamental to the future success of the partnership because it positions UCLPartners as a service provider to its partners, which is critical. Contributors have a seat at the UCLPartners Executive, and can therefore directly shape strategy and govern delivery from that body.

We will act as a service provider to commissioners, who will be able to allocate funds to UCLPartners as a provider offering a unique delivery capability, and the LETB will govern funding allocated to UCLPartners as a provider.

### 11.3 UCLPartners expenditure

Given that UCLPartners will deliver AHSC and AHSN objectives, the UCLPartners board will govern the strategic focus and investment level to deliver both AHSN and AHSC priorities.

Resources will be deployed to deliver our strategic priorities in the following key areas:

- Creating an enabling environment – stakeholder management, communications and communities of practice, patient engagement
- Innovation and diffusion – innovation bursaries and delivering National Institute for Health and Clinical Excellence (NICE) guidelines
- Integrated programmes – full-scale programmes leadership and fellowship programme to support delivery
- Research – late phase research and development (R&D) delivery and education
- Education delivery – provider role
- Informatics – information technology (IT) inter-operability platform and informatics as a medium for change
- Quality and evaluation - quality and evaluation fellows
- Governance and leadership

### 11.4 Budget allocation timing

The AHSN budget will be allocated in the first quarter of 2013. UCLPartners has the governance infrastructure and capability to deliver in the fourth quarter of 2012. The London Strategic Health Authority has invested enabling funds to establish an Integrated Cardiovascular Programme. We are looking to secure mobilisation funding in quarter 4 2012 to accelerate delivery and ensure implementation of high impact innovations and NICE guidance in 2013/14, by building infrastructure in the following areas:

- Stakeholder and relationship management system
- Core support staff for delivery of NICE guidance
- R&D late-phase delivery (roll-out research, single sign-off project and partnership feasibility database)
- IT/informatics initiative start-up costs
- Office facilities and governance systems
- Accelerating the set-up of three Integrated Programmes.

<table>
<thead>
<tr>
<th>Innovation grants</th>
<th>£0.4 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>£5.2 m</td>
</tr>
</tbody>
</table>
Appendix 1: Programme Enablers

UCLPartners approach:

- **Patient-led**: organising care around patients’ needs and preferences, involving them throughout. Empowering patients to take greater responsibility for their care.

- **Population-focused**: taking a system-wide view to drive improved health outcomes at speed and scale.

- **Cross-boundary**: integrating community, primary, secondary and tertiary care, social care, the third sector, industry, and academia.

- **Best value**: delivering best value for the taxpayer, collaborating with industry to encourage inward investment, increasing participation in research and enabling access to new technologies that deliver improved outcomes.

- **Evaluation and diffusion**: We will learn from other AHSN, evaluate our own outcomes and support other AHSNs, who express interest, to spread the adoption of proven innovation.

- We will deliver our strategic priorities through ‘Programmes’ supported by ‘Enablers’. The enablers will also support our partners to deliver their strategic objectives.

Integrated programme delivery

UCLPartners will build a core infrastructure to deliver major programmes at scale, building on the operating model that has been established for *London Cancer*. At any point in time there will be up to five programmes at scale: Cardiovascular Prevention (scaled up Q4 2012), Mental Health (scaled up Q1 2013) and Co-Morbidities (scaled up Q2 2012), and A Life Course Programme for Women, Children and Adolescents (scaled up Q3, 2012).

The core infrastructure supporting delivery for each Full Scale programme will include:

- **Non-executive board**: providing senior leadership to drive change, chaired by a globally respected leader, with skill-based representation capable of connecting with key stakeholders and leading change.

- **Chief clinical officer**: essentially full time clinical lead with expertise and the capability to engage the population we serve, and the clinical and academic community (for example equivalent to a ‘Medical Director’ where the clinician is a doctor).
The Chief Clinical Officer will lead a team as follows:

- **Senior clinicians & academics** (at least two PAs per week): to design a world-class system for prevention and treatment. The CMO will be accountable to the Board for the design and delivery of the programme. Each member of the design and delivery team will be accountable for leading a work-stream within the programme.

- **Programme Director/Fellow**: with a track record in delivery will be accountable for day-to-day delivery, leading an operations team who will be assigned to lead each project within the programme.

- **Project Fellows/Managers**: each work-stream will be led by a project manager who will provide the capacity to do the work and the project management skills to drive delivery. Core skills will include scoping, tracking progress, risks, issues and interdependencies.

Expert skills from the ‘UCLPartners Programme Toolkit’ will be deployed when needed (see below).

**Programme Delivery**

UCLPartners will manage a maximum of 10 further programmes with more focused objectives. The core infrastructure supporting delivery for each programme will include:

- **Programme Leader** (at least 2PAs, depending upon scale of the programme), a clinical expert with strong content expertise and a demonstrated ability to lead significant change.

- **Programme Manager or Fellow(s)**, providing operational support to the programme. This role will be established as a one-year rotational development role designed to create clinical and management leaders for the future. Fellows will be high potential, high-energy deliverers, who have been identified as key talent. The fellowship programme will provide an outstanding opportunity to work closely with a clinical leader and develop a broad range of expert skills.

- **Expert capability will be deployed to programmes** through coaching the Fellows or embedding senior experts when needed (see below).

**Programme Portfolio Management**

An Annual Portfolio Review will take place (starting Q1 2013) to ensure resources are deployed where the potential for delivery is greatest. Programmes will move through phases of diagnosis, set up, design and implementation; the ultimate goal is to close a programme, leaving change embedded in the system as routine ways-of-working. The Portfolio Review will be competitive – it is possible that a Programme would be closed either because of successful delivery or because insufficient progress is made versus agreed milestones. A **Programme Portfolio Director** will run the portfolio review process, and support the programmes by coaching and mentoring a team of Programme Managers. Fellows will join UCLPartners on a rotational fellowship programme designed to attract and develop key talent. The Fellows will work with Programme Leaders to enable delivery at pace, embed robust processes for tracking performance and manage interdependencies. The Programme Portfolio Director will report performance to the **Programme Board** enabling the Programme Board to exit or start new
Programmes and to deploy expert resource to areas of priority. The Programme Portfolio Director will also report performance to the Executive and Board.

**Programme Enablers**

Each programme will be delivered through a dynamic UCLPartners process involving four main phases. The phases are not sequential – activity can take place within each phase simultaneously. The process starts with a deep understanding of the patient and population need, and delivery requires local ownership and relationships to be established through: a rational and emotive case for change, strong leadership, widespread participation in development and testing, robust and meaningful evaluation and consideration from the outset of diffusion.

Figure A1: Dynamic process involving four main phases

Our AHSN will draw on Behaviour Change theories and the NHS Change Model to determine which interventions will enable delivery within each programme. Support to each Programme will be systematically targeted to ensure the bespoke needs of the Programme are addressed throughout implementation, and to ensure change is delivered sustainability and diffused across the system.

A broad range of support is available to Programmes from within ‘UCLPartners Programme Toolkit’. Engagement and Communication are perhaps the bedrock of the Toolkit, which also includes nine other elements. Below Engagement and Communication are set out in detail, followed by an overview of each of the other elements:

1. **Engagement and communication**: UCLPartners AHSN will host a specialist communications team, equipped with expertise including stakeholder management, and publicising and popularising appropriately the content and achievement of our work for varying audiences. Our corporate approach will include exploiting multimedia and digital communications channels through tailored messaging (developing ‘UCLPartnersTV’ to showcase success and progress toward our aims in visual formats), high-quality event management that supports national and international learning, and using infographics and innovative methods to describe and illustrate the work of the AHSN. This will be underpinned by an improved web and social media infrastructure, as well as a sophisticated electronic
solution for maintaining relationships with our community and making every contact count with partners.

Some examples of innovative approaches taken at UCLPartners include the Londoncancer.org website, which already links up cancer professionals across London Cancer, and on 29th November will go live with personalised content for patients and the public, linking detailed local information about cancer care with the aims of the Integrated Cancer System and video content from local clinical leaders. The site will seek patient feedback, and sign-post to existing cancer fora and established charity partners. London Cancer has also begun using video submissions for grant funding. In the Deteriorating Patient initiative, UCLPartners has used a secure web platform to develop virtual e-networks to support those involved in improvement effort across a wide geography. Designing and nurturing such online communities will be vital part of creating and maintaining a network or team-working and peer learning in the AHSN.

UCLPartners also has the opportunity, through new collaborative partnerships and closer working with HEIs to establish a new relationship with journalists and media partners. We see our role in Communications (e.g. popularisation of research and academic effort, generating new and relevant digital content, interpersonal communications, social networks, influencing externally) as a responsibility to increase awareness of the transitional pathway and enable improvement in health literacy and behaviour change at a population level.

As an AHSN in development, UCLPartners will gain insight from an extensive audit of our current profile amongst our partners, as well as learning from how their communications needs and aspirations for their staff and patients can be met. The central importance of UCLPartners’ co-design approach to programmes will not only be vital in ensuring the right health improvement and wealth creation objectives are prioritised, but will establish our commitment to broad communications and engagement about our intentions and delivery. Communication, messaging, sharing of knowledge and best practice, making connections and sustaining relationships are all fundamental to the success of the AHSN. The expertise available to Programmes and the AHSN will include stakeholder mapping and management, network analysis and strengthening connections, multimedia communications channels and tailored messaging, event management and facilitation, and showcasing best practice. Each Programme will be supported with, for example, creating and communicating through multimedia channels an engaging ‘Case for Change’, mapping the broad membership for their Programme and engaging effectively, ensuring learning and outcomes are effectively and transparently presented and shared. Communication expertise (e.g. interpersonal communications, social networks, influence) will also be used to enable improvement in health literacy and behaviour change at a population level.

Engagement in the first ‘100 days’: in our first ‘100 days’ following AHSN designation (which we hope will be 1 April 2013), UCLPartners will build on the engagement work underway within specific programmes and clinical networks (as described in detail in Chapter 2) to support each Programme to create and communicate its ‘Case for Change’, mapping the broad membership for their Programme, accessing specialist communications advice for engaging most appropriately, ensuring learning and outcomes are effectively and transparently presented and shared. From the start, UCLPartners will be
an active force in collaboration across AHSNs, to learn from each other and develop a broader network for innovation and learning within specific themes. This will take the form of formal communications routes (for example the Forum, currently being scoped by the NHS Confederation as a network of AHSNs), but also a reaching out less formally from each of our communities within the Integrated Programmes to colleagues with similar challenges across the country. Having the advantage of bringing together an existing AHSC with the extended committed community of the AHSN, UCLPartners will use engagement events and media to reflect on its achievements and strengths since 2009 and frame the core message of how the AHSN will add value for local people from 2013 (see Appendix 2 for an overview of engagement events from April 2012 to year end). The UCLPartners AHSN connects to around 100,000 health researchers and healthcare professionals serving 6 million patients and population, and a major launch programme for the AHSN will be designed to reach as many within the Network as possible, supported by ongoing mechanisms for feedback and contributions to our work that will make meaningful and useful dialogue across UCLPartners a reality.

The other nine elements of the toolkit are as follows:

2. **Benchmarking and horizon scanning**: In alignment with UCLPartners AHSN’s commitment to adoption and diffusion where solutions already exist, benchmarking and horizon scanning is an essential component of the AHSN. Each Programme will tap in to existing knowledge exchange networks, portals (e.g. NHS Evidence) and access support from Improvement Science London to identify existing best practice, innovation and performance - locally, nationally and internationally. This will include literature reviews, evidence-scanning and synthesis and searching for innovative practices.

3. **Stimulating ideas**: Creative, sustainable and scalable solutions are best developed through a co-design process that involves a diverse community of participants – patients, carers, academic experts and practitioners. Where solutions do not already exist, programmes will be supported in: engaging a wider range of members within a community of interest; stimulating and co-creating new solutions; selecting and prioritising solutions for testing, and; ensuring sustainability and diffusion strategies are co-designed from the outset of new ideas being generated.

4. **Implementation**: UCLPartners AHSN brings together significant theoretical and practical implementation science expertise, which will be drawn upon to provide targeted support to our Programmes. Implementation plans will be developed following a comprehensive analysis of the enablers and barriers to change at the programme-, organisational- and system levels. Utilising ‘Implementation Science’ frameworks (e.g. The Behavioural Change Wheel), Project and Programme Management skills, Programmes will be supported to co-develop bespoke implementation plans with clear deliverables.

5. **Testing and Prototyping**: UCLPartners success in implementation has been through an adaptive approach to implementation – listening real time to those delivering the change, carefully monitoring delivery, supporting adaption to address barriers and embed improvements. Therefore, Programmes will have access to a broad range of expertise to enable flexibility in implementation covering quality
improvement (process-mapping, scenario modelling, pathway redesign, and process re-engineering - Lean and PDSA techniques and associated analytics), rapid prototyping, adoption and adaption.

6. Measurement: UCLPartners has developed a unique approach to measurement, which not only tracks performance but also enables widespread engagement and delivery - through peer support and accountability. The three elements to measurement are: programme milestones; process improvement measures; and improvement outcome measures (including lead indicators and outcome measures). Programmes will be supported to co-produce quality (outcome measures, PROMs, PREMs, etc.) and cost metrics, which incorporate a whole pathway and population – from disease prevalence to end of life care. Programmes will be supported to co-develop value scorecards which will form consistent measurement evaluation across the partnership, and cost current and proposed operating models to drive savings and value improvement.

7. Education and Training Interventions: Those leading and managing Programme implementation will be supported to develop core capabilities and leadership skills. In addition, education and training initiatives will form part of Programme implementation plans. Programmes will therefore be supported to co-design bespoke Education and Training packages for Programmes delivery. These will include training for patients and carers in self-management, staff training in new skills to enable implementation of NICE guidance, and the development of new roles within the work-force.

8. Informatics and E-Health: As detailed in Section 6.2 technologies will be deployed to support programme delivery. This will include: tools for monitoring progress, tools for providing public and patient facing information, digital communications, and assistive technologies. A common platform to enable IT systems to share data across the partnership will be created, enabling individual IT solutions to thrive and data to be shared. Investment into the Centre for Health Service and Academic Partnership in Translational E-Health Research (CHAPTER) will be aligned to support UCLPartners Programmes.

9. Evaluation: Evaluation is fundamental for determining programme impact, creating a case for diffusion, and also in understanding ‘how’ and ‘why’ improvements in quality and cost occur. As detailed Programmes will have access to experts across a range of evaluation methodologies and approaches including: audit, health economics evaluation and the application of improvement science methodologies at both smaller/pragmatic and larger/more academically robust scale, and the researcher-in-residence resource.

10. Knowledge transfer, learning and diffusion: UCLPartners has a core commitment to codifying and transferring generated knowledge locally, nationally and internationally. This commitment will be embedded in all our work by providing Programmes with support in: (1) codifying and disseminating knowledge (e.g. publishing findings in peer reviewed journals, utilising communications expertise in messaging and multichannel communications), and (2) in developing diffusion strategies from programme conception (e.g. aligning system incentives, creating communities of practice, utilising social movements approaches, and creating opportunities for patient - and professional - pull).
Each Programme will be supported throughout delivery by participation in a series of ‘ideas labs’. These ‘labs’ will bring together a range of experts to coach and support programme delivery and to monitor progress. The expertise provided through these ‘labs’ cover (1) theories of change (2) the delivery toolkit.

In addition to the ‘labs’, there will be a continuous series of training seminars run to build capability around the ‘delivery toolkit’ for programme teams (including, Programme leads and Fellows) and other interested AHSN members to ensure the requisite capability is built and embedded.
## High Impact Innovation Targets

<table>
<thead>
<tr>
<th>Programme</th>
<th>Year 1 delivery focus:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cancer</strong></td>
<td>Fluid Management: Partner hospitals have pioneered use of intra-operative Fluid Management as core part of Enhanced Recovery Programme in colorectal cancer and other surgery. This allows patients to recover faster, receive post-op anticancer treatment earlier (for better outcomes) and to have a faster return to work/normal life. London Cancer pathway boards will ensure that patients across the ICS benefit from enhanced recovery pathways, with a system in place to capture this information during 2012/14.</td>
</tr>
<tr>
<td></td>
<td>Assistive Technology: Pilot use of the new e-Holistic Needs Assessment tool in at least two tumour types.</td>
</tr>
<tr>
<td></td>
<td>Digital by default: Introduction electronic end of treatment summaries accessible to primary care and patients for enhanced self management and community follow up, reducing need for unnecessary hospital visits.</td>
</tr>
<tr>
<td><strong>Cardiovascular</strong></td>
<td>Assistive Technology: Development a platform to test in Camden to cardiovascular risk profile the population using Joint British Societies III lifetime risk calculator to enhance risk profiling and target earlier and more effective disease prevention strategies at higher risk populations to improve outcomes.</td>
</tr>
<tr>
<td></td>
<td>Assistive Technology: Locally determined priority -will cross ehealth, assistive technologies and commercial: Root cause analysis of premature heart attack and stroke to identify system failures and implement improvements in the earlier detection and care pathways.</td>
</tr>
<tr>
<td><strong>Mental Health</strong></td>
<td>Support for Carers of People with Dementia: Project to drive collaboration with local authorities to implement support for carer’s of patients with dementia.</td>
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<tr>
<td></td>
<td>Assistive Technology: Development and implementation of patient owned database (POD) for use in psychological therapies - eplatform that enables patients and therapists to assess remotely their psychological therapy outcomes.</td>
</tr>
<tr>
<td><strong>Life Course</strong></td>
<td>Assistive technology: Undertake more effective systematic screening and treatment for specific risk factors for stroke i.e. BP and AF using community monitoring devices.</td>
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<tr>
<td></td>
<td>Assistive technology: Evaluation led by Population Health.</td>
</tr>
<tr>
<td><strong>ENT</strong></td>
<td>Commercial and international: Stem cell based airway replacements: we will perform the world’s first phase I/II clinical trial of a stem-cell based tissue engineered hollow organ replacement (airway), commencing in 2013 with projected 2M/MRC support. If successful, this paves the way for the stepwise replacement of conventional organ transplantation with personalised treatments without the need for toxic immunosuppressants.</td>
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<tr>
<td></td>
<td>Commercial and international: Small molecule therapy for noise induced hearing loss: we are working with GSK spinoff Atryphon who are based with the Ear Institute. We will run a phase I clinical trial of a new small molecule treatment designed to prevent noise-induced hearing loss, one of the commonest causes of acquired deafness in the world. Every company with high noise environments and all armed forces represent the potential market, which is thus potentially a billion pound business if successful.</td>
</tr>
<tr>
<td><strong>Eyes</strong></td>
<td>Assistive Technology: Development and implementation of novel innovation developed from Eye and Vision examination from UK Biobank project (120,000 examinations/imaging) shortening 1.5 hour process to 11 minute examination now in process of application to local UCLP project also involving Professor Naomi Fulop.</td>
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<tr>
<td></td>
<td>Assistive Technology: Digital by default: Further development of Innovative Open Eyes system to incorporate research consents as basis for improving trial recruitment for Eyes and Vision in UCLP AHSC area and ultimately proposed UCLP AHSC area.</td>
</tr>
<tr>
<td></td>
<td>Digital by default: Develop Open Eyes as platform for National rare diseases platforms including NIHR Bioresource and international studies to improve care of rare diseases e.g. childhood plaurma.</td>
</tr>
<tr>
<td><strong>Immunology &amp; Transplant</strong></td>
<td>Fluid Management: Personalised optimisation of fluid management in renal transplant recipients to enhance early graft function and recovery.</td>
</tr>
<tr>
<td><strong>Infection</strong></td>
<td>Digital by default: eHealth linkage: Establish routine genetic fingerprinting of viruses (MV, HCV, influenza, norovirus-year one) and key bacterial species (year 3) across diagnostic laboratories (ICONIC), linked to e health records (CHAPTER).</td>
</tr>
<tr>
<td><strong>GI &amp; Hepatology</strong></td>
<td>Assistive technology: iConsult: a patient centered project to access patients and GPs by computer and webcam (no parking or travel) particularly in the preliminary phases of the diagnostic work-up with the intent to have time to diagnostic/treatment; patients will be seen by specialists with results and solutions.</td>
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<tr>
<td></td>
<td>Assistive technology: Provision of contact and of hardware to access GP practices/patients directly to deliver telepresence of GP and liver specialists using mobile devices, and interaction with industrial partners to deliver high definition, secure telepresence on any static or mobile device with few bandwidth issues.</td>
</tr>
<tr>
<td><strong>Neuroscience</strong></td>
<td>Assistive technology: Telemedicine (neuroresponse) for MS will be rolled-out across UCLPartners.</td>
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<td></td>
<td>Assistive technology: Launch of ‘Hopset’ to assist clinicians delivery of care.</td>
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<tr>
<td></td>
<td>Dementia care: Development of whole pathway outcome measures in dementia and other long term neurological conditions.</td>
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</tbody>
</table>

### Evaluation led by Population Health

- **Evaluation of NHS London’s 2012 Olympic/Paralympic Programme:** By May 2013, we will produce recommendations on (i) Mass gatherings health planning, including planning assumptions, organisation and management, maintenance of business-as-usual, public health and legacy. We are collaborating with the WHO and the next host city, Rio de Janeiro, to maximise the impact of our results (ii) NHS gains and lessons: including new relationships with the private sector, local government and primary care. Our findings will reinforce knowledge transfer, ensuring that system improvements are maintained in future (iii) Evaluation methodology: traditional methods for evaluation of a complex intervention or organisational change needed to be adapted to allow production of timely but methodologically rigorous outputs. The London 2012 evaluation included the involvement of public health as part of the legacy programmes for cardiovascular and mental health patients.

- **Evaluation of ODM:** Surgical Outcomes Research Centre (SOCRaT): detailed risk adjusted surgical outcome data are currently collected at two sites (Whittington Hospital and UCLH) in patients undergoing major non-cardiac surgery. These data are being used to (a) evaluate impact of major change in health service delivery (Working Time Directive) on patient safety; (b) measure surgical outcomes and (c) predict risk of adverse outcomes. This is an example of a clinical data set (including validated measures of clinical risk prior to major surgery and socio-demographic data to allow patient stratification) which has been successfully established in two Trusts and which could, with appropriate resources, be rolled out across UCLP AHSN to allow monitoring of established practice, evaluation of new interventions & widespread implementation of best practice/quality standards, use in feedback, score cards to reduce variations in outcomes, LOS etc. - assessing the use and impact of individual interventions such as ODM.
<table>
<thead>
<tr>
<th>Programme</th>
<th>Year 1 delivery focus:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cancer</strong></td>
<td>Multiple Collaboration: Collaboration with Pharm. To be developed in Q4.</td>
</tr>
<tr>
<td></td>
<td>Collaboration with Pharma: Expand number of industry partners for commercially sponsored/supported paediatric early phase trials by accelerating recruitment across GOSH and UCLH/other TYA designated centres; to bring at least two new biologically targeted therapies for brain and solid tumours and leukemias in young people into the AHSN.</td>
</tr>
<tr>
<td></td>
<td>Collaboration with Pharma: Joint working agreement with Roche providing an embedded project manager within London Cancer to improve measurement of patient experience and its use in whole system improvement. Further big Pharma projects supporting improvements in patient pathway navigation and experience in development for delivery in 2013.</td>
</tr>
<tr>
<td><strong>Cardiovascular</strong></td>
<td>Working with SME: Deploy in house assisted development of novel virtual ABPM system to confirm diagnosis of hypertension as specified in NICE CG127 in collaboration with a small SME that has established a London based office for this purpose.</td>
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<tr>
<td></td>
<td>Collaborations with Finance Sector: Working with SME: EU FP7 funded first-in-woman trial of treatment of fetal growth restriction through local gene therapy in collaboration with pharma company Ark Therapeutics Group PLC and other SME (phase IIa study in 2.5 years; PI Anna David).</td>
</tr>
<tr>
<td></td>
<td>Working with SME: EU FP7 funded study of biomarkers for early detection and prediction of therapeutic outcome in breast and ovarian cancer in collaboration with GATC-Biotech and Genedata (PI Martin Widschwendter).</td>
</tr>
<tr>
<td></td>
<td>To be developed in Q4.</td>
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<tr>
<td><strong>Mental Health</strong></td>
<td>Collaboration with Pharma to implement NICE F1 guidance on promotion of well being at work.</td>
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<tr>
<td></td>
<td>Collaboration with Pharma: 3rd sector &amp; local authorities to implement NICE guidelines on looked after children.</td>
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<tr>
<td><strong>Life Course</strong></td>
<td>Working with SME: Phone app (Buddy) for management of high risk pregnant women and integration of post-natal care in general practice. Development of business case and shared IP.</td>
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<td></td>
<td>Working with SME: EU FP7 funded trial of treatment of frailty in elderly people in order to determine if frailty can be interrupted.</td>
</tr>
<tr>
<td></td>
<td>Working with SME: EU FP7 funded study of biomarkers for early detection and prediction of therapeutic outcome in breast and ovarian cancer in collaboration with GATC-Biotech and Genedata (PI Martin Widschwendter).</td>
</tr>
<tr>
<td><strong>Co-Morbidities</strong></td>
<td>To be developed in Q4.</td>
</tr>
<tr>
<td><strong>ENT</strong></td>
<td>Intellectual property: Autifony trial of new small molecule for noise-induced hearing loss (5 years).</td>
</tr>
<tr>
<td></td>
<td>Intellectual property: stem cell based organ replacement. IP around such products is relatively limited, but income to UK from ‘medical tourism’ would be millions per annum ($10-20 million), whilst increase in life span and reduced healthcare needs for transplant patients through reduction of immunosuppression would be 10’s of millions per annum (10-20 years).</td>
</tr>
<tr>
<td></td>
<td>Collaboration with Pharma: We also seek to attract at least one further commercial ENT trial per annum, with target income of &gt;100k per annum. Early targets are drugs and devices for rhinosinusitis, the commonest chronic illness in the UK.</td>
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<td></td>
<td>Collaboration with Pharma: Clinical Trial of first UK sponsored stem cell therapy with Pfizer for retinal disease.</td>
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<td></td>
<td>Working with SME: Continued development of devices innovation initiative and application for national devices development centre for Eyes and Vision.</td>
</tr>
<tr>
<td><strong>Immunology</strong></td>
<td>Collaboration with Pharma: Genentech sponsored trial: Prevention of CMV infection in renal transplantation. Seronegative renal transplant recipients with a seropositive donor will be randomised to receive an infusion of monoclonal antibodies against CMV or a placebo to determine if transmission of virus can be interrupted.</td>
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<td></td>
<td>Working with SME: SMA sponsored Phase II trial to develop immune cell therapy as commercial product.</td>
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<tr>
<td></td>
<td>Working with SME: Joint project with SME on developing chemokine receptor antagonists as treatment option of ovarian and renal cancer.</td>
</tr>
<tr>
<td></td>
<td>Collaboration with Pharma: Large scale whole genome screening of patients with Rare Diseases including immune defects (NIHR Rare Disease Bioresource Project).</td>
</tr>
<tr>
<td></td>
<td>Collaboration with Pharma: First in man gene therapy trial in leukaemia and other cancers. Project with SME to develop immune cell therapy as commercial product.</td>
</tr>
<tr>
<td><strong>Infection</strong></td>
<td>Collaboration with Pharma: UCfP Bacterial and Viral Biobank- as resource for novel-diagnostic development. Aim to become NIHR Centre for infection Diagnostic Evaluation.</td>
</tr>
<tr>
<td></td>
<td>Collaboration with Pharma: Bloomsbury institute for Pathogen Research established “open lab” model for hosting drug development industries.</td>
</tr>
<tr>
<td><strong>GI &amp; Hepatology</strong></td>
<td>Health improvement: Identification and treatment of high risk alcohol consumers through AE and GI practice patient questionnaires.</td>
</tr>
<tr>
<td></td>
<td>Health improvement: Screening and follow up: treatment of fatty liver, institution of hepatosteatosis clinics.</td>
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<tr>
<td></td>
<td>MedTech: Continued development of Stents to treat upper GI bleeding.</td>
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<tr>
<td><strong>Neuroscience</strong></td>
<td>Collaboration with Pharma: Developing partnership with Eisai in neurodegeneration.</td>
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<td>Collaboration with Pharma: Working with GSK and IMANOVA in PET studies in M5.</td>
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<td>Collaboration with Pharma: of Leonard Wolfson Experimental Neurology Centre in 2013 – will have involvement of multiple industrial partners.</td>
</tr>
<tr>
<td><strong>Evaluation led by Population Health</strong></td>
<td>Collaborations with Finance Sector: We have a long standing collaboration with Legal &amp; General Assurance Society Ltd (L&amp;G) to analyse social inequalities in health and mortality risk in older age, between groups and over time, to identify the underlying drivers of longevity change and to project future trends. For the NIE, our research informs the foc for future health care/ population health interventions. For Industry, it has direct implications for the valuation of pensions across social groups. It contributes to the Solvency II capital regime to manage longer term risks and, crucially to provide adequate reserving of capital.</td>
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<td>Collaborations with Finance Sector: The pensions industry is now increasingly aware of the need to understand frailty- how to measure the concept accurately, determinants/predictors of frailty. UCLP AIMSN would benefit from greater understanding in this area because of implications for service planning (primary, secondary care, rehab, prevention &amp; social care). The pensions industry would benefit from the development of predictors of long lived, frailty because of the impact on enhanced annuities &amp; other products. We understand that there is interest from the Institute of Actuaries in jointly funding a UCLP/ IoA research fellow to investigate measurement/determinants of frailty.</td>
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NICE, National and Global Guidelines

Current Programme Year 1 delivery focus (Nice reference or guideline)

**Cancer**

1. CG81, 80, 131 and Clinical Guidance 121: Implementation of NICE improving outcomes guidance (IOG) through delivery of high volume specialist centres by 2016/17 which will accelerate the delivery of NICE guidance, technological advances and interventional procedures as an effective system based platform in urological, brain, head and neck, skin, upper GI and subsets of breast and colorectal cancers (guidance too numerous to list individually).

2. CG 121: Roll out of access to focal therapy for localized prostate cancer system wide, to improve functional outcomes and continuing research leadership in evaluation of efficacy and safety; preparation for NICE guidance on bladder and prostate cancer - substantial change to the service across the partnership.

3. CG 61: Delivering NICE guidelines on referral for suspected cancer: we are working in new ways with primary care, providing new mechanisms to access advice and guidance from hospital specialists rapidly through electronic channels, and multidisciplinary case-study education. In partnership with a NICE fellow based at Barnet CCG and UCL, we are targeting recruitment of GP practices to education based on their current performance in national cancer referral practice profiles.

**Cardiovascular**

1. CG144: Appropriate use of Anticoagulants represents a particular challenge in clinical practice and NICE has substantial guidance. We will facilitate implementation of NICE guidance CG144 Venous thromboembolic diseases: the management of venous thromboembolic diseases and the role of thrombophilia testing (June 2012); and technology assessments TA209 Dalbixatran evaluate for the prevention of stroke and systemic embolism in atrial fibrillation (March 2012); and TA206 Rivaroxaban for the prevention of stroke and systemic embolism in people with atrial fibrillation (May 2012).

2. CG127: We will be reviewing the provision of ambulatory blood pressure monitoring services and developing novel tools to improve delivery starting with our 4 Painter tools project in Camden, we will also undertake a rigorous review of blood pressure control rates using QOF data to assist us in addressing inequalities across the AMR.

3. BSS: Use Joint British Societies III lifetime risk calculator to enhance risk profiling and target earlier and more effective disease prevention strategies at higher risk populations to improve outcomes, roll out as the BSS guidance is formally released during 2013.

4. CH: 62: Developing NICE guidelines on referral for suspected cancer: we are working in new ways with primary care, providing new mechanisms to access advice and guidance from hospital specialists rapidly through electronic channels, and multidisciplinary case-study education. In partnership with a NICE fellow based at Barnet CCG and UCL, we are targeting recruitment of GP practices to education based on their current performance in national cancer referral practice profiles.

**Mental Health**

1. CG130 and QS14: Implementation of bundle of care for NICE Quality Standards for patient experience in mental health. This will initially focus on dementia care and adult services. In particular we will implement these utilising innovative shared decision making platforms, creating in collaboration with industry.

2. PH5 and PH1: Develop a bundle of care aimed at those at risk of dying prematurely based on NICE Public Health guidance (PH15): identifying & supporting those at risk of dying prematurely & brief interventions of smoking cessation (PH5). Training in & roll out of use of innovative non-invasive measures of CVD risk profiles, enabling intervention in a wide range of settings and by a wider range of practitioners.


**Life Cycle**

1. CG 130 on Carcassonne section and maternal request: protocols and leaflets developed in response to changed guidance being implemented across Maternity & Newborn Network.


4. To be developed in Q4.

**Eyes**

1. Further refinement of NICE guidelines CG145 for the management of ocular hypertension and open angle glaucoma (input including national committee based on success of current guidelines on local UCL clinics).

2. NICE guidelines in Ophthalmology generic platform for delivery. Incorporation of NICE guidelines into prototype version of Open Eyes software to provide on the spot patient appropriate NICE guidelines.

3. Working on rare disease pathway guidelines: in tandem with rare diseases initiatives including NHRF Biosource.

**ENT**

1. CG 60: Local guidance in conjunction with DH as pilot: We are at an advanced stage of developing guidance on glue ear, the commonest cause of acquired hearing loss in childhood. This includes work with NHS Direct on patient decision aids, CG10 on the most cost-effective routes for treatment, and a Darzi fellowship on the implementation of low priority procedure guidance. This will affect the care of an estimated 100,000 children in UCLP AHSN alone per annum.

2. Developing guidance on tracheotomy care into practice: With the provision of a UCLP Fellow, we will work with the National Tracheostomy Safety Project in Manchester to review and distil guidance from UK, US and elsewhere. There are at least 100 unnecessary deaths per annum in the UK due to tracheostomies, and an estimated 700k per annum per hospital Trust is lost through unnecessary 100 bed stays and complications.

3. CoA: We are developing guidance on primary and secondary care management of sore throats and tonsillitis, through funding from the Royal College of Surgeons of England and NHRF. This is the commonest cause of presentation in primary care and comments reason for referral for ENT surgery in the UK (of 17,000 ENT operations in UCLP per annum, 2700 include tonsilllectomies). This project is also linked to our work on implementation of low priority procedure guidance.

**Immunology**

1. CG MTG3 - Peri-operative optimisation of fluid management in renal transplant recipients to enhance early graft function and recovery.

2. TA: 96, 103, 153, 154, 75: Recent and imminent NICE guidelines on the diagnosis and treatment of Hepatitis B and C.

3. **NIH and Hepatology**

1. CG 141: Acute management of upper GI bleeding. Reconfiguration of services to enable network delivery.

2. Support for infection to deliver imminent guidance on diagnostics and treatments for hepatitis B and C.

**Neuroscience**


3. COA: Spasticity in children and young people.

**Evaluation led by Population Health**

1. We are evaluating the implementation of NICE public health guidance promoting (i) mental wellbeing & (ii) physical activity in NHS Trusts. We are examining three Trusts around the country (high, low & medium levels of implementation) and will produce findings on determinants of effective implementation / barriers to implementation by Autumn 2013. The results could be used to promote effective implementation of this guidance across UCLP Trusts.

2. COPD management in primary care in ONL: We are involved in an ongoing project to evaluate the implementation of NICE guidelines in terms of care of COPD patients in Outer North East London (ONL). The project predominantly involves educating GPs with regards the optimal management of COPD patients based on NICE guidelines, and also providing regular feedback to them on their COPD management based on a number of key indicators for diagnosis and treatment. As part of this study we are evaluating the cost of the interventions and their impact on outcomes and COPD management costs. The final evaluation will be undertaken after March 2013, in the form of a report and publications, but the main output will be in terms of embedding the extended use of the interventions in routine clinical practice for COPD management.

3. Stroke care: Evaluation of Stroke reconfiguration in London & Manchester. In 2012 we undertook an analysis to evaluate the cost-effectiveness of the new London stroke model. Our study found the new model was highly cost-effective. The main impact is that the analysis is being used to justify the continuation of the configuration of stroke services in London, which met with resistance from some quarters. This work has also taught the attention of decision-makers in other regions who are in the process of reconfiguring their services, e.g. in Manchester and in the East Midlands. In a related study, we are extending our evaluation of the London model, plus evaluating the recent reconfiguration of stroke services in Manchester. We will also be evaluating factors affecting the implementation of the reconfigurations in London and Manchester as well as their cost-effectiveness. These implications will be useful for the future organisation of stroke services within London and throughout the UK.
Appendix 3: UCLPartners Ltd existing staff capabilities and future development

The bid to become an AHSN provides exciting opportunities to co-create with the new partners leadership roles drawing from the outstanding talent across the whole partnership. We will do this actively following designation, typified by recruitment openly across the whole partnership to new AHSN programme leadership roles such as the Integrated Co-morbidities programme. In anticipation of change several of the current leaders have fixed term contracts and are expecting open competition for the leadership roles following the AHSN process. All of our leadership roles are recruited to through open competition from within the partnership (or beyond if appropriate), and we use the UCLPartners Staff College staff to enable a skill based assessment as part of that process (with cancer clinical leads, for example a 2 days assessment).

The purpose of the Appendix below is to provide reassurance based on our existing leadership team to provide the depth of sustainable talent and commitment required to drive forward the ambitious programme. We look forward to further expanding our leadership base in 2013 following designation. As part of our model, the core company staff recruited are independent direct employees of the partnership. Critically this includes the Chair (who chairs the Board), Managing Director (who chairs the Executive), Chief Operating Officer and Finance Director. UCLPartners as an independent company has built a core team of staff with diverse and often international experience across health, healthcare, social care and local government, industry, academia and research. Many of our senior staff have clinical and academic backgrounds and most work full-time for UCLPartners. We have senior skill-based clinical academic leadership in the form of Programme Directors in place for our eleven programmes. This senior team is supported by project managers, analysts, clinical fellows, patient representatives and communications specialists. As we expand to deliver this prospectus we will provide development opportunities through a fellowship programme to provide development opportunities for our partners, which will create the clinical and operational leaders of the future.

We have already assembled delivery teams in Cancer and Education. We are now starting recruitment to the CVD programme in order to mobilise for delivery from early 2013, if successfully designated as an AHSN in 2012. We have an excellent and cohesive administrative and support team. Many of the UCLPartners staff has experience of UCLPartners own leadership College (UCLPartners Staff College), and we have suitable resources allocated to enable delivery teams to access the college collectively.
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<thead>
<tr>
<th><strong>SENIOR LEADERSHIP TEAM</strong></th>
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<tr>
<td><strong>Independent Chair</strong></td>
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<td><strong>Managing Director</strong></td>
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<td><strong>Chief Operating Officer</strong></td>
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<td><strong>Director of Finance</strong></td>
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<td><strong>Director of Human Resources</strong></td>
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<td><strong>Director of Global Development</strong></td>
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<td><strong>Director of Innovation and Implementation</strong></td>
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<td><strong>Chair of ARHP</strong></td>
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<tr>
<td><strong>Managing Director of ARHP</strong></td>
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<tr>
<td>AHSN Director for Barts Health and QMUL</td>
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**EDUCATION LEADERSHIP**

| Chair of the Education Board | Recruitment for role in progress |
| Director of Education and PGMDE Associate Director | Professor Stephen Powis | Stephen is Professor of Renal Medicine at UCL Medical Director of the Royal Free London NHS Foundation Trust. Stephen’s main clinical interest is renal transplantation and he has research interest into the genetics and biology of the human major histocompatibility complex (MHC or HLA region) and the genetic basis of polygenic renal disorders. |
| Operational Director of Education | Kate Hall | Kate is an experienced healthcare operations manager, with building organisational development capabilities and of regulation as policy director at Monitor. |

**RESEARCH LEADERSHIP**

| Chair of the Research Governance Board | Professor Sir John Tooke | John is Vice Provost Health at UCL and President of the Academy of Medical Sciences. He is also Chair of the Medical Schools Council and the UK Healthcare Education Advisory Committee. In 2007-8 he led an Independent UK Inquiry into Modernising Medical Careers. He is also a Member of the reconfigured NIHR Research Advisory Board, the Universities UK Health and Social Care Policy Committee and the NHS Evidence Advisory Board. |
| Director of Central and East London CLRN and UCLPartners lead for R&D streamlining | Professor Nick Lemoine | Nick is a pathologist whose own research interests centre on Cancer Genomics, Gene Therapy, Pancreatic Cancer, Virotherapy and Oncolytic Viruses. As well as directing the CLRN, Nick is Director of the Barts Cancer Institute and Lead for the Centre for Experimental Cancer. He is Medicine Editor of the Nature Specialist Journal Gene Therapy and a member of the Academy of Medical Sciences. He has held numerous leadership roles with bodies such as CRUK, MRC and NIHR. |

**PROGRAMME DIRECTORS**

<p>| Cancer | Kathy Pritchard-Jones | Kathy is a Professor of Paediatric Oncology and Cancer Theme leader at the UCL Institute of Child Health and consultant at Great Ormond Street Hospital, Kathy has a global reputation for research into childhood renal tumours |</p>
<table>
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<tr>
<th>Department</th>
<th>Professor Name</th>
<th>Description</th>
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<td>and integrating translational cancer research across Europe. She is one of four key leaders of the major FP7 funded European Network for Cancer research in Children and Adolescents (ENCCA) and Vice Chair of the International Society of Paediatric Oncology (SIOP) Renal Tumours Study Group responsible for phase I-III clinical trials in Europe.</td>
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<tr>
<td>Cardiovascular</td>
<td>Professor William McKenna</td>
<td>Bill is Professor of Cardiology at University College London (UCL) and Director of the UCL Institute of Cardiovascular Science. Bill has an international reputation in the research and treatment of cardiomyopathy in young people.</td>
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<tr>
<td>Child Health</td>
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<td>Recruitment awaited (in co-ordination with recruitment for Director of the UCLPartners Life Course Programme)</td>
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<tr>
<td>ENT</td>
<td>Professor Martin Birchall</td>
<td>Martin is Professor of Laryngology and Consultant Laryngologist at the RNTNE Hospital. He is a world-leading throat surgeon who recently led the European team which successfully performed the world’s first stem-cell based, tissue-engineered organ transplant.</td>
</tr>
<tr>
<td>Eyes and Vision</td>
<td>Professor Peng Khaw</td>
<td>Peng is a Consultant Ophthalmic Surgeon at Moorfields Eye Hospital NHS Foundation Trust and Professor of Glaucoma and Ocular Healing at the UCL Institute of Ophthalmology. Peng also directs Moorfields/IOO’s National Institute for Health Research (NIHR) Specialist Biomedical Research Centre.</td>
</tr>
<tr>
<td>Immunology and Transplantation</td>
<td>Professor Hans Stauss</td>
<td>Hans is Clinical Director of Immunology, Endocrinology and Diabetes at the Royal Free Hospital, as well as Head of the UCL Immunology Centre focused on Cancer Immunology and Immunodeficiency. He has an international reputation as a researcher in cancer immunotherapeutics.</td>
</tr>
<tr>
<td>Liver and Digestive Health</td>
<td>Professor Max Malago</td>
<td>Originally practicing and researching in Italy and Germany, Max is a liver surgeon with research and clinical interest in liver transplant.</td>
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<tr>
<td>Infectious Diseases</td>
<td>Professor Deenan Pillay</td>
<td>Deenan is Head of the UCL Research Department of Infection, and Honorary Consultant Medical Virologist at UCLH. In addition he is Head of HIV and Antivirals at the Centre for Infections, Health Protection Agency and Theme Lead for Infectious Diseases in the UCLH/UCL Comprehensive Biomedical Research Centre. His research interests are in antiviral therapy, particularly for HIV, antiviral drug resistance, and molecular epidemiology of HIV spread.</td>
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<tr>
<td>Mental Health</td>
<td>Professor Peter</td>
<td>Peter is a clinical psychologist, who is Head of the Research</td>
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<tr>
<td>Discipline</td>
<td>Name</td>
<td>Role and Contributions</td>
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<tr>
<td>Clinical, Educational and Health Psychology</td>
<td>Fonagy</td>
<td>Department of Clinical, Educational and Health Psychology at UCL. He is National Clinical Lead of Improving Access to Psychological Therapies for Children and Young People and a Senior Investigator for NIHR. His clinical interests centre on early attachment and borderline psychopathology. He holds faculty positions in the US at Baylor and Harvard.</td>
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<tr>
<td>Neurological Disorders</td>
<td>Professor Alan Thompson</td>
<td>Alan is Dean of the recently established UCL Faculty of Brain Sciences and a Consultant Neurologist at the National Hospital for Neurology &amp; Neurosurgery. He is also Deputy-Director of the UCL/UCLH Comprehensive Biomedical Research Centre with many years’ clinical and research experience in multiple sclerosis and rehabilitation.</td>
</tr>
<tr>
<td>Population Health</td>
<td>Professor Rosalind Raine</td>
<td>Rosalind is Professor of Healthcare Evaluation, Head of the UCL Department of Applied Health Research and Assistant Director of R&amp;D at the UCL Joint Research Office. She is a consultant in public health medicine, Chair of the Heads of Academic Departments of Public Health, a member of the Research Excellence Framework 2014 Sub-Panel for Public Health, HSR and Primary Care and a scientific adviser to the World Health Organisation (Department of Reproductive Health and Research). She has an international reputation in research on treatment inequalities, their impact on outcomes and policy responses. She leads the UCL drive to develop improvement science.</td>
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<tr>
<td>Women’s Health</td>
<td>Professor Judith Stephenson</td>
<td>Judith is a Margaret Pyke Professor of Sexual and Reproductive Health at the UCL Institute for Women’s Health. She is also Head of the UCL Research Department of Reproductive Health, and holds Honorary Consultant contracts with UCLH in Women’s Health and with CNWL Trust in Public Health.</td>
</tr>
<tr>
<td>HIEC Programme: COPD</td>
<td>Professor Mike Roberts</td>
<td>Mike Dean for Students at Barts and The London School of Medicine and Dentistry and Consultant Respiratory Physician at Whipps Cross University Hospital. He is also currently Clinical Director for Integrated Care at UCLH. Mike’s education research interests lie in the field of transition from undergraduate to postgraduate medicine and medical professionalism. Clinically, he is Associate Director of the Royal College of Physicians Clinical Effectiveness unit and has led the UK National COPD audit programme since 2001 and the European programme since 2009.</td>
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# Programme Leadership

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<tr>
<th>Role</th>
<th>Name</th>
<th>Description</th>
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<tr>
<td>Chair of the London Cancer Board</td>
<td>Pelham Allan</td>
<td>A cancer patient, carer with a passionate desire to improve outcomes for cancer patients and their experience of treatment. A finance director by background, he brings extensive knowledge of regulation, assurance and the commissioning landscape to London Cancer.</td>
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<tr>
<td>Chief Medical Officer, Integrated Cancer</td>
<td>Kathy Pritchard-Jones</td>
<td>Please see above.</td>
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<tr>
<td>Director of Integrated Cancer</td>
<td>Charlotte Williams</td>
<td>Charlotte has held senior operational roles in hospitals for over 10 years, including at executive team level, in London, the east of England and the south east. She has significant experience of change in health services, acute commissioning and developing user engagement in design and planning. Charlotte has a biochemistry background and has undertaken postgraduate study in the UK and New Zealand into health services management and research.</td>
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<tr>
<td>Director of Strategic Development and Programme Lead, Integrated Cardiovascular</td>
<td>Hilary Ross</td>
<td>Hilary has experience of senior health-related roles at local, regional and national level including within local government and DH. She comes to UCLPartners following a major role in London 2012 as NHS London’s Programme Director leading the NHS preparations for the Games. She holds a MPH from Brighton &amp; Sussex Medical School.</td>
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<tr>
<td>Director of Integration and Programme Lead, Co-morbidities</td>
<td>Jenny Shand</td>
<td>Jenny has experience of NHS operational and strategic management and in policy with the King’s Fund. She is an expert on integration with an international reputation. She holds an MPH from LSHTM and was a consultant at McKinsey</td>
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<tr>
<td>Programme Lead, Mental Health</td>
<td>Dr Anna Moore</td>
<td>Anna is a specialist trainee in Psychiatry. In parallel to her post at UCLPartners, she is completing a PhD in implementation science at UCL applying the principle of value to mental health. Anna has experience of quality improvement and outcomes having spent worked in 2011-12 as Clinical Fellow to Professor Sir Bruce Keogh in the NHS Commissioning Board and with Mr. Peter Lees to set up the Faculty of Medical Leadership and Management. Before medicine Anna was an accountant, and her first degree is in Neuroscience, during which she undertook research at Harvard</td>
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<td><strong>INFORMATICS LEADERSHIP</strong></td>
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<tr>
<td>Chief Clinical Information Officer</td>
<td>Dr Phil Koczan</td>
<td>Phil is a GP in Waltham Forest with extensive expertise in delivery of integrated IT systems locally regionally and nationally. He was NHS London’s Primary Care IT lead.</td>
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<td><strong>MEASUREMENT, QUALITY, VALUE AND EVALUATION LEADERSHIP</strong></td>
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<tr>
<td>Chair of Quality</td>
<td>Professor the Lord Kakkar</td>
<td>Ajay is Professor of Surgery at UCL and Consultant Surgeon at UCLH NHS Foundation Trust. He is Director of the Thrombosis Research Institute, a world leading authority on thrombosis and cancer and a cross-bench peer and Chair of the Board of Governors at Alleyn’s School in South East London.</td>
</tr>
<tr>
<td>Director of Clinical Quality</td>
<td>Dr James Mountford</td>
<td>James’ career includes NHS medicine and a Harkness Fellowship based at Mass General and the IHI in Boston. Before UCLPartners, James led McKinsey’s work on quality and clinical leadership. He sits on the board of AQUA in the North West region.</td>
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<tr>
<td>Lead, Deteriorating Patient Initiative</td>
<td>Dr Asiya Yunus</td>
<td>Asiya is a Central London GP who trained at Imperial and then UCL. She has completed a Leadership (Darzi) Fellowship in 2011 working in COPD with the NECLES HIEC. Asiya has a long-standing interest in health management and organisation and continues to work part time at BMJ Quality.</td>
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Appendix 4: UCLPartners AHSN Engagement Events
Q2-Q4 2012 design and delivery events as an aspirant AHSN

1. Cancer

UPCOMING: Shaping the future of colorectal cancer services in London - 18 December 2012
An engagement event for cancer professionals, charity and community organisations, patients, carers and members of the public with an interest in improving colorectal cancer services.
*Purpose:* to gather the experiences and draw on the expert input of people living with and beyond colorectal cancer to shape a programme of activity that will underpin improvements to colorectal cancer services in north and east London and west Essex.

UPCOMING: North Thames Teenager and Young Adults engagement event - 7 December 2012
An engagement with professionals in the North Thames Teenager and Young Adult Cancer Network
*Purpose:* for participants to find out more about the immediate plans and priorities for the TYA Cancer Network Coordinating Group (TYACNCG) and to input their ideas into creating a collaborative way forward for the future of TYA services in the North Thames region.

**London Cancer Upper GI: creating the future** – 20 November 2012
An internal engagement with clinicians working in upper GI.
*Purpose:* for participants to find out more about the immediate plans and priorities of the pathway boards and to input ideas into creating a fair way forward for the future of Upper GI.

GP learning event on lung cancer and GI cancers - 15 November 2012
An educational and engagement event for general practitioners in Tower Hamlets with 50 attendees (similar event planned for January 2013 in Islington)
*Purpose:* to help general practitioners increase skills on lung cancer diagnosis and to better London Cancer’s work on general practitioners’ priorities

Cancer patient experience sharing best practice – 22 October 2012
An event for those working to improve patient experience within their organisations.
*Participants:* 104
*Purpose:* to explore ways to address those areas for improvement which have been identified by the survey results.

**London Cancer Breast Pathway event** – 10 September 2012
An event for colleagues working in breast cancer
*Participants:* 85
*Purpose:* to introduce the breast pathway board and its early priorities and to introduce the MDT-FIT programme.

**London Cancer Brain and Spine Pathway launch event** – 21 May 2012
An event for colleagues working in brain and spinal cancers
*Participants:* 31
*Purpose:* to introduce the pathway board, outline the proposed objectives and listen to colleagues’ perspectives.

**London Cancer Lung Pathway launch event** – 16 May 2012
An event for colleagues working in lung cancer
*Participants:* 65
*Purpose:* to introduce the pathway board, outline the proposed objectives and listen to colleagues’ perspectives.

London Cancer Skin Cancer study day – 26 April 2012
An event for healthcare professionals and researchers in skin cancer  
**Participants:** 78  
**Purpose:** to share ideas and to find ways how we could work together both clinically and at the laboratory level to promote translational research for the benefit of our patients.

2. Cardiovascular

**Integrated Cardiovascular System Co-design Event, Tuesday 13 November 2012**  
**Participants:** 73  
**Purpose:** Bring together professionals and patients with interest in the CVD programme to co-design priorities and approach. Emerging focus on both better prevention and better management of disease

3. Co-Morbidities

**Co-morbidities Co-design Event, Friday 16 November 2012**  
**Participants:** 64  
**Purpose:** Bring together professionals and patients with interest in co-morbidities to co-design priorities and approach. Emerging focus on prevention, management of long-term conditions, frailty and end-of-life care

4. Life Course for Women and Children

**Life Course Co-design Event, Wednesday 21 November 2012**  
**Registered Participants:** 78  
**Purpose:** Bring focus and shared direction to the Life Course Programme

5. Education (some events led by NCEL LETB)

**NCEL LETB Patient Engagement Event - October 2012**  
**Purpose:** To initiate engagement with patient representatives from across the NCEL LETB geography to ensure the patient perspective shapes LETB prioritisation and explore priorities for patient engagement  
**High-level outcome:** Greater focus needed on patient feedback and stories; avoiding use of jargon, communicating in language patients understand

**NCEL LETB Stakeholder Event - Strategic Priorities and Planning Approach – July 2012**  
**Purpose:** To explore options for LETB structure, priorities and planning and to gather feedback on work and approach to date  
**High level outcome:** Take a more patient focused approach; further develop multiprofessional education and training and develop understanding of the best way to achieve multiprofessional learning

**NCEL LETB Stakeholder Event - April 2012**  
**Purpose:** Provide participants with update on and chance to ask questions about how education commissioning and provision is changing; hear participants’ views  
**High level outcome:** Participant feedback led to change in design of the operating model governance arrangements for the LETB Board

**EXCEL programme design event: What makes a good Ward Sister/Team Leader? - April 2012**  
**Participants:** 74
**Purpose:** To inform recruitment for and delivery of the Excel nursing programme by understanding and defining the attributes of a great ward sister/team leader. Participants were diverse, coming from: Higher Education Institutions, Patients, Nursing Students, Newly Graduated Nurses, Doctors and allied healthcare professionals.

### 6. Quality Forums

**UPCOMING:** UCLPartners Quality Forum, Friday 7th December 2pm-4:45pm: co-hosted by Camden and Islington NHS FT and Tavistock and the Portman NHS FT

**Participants:** 72 registered as of 16.11.12

**Focus:** Connecting care across boundaries using dementia care as an example
- Integrating care at Partners Health System in Boston: driving value for patients through better working across boundaries. External Speaker: Professor Tom Lee, Harvard Medical School
- Consideration of dementia care locally from different perspectives across boundaries of physical and mental health; specialist and primary care; professional and patient/carer

UCLPartners Quality Forum, Friday 21st September 2012: hosted by North Middlesex University Hospital NHS Trust

**Participants:** 65

**Focus:** Building a safety culture and the human element of safety
- Patient Safety: what have we learned over the last 10 years, and the ‘double victims’ of safety incidents (staff as well as patients/families). External Speaker: Professor Charles Vincent, Imperial College
- Toward building a safety culture—the human side of safety: perspective from NMH

UCLPartners Quality Forum, Friday 15 June 2012: hosted by Luton & Dunstable NHS Foundation Trust

**Participants:** 55

**Focus:** Three themes
- **Organising care for Value:** External Speaker: Kelly Hall, Director of Strategy, Partners Community Healthcare, Boston
- **Designing & implementing care bundles:** a measurement and improvement approach for high-reliability care
- **What is Improvement Science, what is its relationship to ‘research’, and what is happening locally?**

### 7. Applied Research

**UPCOMING:** CLAHRC event, 5th December 2012

**Anticipated participants:** 80-100

**Purpose:** To engage clinicians, managers, academics and patient/public stakeholders across UCLPartners in shaping UCLPartners’s CHAHR application to best meet patient and population need and academic potential

**Improvement Science London (ISL) Launch, 26 June 2012.**

**Participants:** 150

**Purpose:** Bring together patients/carers, academics, front line staff and senior system leaders to launch of (ISL). ISL was established in early 2012 by the London Academic Health Science partnerships of Imperial Academic Health Science Centre, King’s Health Partners and UCL Partners, to promote and embed the science of improvement across London, to improve the way decisions are made on the organisation and delivery of care.
Appendix 5: UCLPartners 100 Day Plan

Illustrative examples of how UCLPartners will contribute to deliver the Innovation Health and Wealth and the Life Sciences Strategy

Introduction

UCLPartners already plays a leadership role in research participation and commercial collaboration:

- 38% of lead clinical investigators for commercial studies in the UK are based within the AHSN geography,
- there are already more than 400 life science industry contracts across the network, with a total value in excess of £60 million. Furthermore, the number of commercial contracts has grown by 22% in the past year,

...and we have developed capabilities to implement NICE clinical guidelines and technologies which will be applied across the network:

- For example, NICE guidelines (TA 151) are clear on the criteria for commencement on pump therapy in children with type 1 diabetes. For 350 children managed by University College London Hospital, over 64% receive intensive insulin therapy via a pump vs. only 5% of patients across the country. This has been supported by the delivery into practice of a “patient relationship management system” developed in conjunction with Microsoft and other Industry partners.
  
Outcome: The last National Paediatric Diabetes Audit showed an average clinic haemoglobin A1c 7.8% vs. in these children compared to a UK average of 8.8%.

Local initiatives: Our experience at UCLPartners has taught us that change is managed more effectively when driven bottom up rather than top down. Our major focus will be to support natural leaders within our AHSN to improved healthcare for our population. Several examples are highlighted in the prospectus; one such example is the major gains which have been derived from better stroke care along the whole patient pathway from prevention through to rehabilitation. Two further examples that will provide new information to realise health care gains in the first 100 days of the AHSN are:

- “Earlier diagnosis of cancer, working in partnership with primary care and public health: release of novel whole pathway audit for patients presenting to A&E with cancer”

  Improving understanding of the route to diagnosis of cancer patients, by prospective analysis of previously undiagnosed cancer patients presenting as an emergency in our system (within our geography, we have the highest proportion nationally of new patients diagnosed in this way, at 26% in NEL). This prospective continuous audit and feedback cycle, which began in October 2012 and was funded by the Department of Health and an industry grant, will treat such cancers as serious incidents, conducting root cause analysis of the underlying factors, including interviews with patients, relatives and both primary and secondary care providers.
During the first 100 days the output from A&E audit will be used to raise awareness of cancer presenting through this route in secondary care, including hard to reach groups, to improve patient experience, and we will deliver innovative primary education delivery based on the constellation of symptoms, following the release of the audit results back to at least one CCG/secondary care partnership.

- "UCLP Deteriorating Patient initiative: saving and improving lives through collaboration across trusts and reliable delivery of care”

By June 2013 Deteriorating Patient initiative, designed to reduce cardiac arrests, will have active participation from all acute trusts across UCLPartners. Newly-joining trusts will have determined solid baselines, and may already be showing sustained reductions in cardiac arrests. We anticipate at least three trusts will have achieved the original aim of halving cardiac arrests.

We will have deployed an e-learning training resource to optimise management of deteriorating patients – free to use both to UCLPartner trusts and also by all across the NHS – and established a vibrant, secure, online social network across team members. We will have added an additional focus: treatment escalation and advanced care planning.

During the first 100 days trusts will have introduced a systematic approach to this, offering patients and families care more reliably focused around their preferences, to ensure ‘no decision about me, without me’.

Goals for increasing the participation in research:

- “A UCLP Research Office is opened”.

UCLPartners has already made the first steps towards harmonising operational support for research. A pilot went live on 29 October 2012 involving North Central London and North East London partner trusts. In addition, a system for measuring and managing performance across the network against common metrics is being established to enable the UCLPartners Executive to manage performance and to generate evidence to give industry confidence in our ability to deliver. In April 2013 (i) we will review the impact of this pilot against the NIHR targets (time to first patient first visit and recruitment to target) and (ii) the UCLPartners Executive will agree details of a plan to create a single system across the network.

Within the first 100 days we will “launch” a new system able to offer a single point of entry to industry which provides efficient access to a diverse population of 6 million patients, underpinned by a system of managed clinical trial performance.

- “The Quintiles Queen Mary Prime Site has expanded to reach across the Academic Health Science Network”.

Quintiles is one of the leading global clinical research organisations, managing a number of global prime sites to deliver studies more cost-effectively than working with a larger number of disparate
hospitals. The prime site at Queen Mary, University of London (QMUL) was established in 2007 as the first of an international network of prime sites. This Prime Site has become one of the most successful global clinical trials centres. In November 2012, we agreed to expand the Prime Site to provide a single point of access to providers across UCLPartners. Quintiles will invest resource and expertise to strengthen delivery capability as the prime site expands to include new hospitals.

Within the first 100 days we will announce the expansion of the Quintiles Prime Site with details of how the Prime Site has developed. This bold move will increase research participation within the AHSN and provide Quintiles with a more efficient mechanism to deliver high-quality commercial studies.

Goals for compliance with NICE Technology Appraisals:

- **“Bone health closer-to-home service for people with cancer being evaluated”**.

As part of the agreed priority areas for London Cancer 2013, we will pull specialist treatment – currently funded through high cost drugs and day case activity – into GP or community settings, making the patient-centred, clinical and economic case for care closer to home using TA265 for breast cancer as a test case.

Under the leadership of Dr Chris Gallagher (Chair of Chemo Expert Reference Group) and with dedicated project management support secured from Dr Donna Chung (Cancer Quality Manager), commissioners (Tower Hamlet CCG, NHS North and East London CSU and the lead cancer contractor) are working with Amgen to scope barriers and solutions to uptake including the business/ economic case for implementation of Prolia - Denosumab.

Within the first 100 days we will map current clinical practice and prescribing across the first 10 trusts for preventing complications that result from breast cancer spreading to the bone from solid tumours. We will have developed a delivery model for patients with breast cancer who require such treatment – TA265 will be part of this delivery pathway to ensure all treatment choices are available for patients and clinicians. The initial test site for implementation will be the breast cancer pathway within Barts Health (four site trust).

- **“New anticoagulation service for patients being tested”**.

As an agreed priority area within the Integrated Cardiovascular System we will facilitate comprehensive anticoagulation treatment (including TA249, TA256 and TA261) for patients diagnosed with Atrial Fibrillation and VTE, working initially within hospital settings.

Under the leadership of Dr Peter MacCallum (Consultant Haematologist, Barts Health), and with dedicated support from Hilary Ross (Director lead for the programme) and Dr Phil Koczan (Chief Clinical Information Officer) we will engage Haematologists across the AHSN to develop a model for identifying and managing patients in a way that is aligned with relevant NICE guidance and TAs.
Within the first 100 days we will identify patients across the network with Atrial Fibrillation and on oral anticoagulant therapy. We will interrogate legacy anticoagulation databases and connect these to create a single informatics system to identify AF patients currently being anti-coagulated with warfarin and those not receiving treatment. We will have developed a service model within one hospital for reviewing treatment for all patients and aligning their management with TA249, TA256 and TA261. A plan for evaluation of this service model will be in place and plans for roll out across the network will be underway.

- **“2000 staff trained in dementia care and Shared Decision Making framework developed for memory clinics”.**

As agreed priorities within the Mental Health integrated programme, we will train staff in line with NICE Dementia Quality Standards and will implement across member mental health trusts a Shared Decision Making system as a platform for delivering NICE Quality Standard 1 - Statements 3 (written & verbal information) and 5 (decision making).

A successful bid to the London Education Commissioning System will support delivery of training 2000 staff in line with NICE Dementia Quality Standards, following a ‘Train the Trainer’ approach. The curriculum will be locally tailored from one already developed and validated by NHS London.

Under the leadership of Professor Livingston & Professor Orrell, and supported by a UCLPartners Clinical Fellow (to be appointed) and The Health Foundation, trust-based delivery teams (e.g., clinicians, nurses, patients, and carers) will come together to form a ‘Dementia Innovation Network’. The network will focus on: consensus building, dissemination of best practice, education for patients, carers and professionals, and the co-design of practical tools to support implementation of NICE Quality Standard 1, the DoH Dementia Challenge and NICE TAs.

Within the first 100 days 2000 staff will be trained in dementia, patients diagnosed with dementia in memory clinics will have access to an SDM framework, an audit of TA217 will be completed to establish the baseline position and a ‘Dementia Innovation Network’ will have been established as a platform for implementation of high quality dementia care and treatment.

**Goals for Wealth creation – commercialisation of specific products/services in partnership with industry**

- **“A globally competitive centre for cardiovascular research and clinical services is opened”**.

UCLPartners is working with colleagues across the partnership to create a globally competitive centre for cardiovascular research and specialist clinical services, concentrating expertise within a single collaborative system. We are bringing together synergistic clinical and academic strengths from across the partnership to create global clinical-academic competitiveness that also enhances value

cont...
(outcomes that matter to patients per pound spent) and enables subspecialisation to further drive quality and to attract national and international referrals. This will become a magnet for the most talented trainees and researchers and create the platform to strengthen the industry research partnerships required to discover and develop new technologies.

Within the first 100 days we will announce the launch of a new globally competitive cardiovascular clinical-academic system.

- **“3 Million Lives Pathfinder Project at UCLPartners has enabled the delivery of novel ambulatory blood pressure monitoring to serve a community”**.

In partnership with Camden CCG, and industry we have created a project that will use telehealth to improve blood pressure monitoring in the community. We will improve the detection and diagnosis of this major cardiovascular risk factor which will reduce risk of stroke, myocardial infarction, heart failure, chronic kidney disease and cognitive decline. The approach links to recent NICE guidance and quality standards for increasing the percentage of patients with a potential diagnosis of hypertension whose diagnosis is confirmed by ambulatory blood pressure monitoring. A strong collaboration has been formed between Camden CCG and UCLPartners clinical academics ahead of the procurement process to secure an industry partner. Our investigators have a history of working with industry in this field including an existing relationship with a medical technology small- and medium-sized enterprise (SME) in Singapore (now with a London office) which, with support from UCL academics, has developed the world's first device for clinical measurement of ambulatory central aortic pressure using a wristwatch-based device.

Within the first 100 days we will announce the first wave of results of the implementation of a national 3 million lives telehealth project and implementing a device which has been co-created with industry.

- **“A UCLPartners MedTech Accelerator is launched”**.

We are developing a UCLPartners MedTech Accelerator. The Accelerator’s goal – based on the tremendous potential of the UCLPartners’ membership of HEIs and research networks, clinical commissioning groups and healthcare providers – is to be the world’s fastest and most cost-effective deliverer of patient benefit via medical technologies. The Accelerator will address the NHS’s Innovation, Health and Wealth (IHW) challenge by harnessing the unique power of UK university-based innovation and experimental medicine. The Accelerator will provide a service to empower our researchers and industry partners to develop innovation coupled to provider-based Showcase Hospital Programmes (as described in the IHW Report) to accelerate the innovation pipeline. The Accelerator is a scalable vehicle designed with growth in mind. At the beginning it will provide a fully functional service for UCL, UCLH and the Royal National Orthopaedic Hospital (subject to Board approvals in Dec 2012), scaling-up delivery as more parties join, to support training and adoption, business incubation and manufacturing across the partnership.

Within the first 100 days the full membership of the Med Tech Accelerator will be launched together with details of the first wave of projects to be supported.