Our vision for haematopoietic stem cell transplantation and acute leukaemia services

Application to London Cancer
Submission letter from the Chief Executive

It is with great pleasure that Barts Health NHS Trust submit this application to be a specialist centre for haematological malignancy across the London Cancer geographical area.

Barts Health NHS Trust, shares London Cancer’s aspirations for the creation of world-class haematopoietic stem-cell transplantation (HSCT) and acute leukaemia services. This is especially important given that our local population has high levels of poor physical and mental health, significant social deprivation and is ethnically diverse. This provides many challenges as we strive to deliver quality, personalised care and excellent outcomes.

As an existing Level 2b and 3 centre for Essex we are well placed to address the challenge of providing quality care over a considerable geographic distance. Given our experience we are uniquely position to implement and work in partnership with our NHS and academic colleagues, across north central and east London.

Within this bid we demonstrate our strength in both HSCT and acute leukaemia; our approach to implementation; facilities available; monitoring arrangements; patient experience and partnership working; and how we will continue to drive forward research, development and innovation.

We have a strong foundation to deliver world-class haematopoietic stem-cell transplantation and acute leukaemia services based on our depth of clinical leadership, which has the full support of the Barts Health Trust Board.

Peter Morris
Chief Executive
Barts Health NHS Trust
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Introduction

Barts Health NHS Trust, share London Cancer’s aspirations for the creation of world-class haematopoietic stem-cell transplantation (HSCT) and acute leukaemia services. This is especially important given that our local population has high levels of poor physical and mental health, significant social deprivation and is ethnically diverse. This provides many challenges as we strive to deliver quality, personalised care and excellent outcomes. Additionally we are the Level 2b and 3 centre for Essex, with the challenge of providing quality care over a considerable geographic distance.

Concentrating specialist care into centres of excellence enables development of high levels of disease-specific expertise, skill-retention among staff, enhanced recruitment to clinical trial, innovative approaches to patient and carer support and consequently the improved clinical outcomes that we all desire. We therefore support London Cancer’s move to reduce the number of Level 3 centres from three to two, and to ensure that all centres treating acute leukaemia with intensive chemotherapy are able to ensure a high quality service with excellent outcomes.

Indeed with the increasing subdivision of our diseases, driven by a deeper understanding of a tumour’s molecular biology, many patient’s treatment is becoming increasingly unique and personalised, requiring extensive, rapid and responsive diagnostics as well as robust partnership working across all sites.

Our vision of the future

London Cancer is tasked with delivering a step change in cancer services in North London and West Essex by setting the patient at the heart of clinical care - resulting in improved outcomes, empowering clinicians, making improvements in early diagnosis and increasing access for our patients into clinical trials. Patients with a haemato-oncological malignancy have a complex journey, which involves many different professionals.

Our understanding of the multi-faceted pathway from symptomatic presentation to survivorship underpins this submission. We have considered a single-site option but, whilst it may be easier to deliver, it is not an option that engages with either the patients’ or carers’ needs and disenfranchises local support services, which are essential for on-going support following discharge and for emergency admission. We have therefore discounted it.

Our vision for local Haemato-oncology services across Barts Health is to consolidate into a ‘hub and spoke’ model such that all patients have equal access to specialist multidisciplinary teams wherever they enter the pathway. In this model, care is delivered locally where possible and
centrally when necessary, with patients moving seamlessly among hospitals. Barts Health is in a unique position to offer this balance due to the configuration of our services providing specialist and local services across a broad geographical area i.e. St Bartholomew’s (Level 2b/3); Whips Cross and Newham (Level 2a) and the Royal London (Level 1).

All patients would access complete, stream-lined and uniform diagnostic work-up pathways, tissue banking, a full range of clinical trial options and supportive/holistic care services supported by one multi-disciplinary team. Non-intensive therapy can be delivered locally (either in a local treatment centre or at home). Specialist trial and intensive chemotherapeutic options, such as HSCT, will be delivered centrally but with patients repatriated closer to home for centrally supervised follow up when appropriate. Clinics at other hospitals within the Trust and among the referring trusts, allow alternative facilities closer to home.

Wherever a patient is within the Trust, they will be receiving the same high quality, patient-centred outreach service as that delivered in the cancer centre, directed by specialists in haematological malignancy and transplantation.

This model of specialist outreach services and local provision of multi-site care is something translatable to many hospitals within London Cancer, ensuring that all patients get the same specialised care with the benefits of excellent outcomes and access to clinical trials. Patients will be cared for by a London Cancer Multidisciplinary Team and move seamlessly between hospitals to ensure the correct intervention at the correct time in the most appropriate location.
Executive summary

► **Leadership** - We have a young, dynamic haemato-oncology team with strong clinical and academic leadership, under **Professor John Gribben**, with consistent high level support from Trust Management and the Barts Cancer Institute. We continue to deliver outstanding care, as recognised by independent third parties e.g. CHKS, BSBMT, JACIE, Peer Review assessments. The Trust has undertaken the largest merger of its kind within the NHS and as such has a track record for delivering significant organisational change.

► **Patient pathway** - We are passionate about the development of the optimum cancer pathway from early diagnosis to survivorship and seek to drive innovation, as demonstrated through our recent successful £2 million grant to the Kay Kendall Foundation for distance monitoring of patients with low-risk haemato-oncology disorders. We advocate local care where possible and a seamless pathway, with one key worker, through diagnosis to disease-specific therapy, to transplant and on to survivorship. We have strong partnerships with primary care, palliative care and community services, essential for the delivery of a streamlined patient pathway.

► **Joint working** – We have a long history of close collaborative working with our colleagues at local hospitals within London Cancer and those referring into London Cancer Centres. These include joint MDTs, in-reach clinics, outreach clinics and continuous consultation by phone and email, which we are currently evaluating with our partners with a view to further enhancement.

► **Local services** – Our proposed model is of a ‘hub and spoke’ service, where there is both in-reach and outreach of the multidisciplinary team to ensure that patients experience high quality care among all hospitals. Their outcomes should be assessed for London Cancer and governed within the same quality management structures.

► **Impact of change** – Loss of Level 2b and 3 services from Barts Health will be catastrophic to the health of NE London and Essex and place severe immediate capacity demands on the other hospitals in London Cancer.

► **Transport** - We are centrally placed within the London Cancer area with excellent transport links to the rest of London, Essex and the South East via the tube and the Crossrail/Thameslink hub at Farringdon/Barbican.
Outcomes and experience - We have independently verified data that demonstrate over a decade of excellent outcomes and evidence of collaborative working. Our overriding principle of excellent patient-focused care is evidenced by our Peer Review records and patient experiences. We are proactive and respond to both positive and negative comments from patients and our clinical partners. Academic and research interests are enhanced by co-location with global leaders in their fields at the Centre for Experimental Cancer Medicine, Barts Cancer Institute and Queen Mary University of London as well as on-going local, national and international collaborations across the field of haematology-oncology. We are committed to an active decision making role for our patients, not only for their individual care, but also in the shaping of the service to ensure that this responds to their wishes.

Organisational capacity - The clinical and management teams within the Trust are totally committed to retaining and developing the Haematology Oncology Cancer Service. Our inpatient practice has grown by 54% over the last three years with a 25% increase in outpatient/day unit attendances. Senior management have acknowledged this by increasing our inpatient capacity by 40% in the new hospital build. We have the support of Clinical Commissioning Groups. Our team has demonstrated that we are able to easily accommodate the number of cases of acute leukaemia and HSCT arising from referral populations of over 2.7 and 3.4 million respectively without compromising outcomes. We have a track record that, when other centres were unable to sustain their admissions, we have been able to accommodate their extra work with outcomes that remained consistently high.

Location - We have state-of-the-art new facilities, providing all the essential local services and co-dependencies required for the management of haematological malignancy. We reach far into North East London through our partner hospitals within Barts Health, allowing easier access to local and specialist services faster and nearer to home. Placing HSCT services at St Bartholomew’s Hospital will allow London Cancer an opportunity to build a centre of international standing that will benefit the patients of North and East London as well as Essex.

The treatment of cancer, from awareness and prevention in the local community through to chemotherapy and non-chemotherapy intervention, is core to the strategy of Barts Health. There is a compelling case for the St Bartholomew’s site of Barts Health to remain as the UK’s largest centre for the intensive treatment of Acute Myeloid Leukaemia with curative intent and to continue to deliver excellent Level 3 care for London Cancer.
Leadership

Trust leadership and values

Our values, strategy and vision

Our core values that inform all our clinical and organizational actions cover three key domains:

► **Our patients** - valuing, respecting, keeping them safe from harm
► **Our staff** - valuing, listening, and acting on their concerns
► **Our clinical partners** - valuing, listening and working together to improve health and services

Barts Health is committed to providing excellent healthcare and to ending the historic health inequalities of East London. Working with our patients, public health and community partners, we will improve the way we deliver healthcare and support our local communities to live healthier lives.

Barts Health and our clinical priorities

With a turnover of £1.25 billion and a workforce of 15,000, Barts Health is the largest NHS Trust in England, and one of Britain’s leading healthcare providers. The Trust’s six hospitals – St Bartholomew’s (Barts; SBH) in the City, The Royal London (RLH) in Whitechapel, The London Chest in Bethnal Green, Mile End Hospital, Newham University (NUH) in Plaistow and Whipps Cross University (WXH) in Leytonstone – deliver high quality compassionate care to the 1.8 million people of North East London and beyond.

Barts Health will continue to focus on the following as its clinical priorities:

► Cancer
► Cardiovascular and thoracic
► Trauma
► Paediatrics
Cancer – one of our four clinical priorities

Cancer affects one in three people in the UK, with over 2,800 new patients treated at Barts Health every year. Barts Cancer Centre offers state of the art screening, diagnosis and treatment to two million people in East London and the City.

Additionally, it is a tertiary referral centre, treating some of the most rare and serious cases in the UK including bone marrow transplantation, retinoblastoma, testicular cancer and mesothelioma.

Leading experts at the hospital are at the forefront of cancer research, driving innovation that constantly enhances clinical practice and treatment to enable Barts Health cancer patients to benefit from pioneering therapies and new treatments.

The facts

- One of the most advanced cancer centres in Europe
- One of only two cancer centres in the UK treating retinoblastoma
- The only NHS centre in London offering Gamma knife treatment
- The only NHS centre in London Cancer offering Cyberknife treatment
- A Centre in the Cancer Research UK/ Department of Health Experimental Cancer Medicine Network
- Funded Myeloma UK Clinical Trial Network centre
- Funded Leukaemia Lymphoma Research (LLR) Treatment Acceleration Programme centre
- The first centre to offer fertility-sparing surgery for cervical cancer patients.

Barts Health cancer strategy

Barts Health is committed to high volume yet high quality cancer services as a fundamental part of its overall service and academic aspirations. Therefore Barts Health will be an active participant and leader at all levels in the developing London Cancer Integrated Cancer System to
ensure patients are provided with the best services possible at the appropriate time in the pathway and at the most appropriate location, determined by available expertise and patient choice. These values are synonymous with those of London Cancer – saving lives, improving patient experience and quality of life for those patients with cancer.

**Barts Health cancer market share**

Barts Health is the second largest provider of cancer services in London (after the Royal Marsden) and accounts for 39,984 spells in London against a capital-wide total of 358,000, giving it an overall market share > 11%.

The figures below map cancer activity measured by spells for the ten largest cancer providers in London for 2012-13.

*Cancer spells by Trust 2012-13*
Clinical leadership

Leadership in Barts Health

Our plans for delivery of specialist Haemato-oncology services remain a priority of the Trust, and as such have had full backing from senior levels within the Trust Board including Sir Stephen O’Brien (Chairman), Peter Morris (Chief Executive), Frances O’Callaghan (Director of Strategy) and Dr. Steve Ryan (Medical Director).

The Chief Executive has visited our Department to convey the support of the Trust to our plans for reconfiguration and development of services, both within the Barts Hospital site and across the wider London Cancer and Essex regions. This has been demonstrated by concrete plans for expansion of our bed space to accommodate growth in our patient numbers.

Leadership in Cancer

This haemato-oncology application has been supported by the Trust Cancer Strategy Board where there is full representation of all stakeholders within the Trust and within primary care. Key members of senior cancer management involved include:

- Associate Chief Operating Officer – Lisa Hollins
- Director of Cancer Strategy – Dr Sarah Slater
- Group Director – Cancer Clinical Academic Group – Dr Maurice Murphy
- Clinical Director for Haemato-oncology and Palliative Medicine – Dr Heather Oakervee

Leadership roles for Level 2b (+AML) and Level 3 HSCT services at Barts Health

The specialist centre lead for Haematopoietic Stem Cell transplantation will be Professor John Gribben (pictured), Gordon Hamilton Fairley Chair of Medical Oncology.

As this process is intrinsically linked to wider delivery of Level 1, 2a and 2b Haemato-oncology services, he will be working closely with his deputy lead for this application and the Clinical Director for Haemato-oncology, Dr Heather Oakervee, in the delivery of system wide collaborative working and to ensure that there is relevant specialist expertise available at local units within Barts Health and joint MDTs and appointments with our current referring partner trusts.
Professor Gribben was appointed as Director of Bone Marrow Transplantation in 2004, having previously been an established bone marrow transplant physician at the Dana Farber Cancer Institute, Harvard Medical School, one of the three largest stem cell transplant centres in the world. Under his leadership, St Bartholomew's obtained funds for a custom-built HEPA-filtered HSCT unit, which opened in 2008. The unit has become JACIE accredited and activity of the HSCT unit has doubled with continuing excellent outcomes. He has established pathways for seamless transition of care from intensive chemotherapy to HSCT within the MDT and developed outreach services with the attendance of Barking, Havering and Redbridge University Trust (BHRUT) consultants at joint HSCT clinics. He has enabled the development of an active programme of research in HSCT by the appointment of clinical academic staff with laboratory and clinical translational programmes in HSCT and cellular therapies.

Professor Gribben is an internationally recognised authority in bone marrow transplantation and chronic lymphocytic leukaemia (CLL). He is the interim lead for research in Cancer in North Central and North East London (LCRN Division 3). He continues to have NIH Programme Grant funding as the only non-USA centre within the CLL Research Consortium. He is on the board of the British Society for Bone Marrow Transplantation (BSBMT), the Medical Directors’ Board of the Anthony Nolan Trust, an editor of Blood, co-director of the American Society of Hematology/European Haematology Association Translational Research in Haematology Program, co-chair of the international workshop for NHL and on the board of the 2020 Health Wellbeing and Responsibility working group on ‘Developing Strategy for Bone Marrow Post Transplant Survival and Care’.

**Academic leadership – our commitment to research and innovation**

**Overview of research at Barts Health**

Barts and The London Medical School has a distinguished history of research and teaching. Serving a diverse and often deprived inner city population, its research has focused on conditions that are prevalent in the local area.

St. Bartholomew's Hospital is a Centre of Excellence for cancer and cardiovascular research while the Royal London Hospital houses one of London’s Major Trauma Centres undertaking leading academic research.

In the 2008 Research Assessment Exercise, Barts and The London School of Medicine was ranked top in London and fourth nationally.

The School is home to six research institutes:

- **Wolfson Institute of Preventive Medicine** (Professor Jack Cuzick) is internationally renowned for excellence in its three centres:
- Centre for Environmental and Preventative Medicine (CEPM) (Professor Nick Wald)
- Centre for Cancer Prevention (CCP) (Professor Jack Cuzick)
- Centre for Psychiatry (CfP) (Professor Stephen Stansfield)

**Institute of Health Sciences Education** (Professor Anthony Warrens) is the medical school’s principal resource for the delivery of education and training, and for innovative research and development in educational methodology. Additionally, the Institute houses the highly successful Health Innovation and Education Cluster (HIEC) which has developed a portfolio of inter-disciplinary training opportunities and translational initiatives.

**Blizard Institute of Cell and Molecular Science** (Professor Mike Curtis) focuses on surgery, paediatrics, cutaneous, diabetes, gastroenterology, haematology, infectious diseases, neurosciences, pathology and health sciences. The total research expenditure over the RAE period was £33.7 million. On the basis of these submissions, 15% of the Blizard’s research outputs were considered world class and a further 65% internationally excellent.

**William Harvey Research Institute** (Professor Mark Caulfield) is a world-class research facility focussing on cardiovascular, biochemical pharmacology, orthopaedic diseases, endocrinology, genomics, clinical pharmacology and translational medicine and therapeutics. The £25 million William Harvey Heart Centre at Charterhouse Square which opened in 2011 provides world class facilities for research and patient care. The Centre also houses the National Institute for Health Research (NIHR) Cardiovascular Imaging Biomedical Research Unit, which was awarded £6.5m in funding for cardiovascular research.

**Institute of Dentistry** (Professor Farida Fortune) combines clinical, epidemiological and public health research in dentistry with laboratory based work bringing together a range of multidisciplinary teams with complementary skills including cell and molecular biology, microbiology, material science and biophysics.

**Barts Cancer Institute (BCI)** (Professor Nicholas Lemoine)

- In the 2008 Research Assessment Exercise, the Barts Cancer Institute was ranked 3rd in the UK in terms of 3* and 4* outputs and overall second in London (after the Institute of Cancer Research) and joint 5th in the UK.
- The BCI was identified as one of the top 10 University Cancer Research Institutes worldwide (McKinsey analysis 2012)
The Institute represents one of the largest cancer research bodies in the UK with a total of 300 staff, raising some £45 million in grant income over the past five years, with £12.6 million spent in 2006/7 alone.

**BCI Cancer Research UK Centre:** Originally, as the first CRUK Clinical Centre, The Clinical Centre of Excellence at Barts Health is now one of the largest constellations of CRUK clinical and translational groups in the UK university sector. The centre has received over £1.2 million per year of infrastructure funding since 2004. The funding for the centre has recently been renewed.

**BCI Research themes:** Built on an integrated molecular and cellular approach to the problem of cancer in individuals and in populations, research strengths include:

- therapeutic and diagnostic target identification and validation in both haematological and solid malignancies
- clinical trials exploring new therapies
- the development of novel molecular approaches for diagnosis, classification and treatment of human cancers
- investigation into the regulation of tumour spread and host anti-tumour responses.

The BCI has strong links with the Wolfson Institute for Preventive Medicine, and they are joint components of the CRUK Centre of Excellence. In particular Professor Jack Cuzick’s runs world leading randomised trials in cancer prevention, e.g. the international IBIS-II breast cancer prevention trial, the CRISP-I trial in cervical cancer and POET, a chemo-prevention trial in endometrial cancer.

**Centre for HaematOncology within BCI** (Centre Lead: Professor John Gribben)

- Delivers basic and translational research in the haemat-oncology cluster with 10 senior academics (four of whom are also clinicians) and a large complement of training posts in the form of seven post-doctoral researchers, nine clinical research fellows and seven PhD students and 10 graduate research assistants (Appendix 2).
- £6 million in grant funding in 2010-12; the majority from National and International Funding bodies (including three CR-UK and one NIH programme grants, two MRC Clinician Scientist Awards and 14 Clinical Research Fellowships) and 10% from industry collaboration.
- Recently awarded new grants (2012 onwards) not reflected in research spend include two programme grants (CRUK and NIH) and two Junior Clinical Research Fellowships.
- Barts Health is a designated Myeloma UK Clinical Trial Network centre and an LLR TAP centre, both of which are supported with external funding.
Research Themes: The major current research themes in the Centre for Haemato-oncology are illustrated (right). These are intersecting and complement the development of an excellent and progressive clinical service, serving patients with acute leukaemia and those undergoing haematopoietic stem cell transplantation.

Specific areas of current funded research include:

- the role of the micro-environment and host immune system in cancer (Prof Gribben)
- tumour evolution in lymphoma (Dr Fitzgibbon) and CLL (Prof Gribben)
- bone marrow failure in AML (Dr Taussig)
- cellular strategies to separate GvHD and GvL after allogeneic transplantation (Dr Davies)
- immune-modulation of human allo-responses (Dr Le Dieu)

Tissue Banking: HTA-licensed and compliant, samples have been banked since 1972 and a total of 38,478 samples from 11,600 patients are now stored, including many sets of multiple samples from individual patients collected longitudinally offering a unique opportunity to study changes in tumour biology over time and including over 2000 presentation blood or bone marrow samples from patients with AML. The samples in the tissue bank are fully linked to clinical outcome, making this a unique resource for translational science studies.

Academic Outputs: The Centre has had an exceptionally strong presence at the annual American Society of Hematology Meeting with at least five oral presentations and five ASH fellow awards every year for the last three years (2010-2012).

Over 30 original papers in basic and translational research have been published in the current REF cycle (Appendix 11) with lead and/or senior authors in high impact journals such as JCO, PNAS, JCI, Cancer Cell and Blood.

In addition, over 50 reviews, editorials and letters have been published over this period by the Centre. This recently published body of research represents a significant body of scientific discovery with a strong emphasis on:

- Identification of a priori and evolving genetic and immunological risk factors in patients with haematological malignancies
- Dysregulation and correction of interactions between the tumour and host micro-environment

Both these areas of discovery have great potential for translational application to improve personalized and stratified medicine within haematological oncology.
BCI Centre for Experimental Cancer Medicine (CECM)

- Funded by a £2 million grant jointly from CRUK and the Department of Health, the BCI CECM was the first ECMC established in the UK, successfully renewing its grant in 2012, and now works in collaboration with Brighton as a joint centre; bringing together hospitals with complementary skills and enabling the creation a centre of excellence, facilitating the translation of basic scientific discoveries into the delivery of novel treatments to patients with cancer.
- The CECM has over 120 clinical trials open at any one time, and in 2012 recruited circa 1,200 patients into clinical studies.

Barts Clinical Trials Unit: an accredited UKCRC clinical trials centre.

- Barts Health has a strong history of treating patients on clinical trials, providing equitable access to novel medicines before they are widely available and providing a significant cost-saving to the NHS. All patients are considered for a clinical trial, where appropriate, and we aim to have a wide portfolio for multiple episodes along the patient pathway.
- **Trial Accrual:** Our department is the UK’s top recruiter to both the currently open national trials for intensive therapy in previously untreated patients with acute leukaemia (both AML17 and UKALL14), the lead European recruiter to the commercial elacytarabine (Clavis) relapsed AML study, the global top five contributor to the non-intensive Aza-001 (Celgene) study in elderly untreated AML and the largest UK recruiter to the azacitidine/panobinostat study for high-risk MDS, CMML and AML in addition to being the lead recruiting centre for many other haematological malignancies and solid tumour oncology studies.
- Across all cancer networks, we are the largest recruiter into NCRN lymphoma studies and in the top 10 for other Haematology studies. The enhanced opportunities for clinical trials across London Cancer, with the merger of the two NCRN networks, will facilitate inter-trust working in clinical trials and enhance the experience and opportunities for all our patients.

Research Training at BCI

- The Centre for Haemato-Oncology has an exemplary track record of hosting clinical research fellows, all of whom have successfully obtaining their higher research degrees within time, and also achieved first author publications in top journals.
- There are currently nine CRFs within the Centre, many on Fellowships awarded by blue-chip external funding bodies including CRUK, and the Kay Kendall Fund as well as international Fellows from other countries within the EU.
In addition, one of our CRFs has been successful in obtaining a place in open competition to attend the EHA-ASH Translational Research Training in Haematology programme every year for the past four years (since its inception), demonstrating the commitment the Centre has to education and to training a new cadre of outstanding clinical academics.

UCLPartners – Academic Health Science Network

As part of London Cancer, Barts Health also benefits from all the facilities the network has to offer including the Academic Health Science Centre (Professors David Fish and Kathy Pritchard-Jones). Barts Health aspires to work with its partners in London Cancer to ensure that all research developments are translated into benefit for patients. Through the Harmonisation Process, Barts Health will centralise administration of trials and enable all appropriate trials to be opened at all local units. All patients will then have access to all appropriate research trials near their home, irrespective of the hospital they attend.
Transforming our patient pathways

The population we serve at Barts Health

► Level 3 HSCT and ALL service for a population in excess of **3.38 million** people.
► Induction therapy for AML for a population in excess of **2.68 million** people. We have also been able to ease capacity constraints at other hospitals when needed.
► Level 1 and 2a services at NUH, WXH and SBH for our local population of INEL.
► Appendix 3 shows the populations of the CCGs in London Cancer as well as those of our external referral partners in Essex.

A growing population

► The Thames Gateway has been recognized as an area of population growth for several years. Based on the 2011 census, our referral region contains three of the areas with the fastest population growth over 10 years (Tower Hamlets 27%, Newham 26%, Hackney 21%).
► Additionally in the Mayor of London’s ‘2020 Vision for London’ a number of areas that also all sit within our region were targeted for population growth with an additional ~50,000 new homes. These include the upper and lower Lea Valley, Stratford and the Olympic park as well as London Riverside.
► This population growth will increase the number of new diagnoses of haematological malignancy in the predominantly younger population eligible to receive intensive therapy and allogeneic transplantation.

A diverse population

► East London has considerable racial diversity and significant socio-economic deprivation with two of the poorest London boroughs, Tower Hamlets and Hackney, within the Barts Health area. Appendix 4 shows the ethnicity profile of the population of London Cancer.
► Diversity poses significant challenges for healthcare providers. Black and Minority Ethnic (BME) groups often have greater difficulty in accessing healthcare with factors such as language, culture and the attitudes of healthcare professionals compromising their likelihood of receiving the care they need.
► NCIN (2009) reports a myeloma incidence rate in the UK of 9.2-11.1 per 100,000 person-years in the African/Afro-Caribbean population, compared to that of 4.98 per 100,000 person-years in White Caucasians leading to a higher frequency of myeloma requiring auto-grafting in our BME communities.
► BME volunteer donors are underrepresented in the registries and, as HLA variation is ethnically linked, many of our BME patients will not have a suitable donor requiring use of alternative HSC sources.
An unequal population

► North East London is steeped in a legacy of historical deprivation and has some of the worst health outcomes and starkest health inequalities in London. Significant deprivation affects much of the local population with 50% of people living in the most deprived quartile nationally and three of the most deprived regions in the UK being in inner NE London – Newham, Tower Hamlets and Hackney.
► Essex covers a more rural, older population, and sits in the least 20% deprived districts in England. However the county does include several towns and coastal communities where there is significant deprivation.
► Whilst there is no evidence that deprivation impacts on the frequency of transplantation, it does impact on the co-morbidities present in an individual patient, such as ischaemic heart disease, diabetes mellitus, depression/anxiety or chronic obstructive airways disease and affects the decision to proceed, the choice of conditioning regimen and the outcome of any procedure.

We believe that our local population is our strength, from the range of presentations that we see, to the challenges of delivering care to an extremely diverse population. Our Trust has a crucial role in understanding, reaching and delivering quality health outcomes to these communities.
Acute leukaemia services – centralised where necessary, local delivery where possible

One in 243 men and women will be diagnosed with acute myeloid leukemia during their lifetime.

Approximately 181 cases of AML each year should present in the London Cancer and Essex region including 73 patients aged 20 – 64 years suitable for intensive chemotherapy and 98 patients aged over 65 years where potentially curative intensive therapy and stem cell transplantation is unlikely to be suitable, where outcomes are poor and clinical trials are desperately needed.

A large practice with high clinical trial recruitment

Between Jan 2010 and June 2013 we have intensively treated 156 patients with AML, high risk MDS and myeloid blast crisis of CML; 70% on a clinical trial. The recruitment numbers for these first line and trial patients are shown in the Figure overleaf. The median age was 55 yrs ± 13.7 (range: 19 - 75).

Our market share for AML for INEL is >95% and we are the majority provider for Essex. (Appendix 5)

We demonstrate impressive levels of past and current trial accrual:

► Top international recruiter for AML17 with 105 patients; the second centre is the Christie Hospital with 54
► Pilot site for two parts of AML15
► Pilot site for AML18.
► Lead European recruiter to the commercial elacytarabine (Clavis) relapsed AML study
► Global top five contributors to the non-intensive Aza-001 (Celgene) study in elderly untreated AML.
► Largest UK recruiter to the azacitidine/panobinostat study for high-risk MDS, CMML and AML.
In the same period we also saw 40 new presentations of ALL requiring intensive therapy. Their median age was 43 years (range: 20 – 78). Following first patient recruitment to UKALL14 in December 2011, we are the current top UK recruiter. The recruitment numbers for first line and trial patients are shown in the Figure above.
Early presentation encouraged and rapid and complete initial work up ensured – at every Barts Health site

► Our patients typically present to their GP or via A&E with non-specific symptoms such as fever, tiredness or bruising. There is little scope for patient education into the symptoms of acute leukaemia to facilitate early detection as the lead-time for these disorders tends to be extremely short, i.e. days-weeks, and the condition is uncommon.
► Trust wide policies include flagging criteria, film criteria, supervision of lab/on-call haematology services, clarity of the referral pathway, publicly available rotas and available contact numbers (manned 24/7), all of which are integral for successful entry into specialist services.
► Specialist Haemat-oncology advice and guidance e-mail systems are in place
► NICE and London Cancer two week wait referral forms and criteria are in place
► Network agreed guidance on the acute management of neutropenic sepsis, leucostasis, tumour lysis, leukaemic coagulopathies and blood product support must be available to referring DGH Haematology and A&E departments in line with Acute Oncology Peer Review measures.

The crucial role of the SIHMDS- rapid, comprehensive and accurate

► We believe that the accurate diagnosis of haematological malignancy is a specialist area and should be delivered by dedicated experts. An ever expanding array of modern molecular diagnostics is required for risk stratification for decisions of treatment, particularly the selection of patients who should be offered HSCT in first remission.
► Every new patient with acute leukaemia will have marrow sent for morphology, cytochemistry, flow cytometry/immunophenotyping, molecular analysis/baseline MRD, research/tissue banking and trephine histology.
► The Barts Health SIHMDS has all of these components on site in the ‘state of the art’ pathology and pharmacy building at the Royal London site. Our labs are fully accredited and are co-ordinated by three dedicated haematopathologists (one haematologist and two histopathologists), a dedicated molecular pathologist and senior biomedical and clinical scientists.

Barts Health is unique in London Cancer in fulfilling the criteria for a specialist diagnostics SIHMDS service embedded within the NHS.
Our AML pathways are shown on the following pages (grey: outside provider; blue: SBH; yellow: addition to current pathway; red: quality metric).
Transplant pathway - integrated with disease-specific expertise

An expanding HSCT unit

- In 2009, using BSBMT and commissioner’s data sets, the Pan-Thames Adult HSCT Consortium identified a first transplant rate of 33 transplants per million population per year. The market share of the London Cancer region plus Essex and Herts divided by HSCT provider for this period is shown in Appendix 6.

- We are the majority provider of HSCT in INEL, ONEL and Essex (Appendix 7).

- Since 2007, the workload at SBH has continued to grow year on year in line with local population growth and increasing use of newer transplant modalities.

- Our workload has consistently remained above the 100 patient threshold set by London Cancer.

St Bartholomew’s - Number of transplants per year [EBMT 2005-2012]

“I support Barts Health NHS Trust application based upon the JACIE accreditation, performing in excess of 100 stem cell transplants per annum and having centre-specific outcomes which are matching the national outcome curves. Furthermore your centre is the best in the UK for data registration and follow up, both in terms of timeliness and accuracy.” Prof. Gordon Cook, President of BSBMT, Professor of Haematology & Myeloma Studies, St James’s Institute of Oncology, St James’s University Hospital, Leeds
Our HSCT pathways are shown on the following pages (grey: outside provider; blue: SBH; yellow: addition to current pathway; red: quality metric).
One consultant, one key worker

Our pathway is linear, simple and patient-focused.

One clinician, who knows the patient, presents the patient to the MDT to decide the appropriateness of transplantation, the appropriate conditioning, the optimal time point and the planned immunomodulation, disease-specific post-HSCT therapies and disease surveillance strategies tailored to the individual patient and their disease.

**Patient support:** The traditional model of employing tumour specific CNS’s with separate Stem Cell Transplant Co-ordinators has been replaced in favour of innovatively created hybrid roles fusing those of the site-specific CNS’s with that of the CNS’s for Stem Cell Transplant.

Having been in operation for several years to date, these roles drive efficiency and facilitate continuity of care thus providing a more streamlined experience for our patients and their carers via the provision of the same key-worker throughout all aspects of the care trajectory including transplantation.

The challenge of survivorship - discharge and beyond

**The scale of the problem**

St Bartholomew’s Hospital has had a policy of maintaining on-going follow up after a diagnosis of a haematological malignancy. This has meant that there is now a considerable cohort of patients who are still attending the clinics and whose survivorship issues need addressing and who are the focus of research.
Research conducted by the department among our long-term survivors demonstrates that there are significant on-going health issues, concerns about recurrence and additional unmet needs for information. There is a need to continue research into this important area. This is fully supported by patient advocacy which has continued to inform us that patients and their families see this as a previously unmet need.

The NIHR-approved ‘Late Effects Study’, part-funded by MacMillan Cancer Support, was a questionnaire-based study to address the challenges faced by survivors of leukaemia and lymphoma treated at St Bartholomew’s Hospital, with a view to determining the extent of problems from the patient’s perspective and identifies unmet management needs. Patients treated for haematological malignancy at St Bartholomew’s Hospital, surviving ≥5 years (n=1,283 of 2,041 5-year survivors) were contacted and 56% responded. This work has been presented in national and international meetings and is submitted for publication.

**Health promotion and complication detection**

All patients on annual review are moved into our ‘Long-term survivors’ or ‘Late Effects’ clinic in conjunction with the paediatric Late Effects clinic with consultant endocrinology cover and plans for cardiology and respiratory medicine input from 2014.

Much of the work we have found following the set-up of this clinic involves health promotion, subfertility, iron overload, cataracts, hyposplenic intervention, cardiovascular risk factor management, carotid/aortic stenosis surveillance, secondary malignancy, hypothyroidism/thyroid nodules, oesophageal strictures, vitamin D deficiency, osteoporosis, hypogonadism, fatigue and anxiety/depression.

Because of the broad range of this clinical material we have not felt that early discharge to primary care is the appropriate model for many of our patients as there is the chance that, without guidance, much of this pathology may be missed. This is in line with emergent DH recommendations regarding the long follow up of HSCT patients.
Patients are triaged into three categories - those that may be suitable for GP-led follow up, patients that may be suitable for nurse led follow up and those needing medical review.

All patients attending this clinic have a personalised letter summarising the total therapy received to date and the consequent recommendations sent to them and their GP. Contact numbers and emails are on the letterhead and they are encouraged to contact us if they have any new concerns.

**Returning to normal**

All HST patients are offered participation in a patient support group that covers 10 weeks and discusses patient transition following HSCT. This is led by one of our CNS team and a clinical psychologist. ‘Living Well’ end of treatment meetings are additionally open to all our patients and are run via Cancer services and have received good feedback.

Professor Gribben is a named investigator currently collaborating with Professor Peter White (Psychiatry), in a development grant for SUrvivors Rehabilitation Evaluation after CANcer (SURECAN) designed to test whether a multi-modal therapy of both exercise and cognitive behaviour therapies, can be safely and effectively delivered by trained cancer nurses in a cost-effective manner. This therapy will be compared against the one off advice session currently available in some cancer services.

**Living well with cancer – chronic illness management**

90% of the population in Tower Hamlets have internet access and we are keen to utilise new technologies to access all patient groups. We have also successfully received a £2 million grant from the Kay Kendall Foundation to develop ways of distance monitoring using digital technologies such as Skype for many of our patients, such as those with stable CLL or MGUS or hybrid clinics for those stable on regular medication such as CML where some visits are at a distance and some are on site.
A website and patient portal will offer specific benefits to patients including:

► summary information on their monitoring schedule (video appointments, blood tests, data entry), clinical results; disease status, direct access to the hospital specialist team
► a one-stop source of local, national and international disease-related information, with links to other sites (Macmillan, CRUK, CLLSA etc.), patient forums
► frequently asked questions section, information on clinical trials and availability and laboratory research.
Joint working – robust clinical partnerships

Working collaboratively, we hope to be able to focus on joint strategies for improving clinical outcomes, trial accrual and patient and carer experience.

The multi-disciplinary team (MDT) (Appendix 8)

- Barts Health NHS Trust Haemato-oncology MDT serves as the local and specialist MDT for Barts, the Royal London, Whipps Cross, Newham and the Homerton as well as the specialist MDT for tertiary referrals from BHRUT and the extended network covering the majority of Essex. Clinical Oncology input is present to discuss all cases including those HSCT cases requiring TBI.
- We have an IOG compliant MDT with transplantation, as required, integral to discussion of all cases, as well as the attendance of all members involved in the treatment of all patients.
- The meeting has state of the art video conferencing facilities, digital video display links and microscope facilities.
- In the last 6 months, 765 cases have been discussed in the Barts MDT. This comprised 138 (18%) new patients with an average of 28.5 SBH patients discussed each week (range: 15 – 43). The average number of patients brought to the MDT by colleagues at NUH was 3 and 3.1 for WXH with 82 (10.7%) and 85 (11.1%) patients respectively in total being discussed from these two hospitals over this six-month period.

Joint Appointments (In-reach)

- Level 2b: We currently have in-reach into one HSCT clinic a month from BHRUT and we will accommodate other DGH consultants who wish to take up the opportunity to see their patients undergoing treatment at the centre in a disease-specific Haemato-oncology clinic.
- Level 1: A consultant from Homerton University NHS Foundation Trust will attend our joint MDT in person.
- Barts Health and the BCI would actively facilitate split academic and clinical contracts for clinical academics from decommissioned partner institutions to allow them to maintain their academic affiliation to other academic institutions, yet undertake their clinical activity at Barts Health.

Communication

- Robust partnership working allows prompt risk stratification and flagging of potential HSCT patients and referral on to Level 3 services.
► We hope that a patient held record and formal new patient, end of treatment and discharge summaries from ward and day unit will ensure that our partner organisations are as well informed as possible about patients who may present as an emergency to their organisation.

► Our new CRS upgrade will allow ‘cloud’ access to our patient e-records via the internet, iPads and even mobile phones. This will allow accurate record entry into Barts Health notes wherever we see a patient as well as access to results and previous letters.

► The new CRS will also allow discharge summaries to be emailed to GPs, patients and referrers.

Outreach

► Our plans for outreach services across Barts Health, and other providers, are detailed in the following Figure. This is a model that could be developed more widely across London Cancer. Example job plans are presented in Appendix 12.

Joint working across London Cancer

► The use of the disease specific guidelines that have been produced by Pathway Board for Haematological Malignancies for London Cancer will ensure that all protocols and standards are of the highest quality across the network.

► To embed best practice in routine care we will establish a regular programme of London Cancer Quality meetings, initially one for acute leukaemia and one for HSCT but this could expand to all areas. This would bring together the MDTs across London Cancer and its referral network for discussion on joint protocols, treatment algorithms and challenging clinical or diagnostic cases.
Local services

Local care whenever possible

The delivery of intensive acute leukaemia and HSCT chemotherapy is, by its intensity and complexity, necessarily provided at the Centre. Where locally delivered care is appropriate then the patient will be managed at their referring hospital with partnership working and further advice/review available as required.

We will continue to work with all partner trusts to ensure as much supportive care as possible is delivered at local hospitals. We hope that with specialist provision and outreach this can be further increased.

Within Barts Health Level 2a treatment can be delivered by our satellite day units at either Whipps Cross Hospital or Newham University Hospital if this is the patient’s preference.

Patient support

Patient movement around the pathway is co-ordinated through each patient’s single key worker. They have excellent links with the other CNS teams within Barts Health, with an increasing degree of cross site working, as well as with the CNS teams at our referring hospitals in Essex.

Hub and spoke services

Barts Health would consolidate into a ‘hub and spoke’ model, where services are run from the Cancer Centre by specialists in haemato-oncology.

These specialists would outreach into dedicated services at the local delivery hospitals that would be tailored to meet the service needs of the local communities and would include specialist haemato-oncology outpatient clinics, day unit support and acute oncology/consultative ward reviews of inpatients.
Barts Health is in a unique position to offer this balance due to configuration of our services providing specialist and local services across a broad geographical area.

All patients would access full, stream-lined and uniform diagnostic work-up pathways, tissue banking, a full range of clinical trial options, supportive and holistic care services.

An increasing amount of non-intensive therapy would be delivered locally, with the further expansion of home delivery for oral chemotherapy as well as a feasibility and acceptability survey for home delivery of chemotherapy and supportive interventions.

Specialist trial and intensive chemotherapeutic options, such as HSCT, will remain delivered centrally but with patients cared for closer to home with centrally supervised follow up when appropriate.

Development of other hospitals in Barts Health will provide alternative access points for our Essex referral patients who may prefer to travel to Whipps Cross or Newham for their clinic review, blood tests or treatment rather than travel into central London. These hospitals are linked by a common IT system.

Emergency readmissions – Acute Oncology services

All patients have direct ward access for readmission at St Bartholomew’s Hospital if this is most appropriate.

Specialist haematology-oncology provision of the Trust Acute Oncology Service (Trust consultant lead: Dr Sarah Slater) exists via outreach to WXH, RLH and NUH with agreed treatment, fast-track review, flagging and transfer protocols in place. Active engagement with colleagues in A&E and Medicine is on-going across all hospitals in Barts Health.

Patients admitted at a satellite site are managed by our local colleagues in collaboration with Barts Hospital with urgent planned transfer as appropriate. At hospitals within Barts Health patients will be reviewed by the haematology-oncology outreach service and all emergency admissions are seen within 24 hours of admission by their own consultant or the on call consultant.

We will achieve full compliance with Peer Review standards by 2014 and ensure that there is on-going haematology-oncology engagement within the Acute Oncology work stream of London Cancer.
Clinical infrastructure

We have all the required facilities and co-dependencies for the treatment of these complex patients and there are a range of services available at multiple hospitals across Barts Health Trust and our wider partners in Essex.

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<th>Chemo</th>
<th>Radio-therapy</th>
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<th>Palliative care</th>
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For excellent outcomes, such treatment must be delivered in an appropriate setting and we are fortunate at Barts Health that we will shortly move into a 51-bedded HEPA-filtered unit that has been configured specifically for the purposes of world-class haemato-oncological care.

This bed capacity can also be increased further, if required, following additional regional service demands.

The new hospital will result in the co-location of haemato-oncology with the provision of critical care, haemodialysis (with high flux light chain removal), on-site cardiology with CCU, respiratory medicine/bronchoscopy, endoscopy facilities and access to a range of other specialities across the Barts Health hospitals.

To manage this expanding workload, we have developed ambulatory approaches using the Gloucester House Patient Hostel, as well as close collaboration with the referring hospitals’ Day Units to ensure that patients are only in-patients if they require specialist haemato-oncological support.

We continue to provide a seven day-a week Day Unit and Apheresis Unit with extended evening hours and with consultant and SpR cover. Leucodepletion, peripheral blood stem cell collection, donor lymphocyte collection and plasma exchange are available on site. Unwell patients...
are admitted directly after assessment on the Day Unit or directly after hours. Patients have 24 hour access, via dedicated phone lines to both doctors (SpR/Consultant) and CNS.

**Stem cell laboratory**

The Stem Cell Laboratory (SCL) at Barts Health NHS Trust is embedded in dedicated space at the Pathology and Pharmacy Block, Royal London Hospital. This site incorporates all pathology and pharmacy services for the Trust.

The SCL is HTA and JACIE accredited. Two clean rooms provide the capacity to expand beyond the current workload. Facilities for cell culture are available. The liquid nitrogen storage is built into the SCL space, although graft material is also stored off-site.

The SCL services include processing of mobilised peripheral blood and bone marrow stem cells, CD34+ selection, cell separation using an AutoMacs for split chimerisms, cellular subset analysis by flow cytometry, colony forming unit assays and cell storage.

The laboratory has been pivotal in supporting the various cardiac “stem cell” trials for the management of end-stage ischaemic heart disease, cardiomyopathy and acute myocardial infarction. A variety of other clinical studies are supported, both in haemato-oncology and medical oncology.

**Adjunctive services – IOG compliant**

Adjunctive services available on site meet all IOG Chapter Two Standards including:

- fertility services
- psychology
- specialist and general palliative care including an anaesthetic-led acute pain service

*The modern blended with the historic – the new St Bartholomew’s Hospital*
physiotherapy and occupational therapy
- a dedicated haemato-oncology dietician as well as parenteral nutrition team
- speech and language therapy
- social work
- wigs/surgical appliances
- information resource centre
- carers support/space
- complementary therapy
- spiritual support, bereavement support
- patient education forums

Appendix 9 details these by site across Barts Health.

**Complementary therapies – Maggies Barts**

‘Maggie’s is about empowering people to live with, through and beyond cancer by bringing together professional help, communities of support and building design to create exceptional centres for cancer care.’ [www.maggiescentres.org]

Art therapy, relaxation therapy, meditation and a range of complementary therapies are available at present.

There is a programme underway to further expand the range of complementary services available to our patients with the opening of Maggie’s Barts, which will be their second centre in London and the only one actually on the hospital site.

Planned to open in 2015, it is to be set in the grounds of St Bartholomew’s Hospital adjacent to North Wing, adding to the visual delight of the square, and enhancing the care that we can provide for our patients.

Steven Holl Architects will carry out the design and the centre will offer emotional, practical and social support, including courses on nutrition and living with cancer, support groups and bereavement groups for patients and their carers, as well as relaxation classes, educational sessions and a drop-in space for all affected by cancer being cared for at the Barts Hospital site.
Travel

St Bartholomew’s Hospital has a favorable geographical location with easy transport links to the rest of London and Essex as well as Hertfordshire and the Sussex coast.

Public transport

Barbican, Farringdon and St Paul’s underground stations, are all in the shadows of the hospital, and are served by the Hammersmith and City, Metropolitan, Circle and Central line underground services. District and Circle line trains are available at Blackfriars and Cannon Street stations, which are both a short walk away.

Twenty-four of the 32 London boroughs are currently served by direct tube services from stations within walking distance of Barts Hospital.

Overground Thameslink trains run from Brighton, Croydon, Sevenoaks, Rochester, Ashford, Sutton, Luton and Bedford directly through Farringdon and City Thameslink stations; Stevenage and Welwyn services run via Finsbury Park into nearby Moorgate station; C2C services from Shoeburyness and Southend run via Basildon to nearby London Fenchurch Street and Liverpool Street stations and lastly Greater Anglia services run from Clacton, Colchester, Chelmsford, Southend, Brentwood and Romford into London Liverpool Street station.

Additional services from Bishops Stortford, Harlow, Silver Street, Enfield and Tottenham are served by Liverpool Street station allowing potential access to Barts for patients referred from additional trusts in the event of alterations in patient flows following London Cancer service pathway reconfiguration.

By 2018 the opening of Crossrail and the completion of the upgrade of the Thameslink service, with a station at Farringdon/Barbican, will see a further extension of public transport services into Berkshire, Norfolk, Cambridgeshire, Kent, Sussex and Hampshire as well as rapid links to Heathrow, Gatwick, City, Stansted and Luton airports.
In addition to the Underground and London overground rail services, St Bartholomew’s Hospital is on the London bus network for routes 4, 8, 25, 56, 172 and 242 as well as night buses N8, N25 and N242; making it truly accessible 24hrs a day. There are also Barclays cycle hire docking points directly outside the hospital.

We provide transport details on our publicly available website as well as a link to Transport for London’s journey planner. All new patients to the cancer centre receive a welcome leaflet detailing the transport links to the hospital. We will additionally work to provide personalised TFL plans for each patient that needs to travel to the specialist centre for care.

Private transport

There is limited parking at the Barts Hospital site, however a multi-storey City of London car park is close to the hospital on West Smithfield and there are 18 Blue Badge single or multiple bays within the West Smithfield area. With the redevelopment of the area, we will discuss with the Corporation of London further expansion of these facilities.

Travel times

Appendix 10 illustrates travelling times to Barts Hospital across the London Cancer region. We have mapped the travel distances for all patients attending our centre for intensive AML therapy between January 2010 and July 2013. The median distance was 47.9k (range: 2.82 – 125.68) with a median driving time of 49 minute (range: 8 – 107 minutes). The distribution of driving times for these patients is shown below. Approximately 35% were within 30 minutes driving time from the Centre and fewer than 4% lived over 90 minutes away.

Barts Health non-emergency transport service

Barts Health recognises its obligation to provide non-emergency patient transport (NEPT) for patients who have a clinical need that prevents them from making their own way to or from hospital. Currently the Trust is carrying out c. 21,000 journeys per month.
Barts Health non-emergency transport service operates UK wide and can supply any vehicle suitable for the patient’s clinical need from an ambulance saloon car to a blue light ‘front line’ stretcher vehicle with fully trained technical crew able to give oxygen therapy, cardiac monitoring or suction.

We are continually trying to improve our service and its efficiency. We have recently begun to utilise the service of an external organisation and are carrying out a six-month efficiency review pilot project.

**Proposals for supporting patients and relatives**

Support is given to allow patients and carers to reclaim the congestion charge and the transport claims office is next to pharmacy in the main outpatients building, for those people on benefits wishing to claim back transport costs.

Local clinic and Day Unit provision at Barts Health satellite hospitals, as well as outreach provision within London Cancer and further afield at our Essex partners, will mitigate the need for our patients to travel in to the Centre.

Our existing hostel accommodation and ambulatory care strategy allows patients and carers who live far away, to remain on site (free of charge) during treatment.

Our Outpatient Transformation Programme is looking at the feasibility and acceptability of late evening and weekend clinics (matching the hours our Day Unit already provides) in order to fit in with working patients and carers and to avoid peak-travel for patients who may be concerned about travelling while immunocompromised.
Audit of outcomes and patient experience – our commitment to data collection and sharing

Clinical outcomes

We provide a high quality, value for money service with outcomes comparable to other major transplant centres and a service subject to regular internal review and external quality assurance via the JACIE organisation.

Our HSCT unit has been JACIE re-accredited this year with no deficiencies identified.

BSMBT analysis of our transplant outcomes remains comparable to other providers, including UCLH and the Royal Free.

We review our transplant outcomes regularly as part of our Transplant quality management programme. We are JACIE 100% data compliant for D+100 and later follow up.
CHKS data continues to put our leukaemia outcomes in the top 10% of trusts.

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<th>Condition</th>
<th>Cases</th>
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<td>46</td>
<td>4131.5</td>
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_Audit and National Quality Markers_

We have an on-going rolling audit programme across Haemato-oncology and HSCT with monthly morbidity and mortality meetings including review of all HSCT deaths and AML deaths in CR or induction.

Our department has met all two-week, 31-day and 62-day cancer waiting time targets as well as CQUINS relating to VTE and HSCT.

_Proposals to measure and publish outcomes_

We will continue to actively participate in all JACIE requirements and to submit all required transplant-related outcome data to BSBMT/EBMT.
We would establish regular London Cancer Quality meetings, one for acute leukaemia and one for HSCT. These would be a clear demonstration of all Centres’ commitment to data collection and sharing as well as provide a forum for exchange of best practice and building crucial unity of team spirit. Outcomes for individual centres and a combined morbidity and mortality meeting with illustrative examples would be included within this programme to further promote joint working. A London Cancer rolling audit programme would be agreed with universally collected metrics. Each site would present its own outcome data, audit data and clinical research activity. These outcomes should be publically available documents.

There should be uniform recording of an expanded minimal data set so that outcomes can be accurately compared between London Cancer sites. These will require collaboration between those sites with established data-bases and quality management programmes. Some smaller sites may require additional data management support from the larger centres. These aims may best be realised with the appointment of a London Cancer acute leukaemia Quality Manager.
Clinical research reporting patient outcomes outside a clinical trial setting

We have a CRUK funded data-base recording the treatment and outcomes of 9400 patients treated from 1969 onwards, detailing all patients who have consented to holding of data, for example, of these 1860 have AML. This enables us to publish our clinical outcomes on a regular basis.

- Outcome of allogeneic transplantation for patients with AML/MDS (Davies J.K. et al., BJH 2013)
- Outcome of autologous procedure for patients with myeloma (Hassan S. et al., EBMT 2013)
- Bile acid malabsorption in patients with GvHD of the gastrointestinal tract (Joshi N.M. et al., BJH 202)
- Outcome of allogeneic transplantation for patients with lymphoid malignancies (Auer R.L. et al., BJH 2012)
- Outcome of myeloablative chemotherapy for patients with recurrent Follicular Lymphoma (Montoto S. et al., Haematologica 2013)
- Outcome of early relapse or refractoriness in patients with Hodgkin’s disease (Greaves P. et al., BJH 2012)
- Treatment of RSV in haematopoietic stem cell transplant recipients (Tsitsikas. D.A. BJH 2009)
- Outcome of treatment for Hodgkins Disease and HIV status (Montoto, S. JCO 2013)
- Outcome of patients with ATLL (Hodson A. et al JCO 2011)
- Efficacy of bimonthly extracorporeal photophoresis in refractory GvHD (Dignan F. et al BMT 2012)

Educational outcomes and CNS development – our commitment to education and training

Barts Health is a regional provider of postgraduate and undergraduate teaching. There were no red flags for haematolgy training at Barts Health on the recent 2013 GMC/PMETB survey.

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London Cancer Trusts Haematology Training PMETB survey results by site (GMC, 2013) dark green = significantly above national score, black = insufficient returns, red = significantly below national score
Clinical nurse specialists have all completed Level 2 psychological training and have been supported to develop additional skills in PICC line insertion, prescribing, bone marrow aspiration and clinical examination as well as establishing nurse-led clinics.

They attend the monthly regional CNS forum, the national myeloma CNS meetings and London nurse chemotherapy forum. They are also in discussion with the Essex CNS teams on how to facilitate regular meetings to discuss issues around communication, quality and topics of educational interest.

**Experience of patients and carers – gathering and responding to feedback**

A written ‘HSCT Public and Public Engagement Strategy’ is in place and a patient forum has been meeting quarterly since November 2011. Their first ‘Celebrating Life’ event is planned for 2014.

We regularly seek patient input via local real-time feedback and comment cards.

We support national inpatient and chemotherapy satisfaction surveys and take part in CQC inspections and National Peer review. At a recent CQC Inspection of Cancer services at SBH Feb 2013 we met all five standards.

All comments and complaints are collated and reviewed at our regular JACIE/HSCT Quality Management meetings.

‘Patients and their relatives told us they would feel confident about complaining, should there be a need to raise any issues or if they felt the quality of care was below their expectations… We asked for and received a summary of complaints people had made and the provider's response. People's complaints were fully investigated and resolved.

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*Patient feedback from Late Effects Questionnaire Survey, 2012*
where possible, to their satisfaction." [CQC Inspection report St Bartholomew's Hospital, 2013]

‘Patient’s privacy, dignity and independence were respected. Patient’s views and experiences were taken into account in the way the service was provided and delivered in relation to their care.’ [CQC Inspection report St Bartholomew's Hospital, 2013]

‘One patient told us, "all is good here, I've been well looked after."...Other comments made by patients were: "this is my third time here, and it's always been the same high standard", "all the doctors and nurses are good", "everything has been very good. This is the best hospital I've been in", "the care has been amazing, better than in a private hospital", "I feel well looked after. I've been in here previously, and it's always been the same good care", "they've looked after me very well. I can't fault them." [CQC Inspection report St Bartholomew’s Hospital, 2013]

Putting patient and carers at the heart of care

It is our aim to truly put our patients at the heart of care with an ethos of dignity, choice, compassion, support and treatment as individuals. Space is always available for detailed conversations and will expand further with the opening of phase 2 of the Barts Hospital redevelopment. There is a high ratio of side rooms and specific rooms available in every clinical space for breaking bad news.

‘Patients understood the care and treatment choices available to them. We observed staff speaking to patients with respect. We also saw staff treating patients with dignity ... People told us staff treated them with dignity and respect. One person told us they liked "the amount of respect, genuine respect, the people have. They treat you like a human."' [CQC Inspection report St Bartholomew’s Hospital, 2013]

Therapy input is offered to all HSCT patients. Currently physiotherapy treats approximately 12 SCT patients per month, providing information on basic exercise to these clients. We are working to improve physiotherapy uptake.

We provide psychological and dietetic pre-assessment before HSCT and our Dietetics department is currently collaborating with the HSCT units at KCH and UCLH in the development of guidance and written patient nutritional advice booklets for patients with severe gastrointestinal GvHD.
The Day Unit does not schedule appointments and operates a ‘drop in’ service to accommodate patient preference. For patient convenience and to accommodate complex chemotherapy regimens it operates an evening and weekend service. The Unit sees an average of 55-60 patients per day and recently received a Barts Health award nomination for their quality of care.

Patient education and self-management is encouraged, for example, by education on GCSF or EPO injection, managing their Hickman and PICC lines at home as well as self-administering intravenous medication to avoid inpatient admission.

Patient empowerment is facilitated by the offering of a choice of either hospital or hostel accommodation when either is clinically appropriate. Gloucester House hostel can also provide relatives’ accommodation.

**Patient and carer engagement – across London Cancer**

One of London Cancer’s primary objectives is achieving excellence in the ‘patient and carer experience’.

With the extensive reconfiguration of services now underway across London Cancer, ensuring patient engagement and enhancing their experience is now, more than ever, critical. This focus needs to be on all patients with a haematological malignancy, at all points in their pathway in London Cancer; from diagnosis to treatment, to survivorship and end of life care.

Locally, we are establishing a Barts Health Quality Improvement Forum that meets monthly, to ensure that we continue to achieve excellence following service reconfiguration and to drive forward local improvements in individualised, patient-focussed care.

We will work with London Cancer to develop the disease-specific support groups that already exist and to develop a Patient and Carer Quality Group who will agree the methods, target audiences and frequency of user surveys to run across London Cancer as well as look at actively seeking feedback in innovative ways (such as email or apps). This group would facilitate network meetings that may have an educational focus for patients and carers but would also periodically review site-specific feedback on local and National Patient Surveys to help implement the changes required. This group would interact with each trust’s Quality Improvement Forum.
Experience of referring clinicians

We have begun an ongoing process of seeking feedback from our referrers which has identified many areas of good practice and some suggestions for improvement and changes that will follow as a consequence of the London Cancer process, which we will be addressing in our Local Quality Improvement Forum.

Consultant clinician feedback from referring Trusts (Barts Referrer Survey, 2013)
Impact of change

Impact if successful

Success for Barts Health will result in significant improvements for all London Cancer patients:

- excellent clinical services delivered locally
- improved outcomes and patient experience
- access to cutting-edge clinical trials and novel treatments for all our patients

We will consolidate our position as the largest AML treatment centre and one of the top five HSCT centres in the UK.

We will work collaboratively with the other successful Level 3 site in London Cancer to drive quality, personalised care and excellent clinical outcomes, improve the patient experience across the network and deliver world class research as the largest transplant service in the UK. In addition, we would propose that there is a uniform quality management service, tissue and data collection for the acute leukaemia programme in London Cancer and one for HSCT.

An urgent needs and capacity review will need to be undertaken as well as integration, workforce planning, governance and management structures put in place to manage the development of new capacity whilst ensuring continuity of provision of medical care, staff well-being and research programmes consequent on the decommissioning of services.

Barts Health and the BCI would actively facilitate split academic and clinical contracts for clinical academics from decommissioned partner institutions to allow them to maintain their current academic affiliations, yet undertake their clinical activity at Barts Health.

Relocation of patient referral pathways is likely to arise from MDT links, established academic and clinician relationships and availability of clinical trials.

However, it will also depend on the capacity at the remaining service hospitals and the potential relocation of key staff from the site(s) being ‘decommissioned’. Barts Health is the only Trust with existing spare capacity across outpatients, day care and inpatient ward facilities. From available data this will provide sufficient capacity to accommodate additional acute leukaemia and HSCT patients required following service reconfiguration.
As a Trust, we have an established model of a large acute hospital (RLH) with specialist haemato-oncology provided as an outreach service. This model is applicable to the potential need for London Cancer to provide access to specialist services on multiple hospitals following service reconfiguration.

Impact if unsuccessful

To patients

► The loss of HSCT services would bring about a catastrophic impact on the health of the population of East London and Essex.
► Loss of haemato-oncology would compromise our ability to maintain nursing staff and junior doctor numbers for compliant rotas for the remainder of Cancer and appropriate nurse:patient ratios.
► Loss of transplant facilities would threaten other supra-regional services such as the germ cell tumour unit and Crohns disease service.
► Inability to run local services at satellite hospitals within Barts Health necessitating more complicated and costly patient pathways.

To staff

► We would be unable to provide adequate training for Haematology and Medical Oncology SpRs
► Staff recruitment and retention would be significantly compromised and the laboratory research programme in haemato-oncology at BCI is likely to cease as it is.

To the Trust

► Would significantly destabilise and undermine the Trust’s Cancer strategy
► SIHDMS specialist services (including Cytogenetics and Molecular Haematology) would no longer be viable and the regional diagnostics service would hence be destabilised.
► Loss of Level 3 haemato-oncology services would impact on the activity of our transplant immunology department, potentially making it unviable and impacting on other transplantation programmes, such as renal
► Loss of the Stem Cell Laboratory would adversely impact on other Trust services requiring stem cell transplantation methodologies, such as Cardiology.
► Loss of Haematology-oncology services would result in additional cost savings to be achieved across Barts Health with consequent deleterious effects on the provision of healthcare for one of one of the most deprived parts of the UK.
► It would threaten the financial viability of the Trust as it copes with one of the largest Trust mergers and PFIs in the country.
The loss of Level 3 Haematology-oncology services would be so significant that the financial viability and original business case for the Trust would need to be revisited with NHS England.

To London Cancer and partners

Other organisations would need to manage the flow of approximately 140 transplant patients, 60 AML patients and 20 ALL patients in addition to patients receiving salvage lymphoma therapy and those with aplastic anaemia and severe bone marrow failure requiring ATG immunosuppressive therapy.

Based on 2004-2007 Pan-London commissioning data shown below, 90% of our HSCT patients reside in Essex and NE London. While many would locate to other London Cancer organisations, with the merger of MDTs, the patient journey would become more complex and costly.

It is likely that a significant proportion of our current referral practice could be lost from London Cancer to Cambridge or South London Centres.

<table>
<thead>
<tr>
<th>SHA</th>
<th>BLT (n=255)</th>
<th>Royal Free (n=112)</th>
<th>UCLH (n=363)</th>
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<tr>
<td>Essex</td>
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<td>Kent &amp; Medway</td>
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Pan-London HSCT commissioners’ data 2004-2007 divided by Trust and SHA [red>20%; orange 10-19%; yellow 5-9%]

There would be knock on effects to the rest of Haematology-oncology because of our view of HSCT as one treatment modality among many. We view retaining Level 3 services as crucial to the functioning of our unit as a clinically and financially viable haematology-oncology service.
The loss of Level 2b and 3 services would trigger a review to relocate all haematology-oncology inpatients to the remaining Level 2b and 3 centres along with the responsibility for outpatients, day care and local 1 and 2a services for the five hospitals within Barts Health and for outreach to Essex.

This would be difficult to action immediately due to limited capacity at the other two hospitals but we would push for early resolution due to the destabilising effect of planned service reconfiguration on recruitment and retention of staff and the risk of creating a ‘lost tribe’ of patients receiving a second rate service.
Organisational capacity

Over the past five years Barts Health has delivered some of the largest and most complex change programmes in the country. These include:

- Barts Hospital Phase I – Opened March 2011
- Hyper Acute Stroke Unit – April 2010
- The Royal London Hospital, Whitechapel Phase I – opened December 2011
- Creation of Barts Health – April 2012

The initiatives above demonstrate that Barts Health has been successful in delivering a broad range of complex change programmes from buildings to organisational mergers.

Haemato-oncology has the support of the Trust Board

Cancer is one of the four key themes in the Trust’s service development strategy and this bid has the full support of the Trust board.

Increase in bed numbers: The Trust has already invested considerably in haemato-oncology services with an additional 18 beds (with the additional medical and nursing staff to staff them) provided in Phase 2 of the redevelopment of St Bartholomew’s to sustain the natural growth we have experienced over the past five years.

Increase in consultants: The Trust have funded an additional consultant 20PAs in 2013 to account for natural growth in activity, clinic reconfiguration and enhanced AoS and consultative outreach to the RLH site.

Haemato-oncology is a beacon service for the Trust - potential growth and future capacity

Barts Health is the only Trust with existing spare capacity across outpatients, day care and inpatient ward facilities, following the redevelopment. In terms of inpatient beds, capacity in the Trust allows us to increase by a further 30 beds to a total of 81.

Additional outpatient and day care capacity has already been opened at the Trust and will further expand on the St Bartholomew’s site with the completion of work across our two main hospital hospitals.
Further expansion for local provision is possible at satellite hospitals across our partner hospitals with Barts Health as part of our planned internal service reconfiguration strategy.

From available data this will provide sufficient capacity to accommodate additional acute leukaemia and HSCT patients required following service reconfiguration.

With any consequent increase in activity, the Trust will look favourably on business cases to continue to expand our service to cope with the additional growth that flows from the closing of the Level 3 centre and movements of acute leukaemia patients around the region.

We have a flexible and supportive board, which see haemato-oncology as a beacon service for the Trust and a priority for future investment.

Given the financial constraints currently within the NHS, it is unhelpful to ask the remaining Trusts in London Cancer to increase capital expenditure to expand haemato-Oncology services on their hospitals when such capacity is already available within region.

**Timescale for implementation**

The table below sets out our proposed time frame for implementation of change.
<table>
<thead>
<tr>
<th></th>
<th>2013</th>
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<tr>
<td><strong>London Cancer</strong></td>
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<td>Phase 1 Haemato-oncology pathway board meets</td>
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<tr>
<td>London Cancer review</td>
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<td>UCLP executive group meeting</td>
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<td>Barts Health</td>
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<tr>
<td>Bart Local implementation group established (monthly)</td>
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<td>Barts Quality improvement forum established (monthly to quarterly)</td>
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<td>Patient and carer education forum</td>
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<td>Consultant appointment SBH</td>
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<tr>
<td>Outreach to RLH established</td>
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<tr>
<td>Division of services WXH, NUH</td>
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<td>Essex outreach discussions</td>
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<td>Outreach to WXH, NUH established</td>
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<td>Barts Phase 2 PFI opens</td>
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<td>Maggie's Barts opens</td>
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<td>Barts Health &amp; Partner Trusts</td>
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<td>Phase 1 Bids submitted</td>
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<tr>
<td>Phase 2 Bids submitted</td>
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<td>Capacity &amp; Needs review</td>
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<td>Detailed case mix analysis</td>
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<td>Transitional joint meetings - (1) AML and (2) HSCT</td>
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<td>MDT reconfigurations</td>
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<td>Governance and Quality management established</td>
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<td>Protocols agreed</td>
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<td>SLAs agreed</td>
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<td>Audit programme established</td>
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<td>Work force planning completed</td>
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<td>QM appointed</td>
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<td>Service reconfiguration complete</td>
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<tr>
<td>Operational joint meetings (AML/HSCT)</td>
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Information and application templates

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<tr>
<td>Clinical Lead</td>
<td>Prof John Gribben</td>
</tr>
<tr>
<td>Managerial Lead</td>
<td>Lisa Hollins, Deputy Chief Operating Officer</td>
</tr>
<tr>
<td>Date completed</td>
<td>19 July 2013</td>
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</table>

At which level do you currently provide services for patients with haematological malignancies?

- **BCSH Level 1**: Yes
- **BCSH Level 2a**: Yes
- **BCSH Level 2b (-AML)**: Yes
- **BCSH Level 2b (+AML)**: Yes
- **BCSH Level 3**: Yes

At which Level do you wish to provide services for patients with haematological malignancies in the future?

- **BCSH Level 1**: Yes
- **BCSH Level 2a**: Yes
- **BCSH Level 2b (-AML)**: Yes

Applying to provide:

- **BCSH Level 2b (+AML)**: Yes
- **BCSH Level 3**: Yes

Centre providing intensive treatment for AML

Haematopoietic stem cell transplantation (HSCT) centre

Proposed geographical sites:

- **BCSH Level 1**: RLH, WXH, NUH, St Bartholomew’s Hospital, West Smithfield, London EC1A 7BE
- **BCSH Level 2a**: WXH, NUH, St Bartholomew’s Hospital, West Smithfield, London EC1A 7BE
- **BCSH Level 2b (-AML)**: St Bartholomew’s Hospital, West Smithfield, London EC1A 7BE
- **BCSH Level 2b (+AML)**: St Bartholomew’s Hospital, West Smithfield, London EC1A 7BE
- **BCSH Level 3**: St Bartholomew’s Hospital, West Smithfield, London EC1A 7BE

RLH – Royal London Hospital; WXH – Whipps Cross University Hospital; NUH – Newham University Hospital; SBH – St Bartholomew’s Hospital
Current configuration of services

Barts Health provides Level 3 HSCT and ALL services at St Bartholomew’s Hospital for a population in excess of 3.38 million people (Inner and Outer North East London CCGs, as well as all of the Essex CCGs aside from part of West Essex CCG).

Barts Health provides Level 2b services including intensive induction therapy for AML at St Bartholomew’s Hospital for a population in excess of 2.68 million people (INEL and all of Essex, except part of West Essex CCG).

Barts Health additionally provides Level 1 and 2a services at NUH, WXH and SBH for its local population of INEL as well as Level 1 services at the Royal London Hospital.

Vision for future malignant haematology services

Our vision for local haematology services across Barts Health is to consolidate into a ‘hub and spoke’ model, where services are run from the Cancer Centre by specialists in haemato-oncology. These specialists would outreach into dedicated services at the local delivery sites that would be tailored to meet the service needs of the local communities and would include specialist Haemato-oncology outpatient clinics, day unit support and acute oncology/consultative ward reviews of inpatients. Barts Health is in a unique position to offer this balance due to configuration of our services providing specialist and local services across a broad geographical area.

All patients would access full, stream-lined and uniform diagnostic work-up pathways, tissue banking, a full range of clinical trial options, supportive and holistic care services. Non-intensive therapy can be delivered locally, with the roll out of home delivery for oral chemotherapy as well as a feasibility and acceptability survey for home delivery of chemotherapy. Specialist trial and intensive chemotherapeutic options, such as HSCT, will be delivered centrally but with patients repatriated closer to home for centrally supervised follow up when appropriate.

Development of local hospitals will open up alternative access points for our Essex referral patients who may prefer to travel to Whipps Cross or Newham for their clinic review, blood tests or treatment rather than travel into central London.

1, 2a, 2b (-AML) information template

Impact of, and plans for, the discontinuation of a service (where relevant)

N/A

Partnership working

Barts Health NHS Trust Haemato-oncology MDT serves as the local and specialist MDT providing Level 1, 2a and 2b (-AML) services for Barts, the Royal London, Whipps Cross, Newham and the Homerton, as well as the specialist MDT for tertiary referrals from BHRUT and the
extended network into the majority of Essex.

All patients under Barts Health and Homerton University NHS Foundation Trust are discussed by their physician at our MDT. The delivery of most Acute Leukaemia and HSCT chemotherapy is by necessity provided at the centre. However, within Barts Health Level 2a treatment can be delivered by our satellite day units, at either Whipps Cross or Newham, if this is the patient’s preference. We work with all partner trusts to ensure as much ambulatory and supportive care as possible is delivered locally. Patients admitted at a satellite site are managed by our local colleagues in collaboration with Barts Hospital with planned transfer as appropriate and when stable if appropriate.

**Opportunities for development**

We hope with specialist provision and outreach that the amount of supportive care delivered at our satellite units will increase further and that development of these hospitals will allow additional access points into Barts Health for our Level 2b(+AML) and Level 3 patients from outside of London Cancer.

**2b (+AML), 3 application template**

**Have you secured trust board-level approval for your application?**

As part of a two-day Trust Board strategy event, on Tuesday 29 and Wednesday 30 January 2013, the Trust’s Cancer Strategy (within which haemato-oncology featured) was presented to all the Board members to secure support and approval as part of the overall direction for an agreed Clinical Services Strategy for the Trust. On Wednesday 24 April 2013, the Trust Board specifically considered and supported the Trust’s Cancer Strategy, within which haemato-oncology again featured. On Wednesday 3 July 2013, the Trust Board specifically considered the Trust’s proposed bid. Document CTB 28/13, Minute 61/13, formally records that the Barts Health NHS Trust Board:

- Noted the London Cancer specification for “Level 3” haematopoietic stem cell transplantation (HSCT) units and “Level 2b” units to provide intensive treatment for a minimum volume of acute myeloid leukaeamias (AMLs)
- Noted the opportunities and risks as described in the paper.
- Supported the Trust’s bid to be a centre for Level 3 and Level 2b services.

On the 30 May 2013, the Chief Executive came to our Department to confirm the Trust’s commitment to developing haemato-oncology services at Barts Health.
Have you discussed your proposals with other trusts and/or local GPs?

- BHRUT
- Homerton University Hospital NHS Foundation Trust
- Trust Director for Primary Care
- All 14 CCGs that refer patients into Barts Health have been contacted
- Informal discussions with consultant colleagues at UCLH and RFH

Have you discussed your proposals with any other relevant stakeholders?

- The proposals have been extensively discussed at the London Cancer Pathway Board
- Afternoon workshop of all relevant Barts Health staff
- Survey of all Essex referrers
- Consultant colleagues in Haematology at all partner hospitals in Barts Health and all crucial co-dependent and necessary specialities
- Barts Patient Experience group.
### Part I: Outline of proposed Level 2b (+AML) unit

N.B. The high-level summary in the column below provides an overview of the main features addressed by the service specification at each pathway stage. Please consult the service specification document for a more detailed description of the provision we would expect services operating at this level to offer.

All trusts applying to be a Level 2b unit must meet the relevant standards for facilities and staffing as described in the BCSH Levels of care (2009).

<table>
<thead>
<tr>
<th>Part of pathway</th>
<th>High-level summary of specification</th>
<th>Proposal</th>
<th>Developments necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Early detection of patients with haematological malignancy –</strong></td>
<td>► Haematologists, familiar with the management of haematological malignancies on-site during working hours and available out of hours so that these patients can be picked up early. ► Robust partnership working arrangements are in place with referring Trusts to ensure prompt and accurate risk stratification and referral of patients appropriate for HSCT to the transplant team, or to make the transplant team aware of the patient early in their clinical course.</td>
<td>► Haematologists present at all sites Monday - Friday with SpR cover. 24 hour on call SpR and Consultant. Urgent transfer of patients to Barts Hospital site, as required. ► Barts Hospital: Specialist Haemato-oncology on site; seven days a week. Patients transferred to Barts Hospital site as required. ► WXH/ NUH/ RLH – outreach specialist Haemato-oncology service on site two/three days per week and available out of hours. ► Single MDT ensures that all patients are discussed in transplant compliant MDT. ► Referring trusts: All referring trusts either attend joint MDT or have joint working in place: a combination of in-reach attendance at clinics or out-reached clinic/ward reviews of patients. ► GP email referral/support system in place. ► NICE and London Cancer 2WW cancer referral forms/criteria in use.</td>
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<td><strong>Pathology</strong></td>
<td>Pathology services available seven days a week.</td>
<td>24-hr Haematology, biochemistry and transfusion available. Seven day/wk specialist diagnostics as required. Dedicated Microbiology and Virology Consultants integral to management of in and out-patients. Available for ward rounds, clinical meetings and advice as required. Tissue typing/HLA laboratory service within Trust Haematopathology service meeting IOG standards including two dedicated specialist haematopathologists and one dedicated haematologist covering the service for BH and the cancer network. Double reporting of all cases. All three haematopathologists are core members of the HaemOnc MDT, are participating in developing a national specialist EQA and specialist teaching/training in Haematopathology. All labs within the SIHMDS are fully accredited. Clear protocols for assessment of tumour samples in leukaemia, myeloma and lymphoma.</td>
<td>Full implementation of SIHMDS across London Cancer.</td>
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<td><strong>Diagnosis</strong></td>
<td>Diagnosis should be timely and accurate. This will be achieved by conforming to Peer Review requirements around SIHMDS and is provided by an expert Haemato-</td>
<td>The diagnosis of haematological malignancy is a specialist area and is delivered by dedicated experts. Every new patient with acute leukaemia will have marrow sent for morphology,</td>
<td>Standardised approach across London Cancer agreed through SIHMDS – i.e. all</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td>MDT</td>
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<td>The Haemato-oncology MDT serves as the local and specialist MDT for Barts, the Royal London, Whipps Cross, Newham and the Homerton as well as the specialist MDT for tertiary referrals from BHRUT and the extended network into the majority of Essex. Clinical Oncology input is present to discuss all cases including those HSCT cases requiring TBI.</td>
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<td>State of the art video conferencing facilities, digital video display links and microscope facilities are available.</td>
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<td>All patients are discussed by their physician and have a named key worker. Multiple disease-based MDM proforma standardise data collection; data logged on Somerset</td>
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<td>Adapt proforma to record HCT-CI and frailty data.</td>
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- Histopathology, cytochemistry, flow cytometry/immunophenotyping, molecular analysis, research/tissue banking and trephine histology.
- The Barts Health SIHMDS has all these component parts located in the Pathology and Pharmacy building at the RLH site. The service is co-ordinated by three specialist haematopathologists, a dedicated molecular pathologist and senior biomedical and clinical scientists.
- Enhanced local molecular work up of AML cases.
- Timely, integrated diagnostic report output finalised for leukaemia, myeloma and lymphoma.
- Younger patients get FLT3, NPM, CEBPA.
- In house software being enhanced to include all lymphoma diagnoses.
- Modification of Winpath series to link all tissue diagnoses in the integrated report.
Cancer database. Result sent to GP within 24 hours.
- We are a peer review, IOG compliant MDT with transplantation integral to discussion of all cases, with attendance of all members involved in the treatment of all patients.
- Extension of minimal data set to include HCT-CI and frailty indices to allow comparison of outcomes across sites and prospectively.

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<th>Nursing</th>
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<td>► 24 hour cover by attending consultant haematologist.</td>
<td>► On-site 24 hour cover with specialist haemat/oncology trained nurses; ability to immediately increase ratio to 1:2 patients as required. 24 hour cover by attending consultant haematologist.</td>
</tr>
</tbody>
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|          | ► On-site designated junior trainee or sub-consultant non-career grade during weekdays. | ► All patients nursed on specialist Haematology wards with staffing that can be increased to 1:2 as required.  
► Haemato-oncology consultant and SpR on call 24h. |

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<th>Outpatient care</th>
<th>Haemato-oncology day unit - providing facilities for isolation, long duration intravenous infusions, blood component transfusions.</th>
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|                  | ► Dedicated Haematology Day Unit open seven days a week with extended midweek hours (open 12h).  
► Isolation rooms available as required; able to deliver all therapies and provides ambulatory   |
<p>|                  | ► Phase 2/3 opening at Barts Hospital                                                                                         |</p>
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<td>▶ Purpose-built inpatient HEPA filtered unit (reversible pressure); 50% with en suite facilities able to deliver chemotherapy 24/7 and manage critically ill patients.</td>
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<td>▶ Isolation facilities (positive and negative pressure) within ward.</td>
</tr>
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<td></td>
<td>▶ Direct access to wards for all patients out of hours or via ambulatory care facility for assessment in working hours.</td>
</tr>
<tr>
<td></td>
<td>▶ Patient emergency hotline/CNS access and contact card.</td>
</tr>
<tr>
<td></td>
<td>▶ On site endoscopy.</td>
</tr>
<tr>
<td></td>
<td>▶ Mobile on site bronchoscopy/respiratory</td>
</tr>
</tbody>
</table>

<p>| | ▶ Phase 2 of new hospital build will open in October 2014 increasing bed capacity by 18 beds. |</p>
<table>
<thead>
<tr>
<th>Pharmacist</th>
<th>Dedicated haemato-oncology pharmacist.</th>
<th>Four dedicated haemato-oncology pharmacists.</th>
<th>Dedicated clinical trials pharmacist.</th>
<th>On site dialysis with light chain removal facility.</th>
<th>QA metric - Audit of timeliness of admission against metric of 24hrs from diagnostic FBC.</th>
</tr>
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<tr>
<td>High Dependency Unit</td>
<td>On-site</td>
<td>High dependency unit on site with Oncology specialist interest/expertise.</td>
<td>Phase 2 of the new hospital will have 58 critical care beds (all equipped to Level 3) with two negative pressure isolation rooms.</td>
<td></td>
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</tr>
<tr>
<td>Intensive Therapy Unit</td>
<td>On-site</td>
<td>Intensive therapy unit on site with Oncology specialist interest/expertise.</td>
<td>Haemofiltration available.</td>
<td>See above – these facilities can be flexed to accommodate an individual patient’s requirements.</td>
<td></td>
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<tr>
<td>access</td>
<td></td>
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</tr>
<tr>
<td>Treatment</td>
<td>Holistic needs assessment</td>
<td>All patients are offered holistic needs assessment at the time of diagnosis.</td>
<td>All patients undergo holistic needs assessment at time of first appointment including assessment of care that can be delivered locally and travel needs.</td>
<td>If patients with AML are to be treated intensively a</td>
<td></td>
</tr>
<tr>
<td>Workload</td>
<td></td>
<td>Currently we intensively treat a minimum of 40 new patients per year.</td>
<td>Referred on as necessary e.g. to psychology, social work.</td>
<td>A wide range of national, pilot and commercial</td>
<td></td>
</tr>
</tbody>
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| Joint working | To ensure expertise is brought into the management of patients whilst allowing local and personalised care, Level 2b units, should, as a minimum, either have joint appointments with a Level 3 unit and/or a combined MDT with the Level 3 unit. This is particularly important when transplantation is an option in the patient’s pathway. | Barts Health provides Level 2b and 3 – therefore one team is caring for patients across the range of treatments required.  
- One consultant, one MDT, one key worker for Level 2b and Level 3.  
- Handheld record developed and piloted to enhance cross-site communication.  
- Pilot weekly update to DGH clinicians sharing in their care.  
- Local pathways in place for rapid referral of new patient from Level 1/2a sites.  
- QA metric: on-going referrer satisfaction surveys. | IT resources to enable communication needs.  
- Final configuration to be informed by results of Phase 2 of process. |
| --- | --- | --- | --- |
| Chemotherapy | Emergency access to chemotherapy | Access to out-of-hours cytotoxic pharmacy advice line.  
Access to emergency chemotherapy | Access to both of these is currently available with well-established protocols for their use.  
On-call pharmacist 24/7 and wide range of pre-made chemotherapy in emergency drugs store. |
<table>
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<tr>
<th>Radiotherapy facilities</th>
<th>Units have access to radiotherapy facilities: not necessarily on site.</th>
<th>Four identical Linacs on site. All machines linked and interchangeable to allow for machine failure.</th>
</tr>
</thead>
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<tr>
<td>Access to clinical oncology expertise</td>
<td>Designated consultant clinical oncologist available for consultation and input.</td>
<td>Dedicated Clinical Oncologist attends MDT and is available for consultation and input.</td>
</tr>
<tr>
<td>Ensuring continuity of service</td>
<td>Cross-cover arrangements in place with at least one other consultant clinical oncologist able to continue service provision for urgent cases.</td>
<td>Cross cover provided by named Clinical Oncologist. Always two consultant Clinical Oncologists available on site.</td>
</tr>
<tr>
<td>Referral</td>
<td>All cases are discussed at MDT. Timely referral pathway agreed for patients requiring radiotherapy after systemic therapy so as to minimise delay in starting radiotherapy following completion of</td>
<td>All cases are discussed at the MDT. Radiotherapy referrals are made to the dedicated Consultant at MDT meetings. Documented referral pathway to radiotherapy in Radiotherapy Quality Management system.</td>
</tr>
</tbody>
</table>
| Patient-centred care: fertility, psychological, specialist and general palliative care, social support, complementary therapy, spiritual, carer support and bereavement | ▶ Meets IOG standards. | ▶ Services provided on Barts Hospital site meet all IOG standards. SURECAN and Living Well projects underway.  
▶ Regional fertility centre on site.  
▶ Additional range of service on satellite sites within BH. On site hospice resource at WXH.  
▶ Level 2 psychological training completed by every key worker/CNS. Available to all in MDT.  
▶ Advanced communication skills undertaken by all members of MDT in contact with patients.  
▶ Maggie’s Barts Centre to open in 2015 which will expand the range of patient centred services available.  
▶ Local Quality Improvement Forum established  
▶ Patient and carer forums open at sites across BH and national ones flagged where appropriate via key workers. Quarterly BH educational forum for patients and carers established on Barts Hospital site. |
|---|---|---|---|
| Acute oncology | ▶ Full acute oncology service that meets Peer Review standards. | ▶ Pathways in place and available. Consultant review of all emergency admissions within 24 hours at Barts Hospital site.  
▶ Specialist HaemOnc provision/AoS service via outreach to WXH, RLH and NUH with agreed flagging and transfer protocols in place. | ▶ Full compliance with Peer Review standards and HaemOnc engagement with Acute Oncology workstream of London Cancer.  
▶ IT flagging mechanisms developed via CRS |
| Post-treatment |  ► All patients given a clear end of treatment plan.  
|               |  ► Access to appropriate follow up facilities for those requiring hospital based follow up for late effects.  
|               |  ► GPs manage patients who have been discharged at end of treatment, and have clear guidance regarding reasons for referral back to secondary care and routes available with named contacts and up to date details.  |
|               |  ► All patients receive an ‘end of treatment’ letter at dedicated clinic visit as mandated by Chemotherapy Peer Review measures.  
|               |  ► End of treatment letter sent to GP with clear instructions for follow up and agreed pathways for referral back to hospital/contact details.  
|               |  ► All patients on annual review are moved into our ‘Long-term survivors’ clinic in conjunction with consultant endocrinology cover. Cardiology and respiratory medicine input and Late-Effects clinic to deal with on-going low level psychological distress (HADS scoring done on all).  
|               |  ► Evidence-based clinic run on SOP aligned with systems-based guidance collated from SIGN, NIH COG and UKCCSG publications.  
|               |  ► Patients are triaged into three categories - those that may be suitable for GP-led follow up, patients that may be suitable for nurse led follow up and those needing medical review.  
|               |  ► All patients attending this clinic have a personalised letter summarising the total therapy received to date and the consequent recommendations sent to them and their GP. Contact numbers and emails are on the letterhead and they are encouraged to contact |
|               |  ► CRS upgrade and integration across Trust to facilitate communication and emailing of letters to GPs and other Trusts.  
|               |  ► Engagement with survivorship workstream of London Cancer.  |
| **Palliative care** | ► Clear referral pathways for patients with palliative and specialist palliative care needs. | ► Clear referral pathways and protocols across hospital and community services for end of life care and complex symptom control.
► Dedicated palliative care team and acute pain team.
► Joint Oncology/Palliative care clinics.
► Same managerial structure as HaemOnc.
► On site hospice at WXH.
► GP and community services encouraged to manage where appropriate and at patient/family’s wishes. |
| **Clinical trials, research and innovation** | Clinical trials ► Patients offered trial entry when a suitable trial is available. | ► All patients offered trial entry wherever possible.
► Comprehensive trial portfolio. | ► Agreed London Cancer clinical trial portfolio. |
| Research nurse support | ► On-site | ► Dedicated Research Nurses available (NCRN/CECM) on site with dedicated Clinical Research Assistant support.
► Early and late phase studies supported and embedded within patient pathway. |
| Audit | ▶ Carries out prospective audit of service and publishes transparent outcomes data. | ▶ Local rolling audit programme and monthly morbidity and mortality meeting.  
▶ On-going database collects all patient and outcome data to allow regular review of treatment outcomes.  
▶ On-going engagement in UK AML working party (two members from BH attend) and UK ALL working party (one member from BH) to review outcomes for patients treated as part of national trials.  
▶ Joint quality management structure across London Cancer.  
▶ Rolling London Cancer audit programme, defined metrics (death in CR, induction death, ITU admission frequency, access line complication rates, fever to antibiotic times etc.)  
▶ Annual London Cancer Acute Leukaemia meeting to present each site’s outcome data and research/audit activity. | ▶ Agreed audit programme and metrics.  
▶ Quality Manager for AML/ALL. |
|---|---|---|---|
| Patient travel | ▶ Informs patients of support available for travel to specialist centres and radiotherapy units.  
▶ Robust patient travel plans in place, reflecting provision for safe and timely transfer between sites. | ▶ ‘Welcome to Barts’ pack and public internet site provides clear travel information for patients.  
▶ Key worker provides information on financial support available/congestion charge refunding  
▶ Established hospital policy in place at Barts Health for provision of patient transport between and need for escorts, oxygen etc.  
▶ Local clinics at WXH and NUH offer closer and alternative access points to specialist services (these expand with agreed outreach to Essex and BHRUT). | ▶ Central appointments/key worker discussion over travel plan despatch.  
▶ Initiate discussions with City of London on expanding number of Blue Badge spaces.  
▶ Open discussions with TfL and train |
<table>
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<th>On site hostel facilities for patients and carers</th>
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<tr>
<td></td>
<td>Individualised travel plans sent to new patients</td>
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<tr>
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<td>Expand disabled spaces near Barts Hospital, increased NEPT provision for our patients and potential allowances negotiated on TfL and train carriers.</td>
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<td>providers over improving services for our patient cohort.</td>
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### Part II: Outline of proposed Level 3 HSCT unit

N.B. The high-level summary in the column below provides an overview of the main features addressed by the service specification at each pathway stage. Please consult the service specification document for a more detailed description of the provision we would expect services operating at this level to offer. All trusts applying to be a Level 3 unit must meet the relevant standards for facilities and staffing as described in the BCSH Levels of care (2009).

<table>
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<tr>
<th>Part of pathway</th>
<th>High-level summary of specification</th>
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</tr>
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| **Inpatient beds** | Isolation facilities (en suite) in ward designated for haematology patients.                  | Purpose-built inpatient HEPA filtered unit (reversible pressure); 50% with en suite facilities able to deliver chemotherapy 24/7 | Phase 2 of new hospital build will open in October |
and manage critically ill patients.
► Isolation facilities (positive and negative pressure) within ward.
► Direct access to wards for all patients out of hours or via ambulatory care facility for assessment in working hours.
► Patient emergency hotline/CNS mobile access and contact card.
► On site endoscopy.
► On site bronchoscopy/respiratory opinion.
► On site dialysis with light chain removal facility.

### Pharmacists

<table>
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<tr>
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<th>2014 increasing bed capacity by 18 beds.</th>
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<tbody>
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<tr>
<td>Pharmacist</td>
<td>► Dedicated haemato-oncology pharmacist ► Four dedicated haemato-oncology pharmacists. ► Dedicated clinical trials pharmacist. ► On site chemo production adjacent to inpatient ward and Day Unit.</td>
</tr>
</tbody>
</table>

### High Dependency Unit

<table>
<thead>
<tr>
<th></th>
<th>► High dependency unit on site with Oncology specialist interest/expertise.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Phase 2 of the new hospital will have 58 critical care beds (all equipped to Level 3) and two negative pressure isolation rooms.</td>
</tr>
</tbody>
</table>

### Intensive Therapy Unit access

<table>
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<tr>
<th></th>
<th>► Intensive therapy unit on site with Oncology specialist interest/expertise. ► Haemofiltration available.</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>See above – these facilities can be flexed to accommodate an individual patient’s requirements.</td>
</tr>
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</table>

### Treatment

<table>
<thead>
<tr>
<th></th>
<th>► Undertakes at least 100 HSCT cases per year per year since 2007 and our activity continues to increase.</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Business case for onsite ECP.</td>
</tr>
<tr>
<td>Joint working</td>
<td>► Same caveat applies re intensively treated AML patients as for Level 2b units.</td>
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<td>--------------------------------------------------------------------------------</td>
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<tr>
<td></td>
<td>► To ensure expertise is brought into the management of patients whilst allowing local and personalized care, Level 3 units, should, as a minimum, either have joint appointments with Level 1, 2a or 2b units and/or a combined MDT with these units Level 3 unit. This is particularly important when transplantation is an option in the patient’s pathway.</td>
</tr>
</tbody>
</table>
|                          |                          | potential/completed HSCT patients closer to home. Joint appointments as required.  
|-------------------------|-------------------------|--------------------------------------------------------------------------
|                          |                          | ► Local care provision when appropriate (and after D+100 set by commissioning framework) e.g. blood tests, transfusion, iv electrolytes/antimicrobials. Coordinated by BH CNS/keyworker. SOP pack provided to all local units.  
|                          |                          | ► Handheld record developed and piloted to enhance cross-site communication.  
|                          |                          | ► Pilot weekly update to DGH clinicians sharing in their care.  
|                          |                          | ► QA metric: on-going referrer satisfaction surveys.  

| **Chemotherapy** | **Emergency access to chemotherapy** | ▶ Access to out-of-hours cytotoxic pharmacy advice line.  
|                  |                                       | ▶ Access to emergency chemotherapy production out-of-hours.  
|                  |                                       | ▶ Access to both of these is currently available with well-established protocols for their use. On-call pharmacist 24/7 and wide range of pre-made chemotherapy in emergency drugs store.  
|                  |                                       | ▶ Intrathecal administration on site with Peer review and DH compliant process for medium volume Trust. Out of hours IT policy in place.  
|                  |                                       | ▶ Seven day/wk chemo production available.  

| **Radiotherapy** | **Radiotherapy facilities** | ▶ Radiotherapy service required on site.  
|                  |                           | ▶ Four identical Linacs on site, all suitable for TBI, and so scheduling is not an impediment to TBI delivery.  
<p>|                  |                           | ▶ One is designated as the preferred unit but they can all provide identical treatment, eliminating the risk of cancellation in the event of machine breakdown. |</p>
<table>
<thead>
<tr>
<th><strong>Access to clinical oncology expertise</strong></th>
<th><strong>One nominated consultant clinical oncologist with site specialisation in haematological malignancy and TBI (Total Body Irradiation); also responsible for the TBI service, available for consultation and input.</strong></th>
<th><strong>Dedicated Clinical Oncologist with site specialisation in haematological malignancy and TBI (Total Body Irradiation); also responsible for the TBI service, attends MDT and is available for consultation and input.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ TBI service provided within Trust so SLA not required. Additional spare capacity for growth as service requires.</td>
<td>▶ JACIE accredited TBI service.</td>
<td>▶ Capacity for TBI planning, dosimetry, QA and treatment delivery available on site.</td>
</tr>
<tr>
<td>▶ SOP for TBI in place defining service operation, team interrelationships, areas to be covered in consultation, suitability, consent, planning and delivery.</td>
<td>▶ Patient remains under the HaemOnc team whilst undergoing TBI.</td>
<td>▶ Designated therapeutic radiographer to coordinate TBI and at least four trained members of physics team available on site.</td>
</tr>
<tr>
<td>▶ Designated therapeutic radiographer to coordinate TBI and at least four trained members of physics team available on site.</td>
<td>▶ Dedicated Clinical Oncologist with site specialisation in haematological malignancy and TBI (Total Body Irradiation); also responsible for the TBI service, attends MDT and is available for consultation and input.</td>
<td>▶ Cross cover provided by named clinical oncologist able to consent, plan and prescribe TBI.</td>
</tr>
<tr>
<td>▶ At least two consultant clinical oncologists available for service provision continuity with both also able to consent, plan and prescribe TBI (to provide cover for</td>
<td>▶ Two consultant Clinical Oncologists always available on site.</td>
<td></td>
</tr>
</tbody>
</table>

**Ensuring continuity of service**

<p>| ▶ Cross cover provided by named clinical oncologist able to consent, plan and prescribe TBI. | ▶ Two consultant Clinical Oncologists always available on site. | |</p>
<table>
<thead>
<tr>
<th>Referral</th>
<th>All cases are discussed at MDT. Timely referral pathway agreed for patients requiring radiotherapy after systemic therapy so as to minimise delay in starting radiotherapy following completion of chemotherapy.</th>
<th>All cases are discussed at the MDT. TBI referrals are made to the dedicated Consultant at weekly MDT meetings and bookings coordinated through one senior radiographer. Agreed referral pathways to allow seamless coordination with chemotherapy. Minimum time frame agreed and made explicit at referral to allow for counselling, consent and planning. Radiotherapy referral pathway agreed and documented in Radiotherapy Quality Management system.</th>
</tr>
</thead>
</table>

<p>| Patient-centred care: fertility, psychological, specialist and general palliative care, social support, complementary therapy, spiritual, carer support and bereavement | Meets IOG standards. | Services provided on Barts site meet all IOG standards. SURECAN and Living Well projects underway. Regional Fertility centre on site Additional range of service on satellite sites within BH. On site hospice resource at WXH. Level 2 psychological training completed by every key worker/CNS. Available to all in MDT. Advanced communication skills undertaken by all members of MDT in contact with patients. Maggie’s Barts Centre opens in 2015 which will expand the range of patient centred services available. Local Quality Improvement Forum established Patient and carer forums open at sites |</p>
<table>
<thead>
<tr>
<th>Acute oncology</th>
<th>Full acute oncology service that meets Peer Review standards.</th>
<th>Pathways in place and available. Consultant review of all emergency admissions within 24 hours at Barts site.</th>
<th>Full compliance with Peer Review standards and HaemOnc engagement with Acute Oncology workstream of London Cancer. IT flagging mechanisms developed via CRS upgrade. Training and engagement with A&amp;E and medical consultant body.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-treatment</td>
<td>All patients given a clear end of treatment plan. Access to appropriate follow up facilities for those requiring hospital based follow up for late effects.</td>
<td>All patients receive an 'End of treatment' letter at dedicated clinic visit as mandated by Chemotherapy Peer Review measures. End of treatment letter sent to GP with clear instructions for follow up and agreed pathways for referral back to hospital/contact details. All patients on annual review are moved into our ‘Long-term survivors’ clinic in conjunction with consultant endocrinology cover. Cardiology and respiratory medicine input and Late-Effects clinic to deal with on-</td>
<td>CRS upgrade and integration across Trust to facilitate communication and emailing of letters to GPs and other Trusts. Engagement with Survivorship workstream of London Cancer.</td>
</tr>
</tbody>
</table>

Across BH and national ones flagged where appropriate via key workers. Quarterly BH educational forum for patients and carers established on Barts Hospital site.
going low level psychological distress (HADS scoring done on all).
► Evidence-based clinic run on SOP aligned with systems-based guidance collated from SIGN, NIH COG and UKCCSG publications.
► Patients are triaged into three categories - those that may be suitable for GP-led follow up, patients that may be suitable for nurse led follow up and those needing medical review.
► All patients attending this clinic have a personalised letter summarising the total therapy received to date and the consequent recommendations sent to them and their GP. Contact numbers and emails are on the letterhead and they are encouraged to contact us if they have any new concerns.
► Commissioner’s model of hospital supported HSCT follow up developed but with increased understanding/involvement of primary care and nurse-led roles in survivorship services
► E-mailing of letters with CRS standard templates to improve granularity of detail and speed of transmission of key point communications.
► QA metric: On-going audit of completeness and timeliness of key point communications

<p>| Palliative care |► Clear referral pathways for patients with palliative and specialist palliative care needs. |► Clear referral pathways across hospital and community services for end of life care and complex symptom control. |► Dedicated palliative care team and acute... |</p>
<table>
<thead>
<tr>
<th><strong>Clinical trials, research and innovation</strong></th>
<th><strong>Clinical trials</strong></th>
<th>► Patients offered trial entry when a suitable trial is available.</th>
<th>► All patients offered trial entry where possible. ► Comprehensive transplant trial portfolio open.</th>
<th>► Agreed London Cancer trial portfolio.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research nurse support</strong></td>
<td><strong>On-site</strong></td>
<td>► Dedicated Research Nurses available (NCRN/CECM) on site with dedicated Clinical Research Assistant support ► Early and late phase studies supported and embedded within patient pathway.</td>
<td>► Agreed audit programme and metrics. ► Joint Quality manager.</td>
<td></td>
</tr>
<tr>
<td><strong>Audit</strong></td>
<td></td>
<td>► Carries out prospective audit of service and publishes transparent outcomes data.</td>
<td>► Local rolling audit programme and monthly morbidity and mortality meeting. ► JACIE accreditation process of revalidation with detailed JACIE quality management programme reviewing incidents, deviations, compliments/complaints, SOPs, engraftment/outcome data. ► All transplant outcome data supplied to BSBMT, EBMT and IBMTR as well as Anthony Nolan Trust enabling benchmarking with other UK and European centres. ► Joint Quality management structure across London Cancer. ► Rolling London Cancer HSCT audit programme with defined metrics. ► Annual London Cancer HSCT meeting to</td>
<td></td>
</tr>
<tr>
<td>Patient travel</td>
<td>Present each site's outcome data and research/audit activity.</td>
<td>Central appointments/key worker discussion over travel plan despatch.</td>
<td>Initiate discussions with City of London on expanding number of Blue Badge spaces.</td>
<td>Open discussions with TfL and train providers over improving services for our patient cohort.</td>
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<tr>
<td>► Informs patients of support available for travel to specialist centres and radiotherapy units</td>
<td>► 'Welcome to Barts' pack and public intranet site provides clear travel information for patients.</td>
<td>► Central appointments/key worker discussion over travel plan despatch.</td>
<td>Initiate discussions with City of London on expanding number of Blue Badge spaces.</td>
<td>Open discussions with TfL and train providers over improving services for our patient cohort.</td>
</tr>
<tr>
<td>► Robust patient travel plans in place, reflecting provision for safe and timely transfer between sites.</td>
<td>► Keyworker provides information on financial support available/congestion charge refunding</td>
<td>► Initiate discussions with City of London on expanding number of Blue Badge spaces.</td>
<td>Open discussions with TfL and train providers over improving services for our patient cohort.</td>
<td>Continue to press for immunocompromise to be recognised for NEPT.</td>
</tr>
<tr>
<td>► Established hospital policy in place at Barts Health for provision of patient transport between and need for escorts, oxygen etc.</td>
<td>► Local clinics at WXH and NUH offer closer and alternative access points to specialist services (these will expand with agreed outreach to Essex and BHRUT).</td>
<td>► Initiate discussions with City of London on expanding number of Blue Badge spaces.</td>
<td>Open discussions with TfL and train providers over improving services for our patient cohort.</td>
<td>Continue to press for immunocompromise to be recognised for NEPT.</td>
</tr>
<tr>
<td>► On site hostel facilities for patients and carers.</td>
<td>► Individualised travel plans sent to new patients</td>
<td>► Initiate discussions with City of London on expanding number of Blue Badge spaces.</td>
<td>Open discussions with TfL and train providers over improving services for our patient cohort.</td>
<td>Continue to press for immunocompromise to be recognised for NEPT.</td>
</tr>
<tr>
<td>► Expand disabled spaces near Barts Hospital, increased NEPT provision for our patients and potential allowances negotiated on TfL and train carriers.</td>
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</tbody>
</table>
Appendices

Appendix 1 - Letters of support demonstrating engagement and collaborative working
Dr Everington, Chairman Tower Hamlets CCG
Homerton University Hospital NHS Foundation Trust
Professor Trembath, Vice Principal (Health) and Executive Dean, Barts and the London School of Medicine and Dentistry
Sir Stephen O’Brien, Chairman, Barts Health NHS Trust
Southend CCG
Dietetics, Physiotherapy and Occupational Therapy Clinical Leads at Barts Health NHS Trust
Nick Lemoine, Director Barts Cancer Institute
Dr Banu Kaya, NE London Training programme director
Professor Russell – Chairman AML working group
Mr Peter Bion, Chairman St Bartholomew’s Stem Cell PPE
Dr Neil Ashman, Renal Unit Director, Barts Health NHS Trust

Appendix 2 – Centre for haemato-oncology, Barts Cancer Institute
Appendix 3 - CCG population statistics
Appendix 4 - Referring CCG by ethnic group composition (Census 2011, ONS)
Appendix 5 - Market share AML Barts Health for 2011 and 2012 (market analysis export: HRG AML; CHKS)
Appendix 6 - Pan-London HSCT Commissioners’ Needs Analysis 2004 – 2007: First BMT according to provider and SHA region of residence
Appendix 7 – Market share for BMT, Barts Health for 2011 and 2012 (Market analysis export: HRG BMT; CHKS)
Appendix 8 - Barts Health specialist haemato-oncology multidisciplinary team
Appendix 9 – Adjunctive services by Barts Health site
Appendix 10 – Travelling time to Barts Hospital across London Cancer region
Appendix 11 - Original research published from CHO, BCI in last REF cycle (2008-date)
Appendix 12 - Example job plans
Appendix 1 - Letters of support demonstrating engagement and collaborative working

Tower Hamlets
Clinical Commissioning Group

2nd Floor, Alderney Building
 Mile End Hospital
 Bancroft Road
 London E1 4DG

Tel:020 3688 2531
Email:sam.everington@nhs.net
www.towerhamletsccg.nhs.uk

Tuesday, 16 July 2013

Dr. Sarah Slater.
Clinical Director - Cancer Strategy
Barts Health NHS Trust.
c/o Strategy Office,
5th Floor, Aneurin Bevan House,
81 Commercial Road,
London, E1 1 RD

Dear Dr. Slater,

I have reviewed Barts Health's application to become a specialist centre for haematopoietic stem cell transplantation and acute leukaemia for the London Cancer area. As a Tower Hamlets GP and Chair of the CCG, I am very happy to endorse it as providing very strong evidence of the ability to deliver excellent outcomes while putting the patient and their experience at the centre of the service.

The bid illustrates Barts Health intention to collaborate with NE London and Essex partners to ensure that the patient is kept at the heart of the service, receiving specialist care where necessary and local care when appropriate. In addition, Barts Health have a proven track record in delivering excellent outcomes and are a leading recruiting centre to the UK National studies for AML and ALL.

On behalf of our patients, I wholeheartedly support Bart's application.

Best wishes,

Sam Everington

Dr Sam Everington.
MBBS, MRCGP, Barrister, OBE
Homerton University Hospital NHS Foundation Trust

Homerton University Hospital
Integrated Medicine & Rehabilitation Services
Divisional Offices
2nd Floor Blue Corridor
Homerton Row
London
E3 2SSR

Direct Tel: 020 8510 7281
Fax: 020 8510 5141
PA Tel: 0208 510 7200
www.homerton.nhs.uk

Ms Sandra Shannon
Director of Operations, Cancer CAG
Barts Health NHS Trust

11 July 2013

Dear Ms Shannon

Re: London Cancer - Improving Services for Malignant Haematology

Pathway Specification for Haematopoietic Stem Cell Transplantation & Acute Leukaemia

I would like to express Homerton University Hospital’s support of Barts Health’s application for Level 3 service provision for Haematological Malignancies.

Barts Health and Homerton have for many years worked closely together in the management of haematological malignancy and we fully support this relationship continuing via designation of Barts Health as a Level 3 haematology-oncology specialist centre working with Homerton Hospital as a Level 1 centre.

As you know, Barts Health currently provides our diagnostic pathology service and offers rapid intake for patients identified at HLUH as requiring urgent haematology input including for AML. Building on our excellent existing clinical relationships, we will seek to formalise these via our new consultant appointment who will work closely with the clinical team at Barts Health and attend the joint MDT.

Homerton University Hospital is applying to retain Level 1 status and as such would offer support to Barts Health as our specialist centre in the ‘hub and spoke’ model via diagnostic support and referral on. In addition, we could offer joint care of patients requiring supportive care who are receiving intensive treatment at Barts Health, for example local service for blood transfusions close to the patient’s home.

I look forward to our relationship developing in this formal way in order to provide optimal care to our local patients.

Yours sincerely,

Mr. Osian Powell
Divisional Operations Director
Division of Integrated Medicine and Rehabilitation Services

Incorporating hospital and community health services, teaching and research
RCT/MCB

18th July 2013

Mr Peter Morris, OBE
Chief Executive
Barts Health NHS Trust
First floor, Anstey Savoy House
81 Commercial Road
London E1 1RD

Dear Peter,

On behalf of Barts and The London School of Medicine and Dentistry at Queen Mary, University of London, I write in support of the Barts Health NHS Trust submission to be designated as a level 3 haematopoietic stem cell transplantation (HSCT) unit and a level 2b unit providing intensive treatment for acute myeloid leukaemia (AMLs).

The Trust Cancer Centre of Excellence, based at St Bartholomew’s Hospital, has consistently achieved high standards of care and patient outcomes and has a very good reputation across London and the UK. As an academic partner we are very pleased to be associated with such a strong brand and one that continues to deliver consistently for the population that it serves.

It is vitally important to us as a university that we have a provider partner who is committed to academic and has clear aspiration to deliver significant improvement for patients. To be designated as a malignant haematology centre for 2b and 3 will further cement our collaborative ability to provide comprehensive cancer services and to offer patients the best outcomes, through clinical advances and innovation.

We look forward to the continuing development of cancer services at St Bartholomew’s Hospital to deliver care that is both excellent and innovative.

Yours sincerely,

[Signature]

Professor Richard Trembath
Vice Principal (Health) & Executive Dean
Sir Stephen O'Brien CBE
Chairman's Office
Amein Benam House
6th Floor
61 Commercial Road
London
E1 1RD

Mea switchboard: 020 7922 5000
www.barthealth.nhs.uk

RSOEJABA/1207018
18 July 2013

Mr Pelham Allen
Chair
London Cancer
170 Trelsham Court Road
London
WIT 7HA

Dear Mr Pelham,

I am writing on behalf of the whole of Barts Health NHS Trust Board in support of the Trust’s submission as the nominated Haematological Malignancy provider.

As you know the Board of Barts Health fully comprehends the importance of building upon, and indeed developing, our leading cancer services to ensure we continue to meet the needs of the populations that we serve.

We have written before and you will therefore be aware that we are keenly embracing integrated care services and in particular the need to improve population health. We continue to develop strong working relationships across primary and community care, with academic and provider partners, and increasingly, our local authority partners.

We very much look forward to the next stage of the process.

Yours sincerely,

Stephen O’Brien

P.S. I greatly look forward to meeting you.
Dear Dr Matthew Smith

Re: Barts Health’s application to London Cancer to continue as a provider of level 2b and 3 Haematology-oncology services at St Bartholomew’s Hospital

This is to confirm Southend CCG support your bid.

Yours

Melanie Craig
Chief Operating Officer

Chair: Dr Bilequis Agha
Clinical Chief Officer: Dr Paul Hussain
To Whom It May Concern:

RE: AHP services at Haematology – Oncology at Barts Health

Barts Health has a dedicated AHP team for Cancer services which provide holistic care to all Haematology patients. The team includes Physiotherapy, Dietetics, Occupational Therapy and Speech Therapy as required.

Our physiotherapy team are experts in human movement and functioning, using mostly physical approaches to promote, maintain and restore physical, psychological and social well-being. We work closely with the multi-disciplinary team to minimise the effects of cancer and its treatment, providing a holistic service which meets the needs of both patients and family/carers.

Our main goal is to improve the quality of life of all our patients.

The physiotherapy team provide a range of interventions including gait re-education, graded exercise programmes, breathing exercises, advice on posture, clearance and respiratory management, specialist neurological rehabilitation, pain management (including the use of NMES machines) fatigue, breathlessness and anxiety management, as well as prescription of appropriate equipment.

Our physiotherapy team also run a blanket referral for all patients undergoing stem cell transplants for advice and provision of an exercise programme.

At Barts Health our occupational therapy team has specialist skills to examine the impact of cancer may be having on the everyday lives of our patients, focusing our interventions on what is important to individual patients. Assessments are holistic and take into account the physical, psychological, social or cognitive abilities.

We offer specialist treatments aimed at optimising quality of life, these include:

- Fatigue or breathlessness management
- Energy conservation
- Anxiety management, relaxation techniques
- Neuromuscular re-education
- Upper limb rehabilitation
- Cognitive assessment and treatment
- Equipment prescription and testing
- Functional training

Furthermore, the Occupational Therapists ensure discharge planning takes place as early as possible within the patient’s journey, working closely with the patient’s multidisciplinary team of specialists to ensure that when patients return home from hospital this is as safe as possible and that their independence is maintained.

Barts Health NHS Trust: Newham University Hospital, The London Chest Hospital, The Royal London Hospital, St Bartholomew’s Hospital and Whipps Cross Hospitals.
Dietitians also play an integral part with the care of these patients, the dietitian is involved in ensuring that nutritional management is considered as early as possible within the inpatient stay. Nutritional management can take the form of nutritional support, artificial feeding such as naso-gastric feeding or Parenteral Nutrition where a dedicated Nutrition Team are involved. Dietitians provide tailored advice taking into account patient symptoms and preferences. The aim is to optimise nutritional status, reduce the risk of malnutrition and to support a timely discharge. Early and good nutrition and reduce length of stay and decrease the risk of infection.

Furthermore dietitians works collaboratively with the medical and nursing teams within Barts Health and with the dietitians specialising in Haematology – Oncology PAN London to develop nutritional guidance for patients with Graft Versus Host Disease to ensure consistency in care and practice across all sites in London.

Barts Health prides itself in being one of the first trusts to provide a Survivorship programme to patients living with and beyond Cancer. This is led by a Physiotherapist but has input from other professions such as dietetics, psychology, pharmacy the medical team at Barts Health. The programme has been running for 2 years and has had a positive evaluation from the programme users.

All AHP’s within Cancer services are specialist and look to developing the clinical services further, plans are underway to develop an AHP led MDT for stem cell transplant patients attending pre assessment clinic supported with appropriate written resources.

The Occupational Therapy team have initiated a research project looking at vocational rehabilitation.

AHP’s at Barts Health are committed to providing the best care possible for patients with Haematology-Oncology and have excellent partnership working with both medical and nursing team always looking forward to improving the research opportunities and overall clinical services.

Rashmi Soni & Lindsay Farthing
AHP Clinical Leads for Dietetics and Physiotherapy/Occupational Therapy
13th July 2013

Dear Peter,

Re: Barts Health application for level 2b and 3 Centre for acute leukaemia and stem cell transplantation

I write to express strong support for the Barts Health bid to provide level 2b and 3 services for acute leukaemia and stem cell transplantation in my capacity as Director of the Barts Cancer Institute, Queen Mary University of London and as Director of Research, Education & Development at Barts Health NHS Trust.

The Barts Cancer Institute has an expanding portfolio of clinical, translational and basic research relevant to this application. Our Experimental Cancer Medicine Centre is host to nearly 40 clinical trials in haematology that are either recruiting or in follow-up, and eight more are in set-up led by Professor John Gribben, Professor Jamie Cavanagh, Dr Heather Oakes, Dr Silvia Montoto, Dr Rebecca Auer, Dr Matthew Smith and Dr Sanjiv Agrawal. There is a very active laboratory programme with substantial CR-UK programme support for Dr Jude Fitzgibbon and MRC Clinician Scientist support for Dr Jeff Davies. The Centre for Haematology-Oncology research themes are focused on stem cell transplantation with work on the tumour microenvironment and the host immune system led by Professor John Gribben and studies on bone marrow failure in AML led by Dr David Taussig, graft versus host disease by Dr Jeff Davies and immunomodulation of human alloresponses.

The medical school will continue to invest in personnel and infrastructure to support research and education in haematology-oncology, and we look forward to working in partnership with Barts Health to make advances to improve outcomes for patients.

Yours sincerely,

Nicholas Lemole MD PhD FRCPath FMedSci
Director
Barts Cancer Institute, Queen Mary University of London

Patron: Her Majesty The Queen
Dr Baris Kaya
Consultant Haematologist
Barts and The London National Haematology
Training Programme Director
Barts Health NHS Trust
4th Floor, Pathology & Pharmacy Building
Royal London Hospital
T: 0203 246 0350 / 0402
E: 0203 246 0394
Website: www.bartshpahtology.nhs.uk
Baris.kaya@bartshealth.nhs.uk

15.07.13

Re London Cancer - Malignant Haematology bid

The malignant haematology / transplant unit at St Bartholomew's is highly rated by trainees and this was again demoralised in the 2013 GMC trainee survey. The unit scored green flags for clinical supervision, adequate experience, work load and feedback. This reflects the overall enthusiasm and dedication of consultants and allied health professionals in prioritising, the education and training needs of junior doctors in clinical practice and facilitating academic excellence by allowing good integration between healthcare services, research and education. The training programme for this reason, has attracted high quality candidates and a significant number of trainees spend time out of programme in research.

The programme allows for trainees to spend more than a year on one site covering the required competencies in malignant haematology, as well as gaining laboratory haematology requirements. This allows for good continuity, service provision and seamless working between the haematology and laboratory. A loss of this service would have a negative impact on training and service provision.

Yours sincerely,

Dr Baris Kaya

Barts Health NHS Trust, Newham University Hospital, The London Clinical Labs, The Royal London Hospital, St Bartholomew's Hospital and Whipps Cross Hospital.
Dear Mr Morris,

This letter is in support of the AML practice at Barts. The team there (Prof Jamie Cavenagh, Dr Matt Smith, Dr David Taussig and Dr Heather Oakervee) have consistently recruited well to national studies (AML-15/17).

Prof Cavenagh, as the PI, is the highest recruiting investigator for AML-17. The team have also been a centre for the Pilot studies for AML-15 and 18.

Prof Cavenagh will also be a clinical coordinator for the upcoming AML-19 Trial.

Yours sincerely,

N H Russell
Professor of Haematology
Chair of the AML Working Group
9th July 2013

To Whom It May Concern:

Dear Sir/Madam,

Ref: London Cancer — Consoladation of HSCT and Acute Leukaemia Provider

I write in support of the Barts Health application to remain and develop its role as a London Cancer HSCT provider together with other RTH or UCH H.

This support is from the perspective of me as a patient but more pertinently as Chairman of The St. Bartholomew’s Stem-Cell PPE.

The St. Bartholomew’s Campus is already testing the proposed clinically led pathway boards, within feasible parameters. Their processes are already understood by patient empowerment, not least of all through the PPE, from which points of patient care are raised and a process for improved ongoing patient feedback is well in action. All suggestions are respected, taken on board and, where applicable, solutions sought toward realistic improvements of care and even events of celebration. This process demonstrates the internal use of your priorities of listening, two-way communication, involvement, information flow, hands-on education, choice and personalisation. The further integration of these across hospitals should merely be a formality.

My own experience as an AML chemotherapy remission patient whom through holistic assessment release was detected early after three and a half years. In every respect of my illness and multiple complications there is nothing, I repeat nothing that St. Barts could have done better. Each of the ten key patient themes from Diagnosis to Discharge is ingrained in the service and processes of this hospital.

There is scarcely a patient or carers who would not share their objections to their or their partner’s after treatment were not of Barts Health. St. Barts is not just an hospital to its patients; it is a place of trust, hope, security and, in some cases, respected as a second home.

As Chairman of the PPE and an experienced patient I speak knowingly on behalf of other patients both present and past, a number of whom I was close to.

When I glance at your ‘Overall principles and commitments for the delivery of an integrated pathway for HSCT and acute leukaemia’ I cannot but note that this is no more than a (manage) sharing between sites of that which already exists at Barts and its sibling hospitals of Royal London etc.
Your points of Leadership, audit and data collection and education and training are
evocative, sense commitments to developmental arcs, whilst not publicised to patients,
based on my understanding of Barts ethos I cannot imagine these being overlooked or
repeated with any level of complacency.

Partnership In terms of patient experience One is comforted in knowing that all
consultants at clinic (Professor or Dr.) is fully in the picture of each and all patients'
survival and pathways.

Gathering and responding to feedback In addition to the aforementioned PPE and
national patient survey. We have our own patient survey that shall start to generate its
own individual and locally specific feedback.

Research and innovation I observed with amazement how the continual research had
fed into my own treatment between my initial treatment in 2005 and relapse in 2008. I
was also from discussions with consultants that there were continuing number of
research projects on the go. Some, of which, are unfortunately being frustrated by
lack of funding.

As a final thought, whilst not included in the pathway specification, St. Barts acts as a
suitable transport location with convenient underground parking, numerous disabled
parking bays, direct buses from Liverpool Street Station and the city, close proximity
to City Thameslink (Mon–Sat only) and St. Paul’s Underground Station.

I sincerely trust that this note, whilst brief, has enlightened the need and suitability of
Barts Trust to continue as the centre of excellence for HSCC and acute leukaemia
regarding related oncology cancer treatments.

Yours faithfully,

Peter D Bickn

Barts Health Haemato-Oncology Application to London Cancer July 2013
Earts Health NHS

NHS Trust

Neil Ashman, FRCP, FMed 
Clinical Director, Renal Unit 
Barts Health NHS Trust 
The Royal London Hospital 
Whitechapel, E1 1BB 
Tel: 020 3556 2500 (PA – Maggie Balmuir) 
nell.ashman@bartsandthames.nhs.uk

8 July 2013

Professor Katy Pritchard-Jones 
London Cancer

Dear Professor Pritchard-Jones,

I write as the Renal Unit Director at Barts Health in support of the Barts Health London cancer bid to be recognised as a NCST and acute leukaemia Level 3 centre.

Renal impairments are common in patients with haematological malignancies, with on-site haemodialysis or haematolysis recommended in the guideline specifications at a result. I can confirm that we have a fully-supported water treatment plant and ring at Barts to enable an on-site haemodialysis with dedicated 24 hour nephrology support. This will allow all the benefits of high-intensity, shorter hours treatments for improved care (as provided by haemodialysis as opposed to the lesser intensity of haematolysis). Our service will also bring the unique benefit of being able to offer high-end of haemodialysis for free light chain removal in new presentations of kidney injury with myeloma.

Patients needing longer periods of renal support will not need transfer to other centres, nor will they impact on ICU bed stays within our model of care, encouraging best use of resources to deliver a world-class service.

Yours sincerely,

Neil Ashman

Dr Neil Ashman
### Appendix 2 – Centre for haemato-oncology, Barts Cancer Institute

<table>
<thead>
<tr>
<th>CHO Lead</th>
<th>Senior Academic Staff</th>
<th>Junior Academic Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor John Gribben</td>
<td>Dr J. Davies</td>
<td>7 Postdoctoral RAs</td>
</tr>
<tr>
<td>NIH (US) programme Grant Holder</td>
<td>Clinical Senior Lecturer/MRC Clinician Scientist</td>
<td></td>
</tr>
<tr>
<td>Dr J. Fitzgibbon</td>
<td>Reader/CRUK Programme Grant Holder</td>
<td>10 Graduate RAs/techs</td>
</tr>
<tr>
<td>Dr S. Joel</td>
<td>Reader</td>
<td>7 PhD Students</td>
</tr>
<tr>
<td>Dr R. Le Dieu</td>
<td>Clinical Senior Lecturer</td>
<td>9 Clinical Research Fellows</td>
</tr>
<tr>
<td>Dr A. Ramsay</td>
<td>Lecturer</td>
<td></td>
</tr>
<tr>
<td>Dr L. Jia</td>
<td>Senior Lecturer</td>
<td></td>
</tr>
<tr>
<td>Dr D. Taussig</td>
<td>Clinical Senior Lecturer/prior MRC Clinician Scientist</td>
<td></td>
</tr>
<tr>
<td>Dr Gabriella Ficz</td>
<td>Lecturer (starting Sep 2013)</td>
<td></td>
</tr>
<tr>
<td>To be appointed</td>
<td>(starting Aug 2013)</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix 3 - CCG population statistics

#### Inner North East London (INEL)

**CCG Population**  
Hackney (incl. City) 273,000  
Tower Hamlets 243,000  
Waltham Forest 271,000  
Newham 333,000  
**TOTAL: 1,120,000**

#### Outer North East London (ONEL)

**CCG Population**  
Barking & Dagenham 182,000  
Redbridge 264,000  
Havering 252,000  
**TOTAL: 698,000**

#### North Central London

**CCG Population**  
Barnet 356,400

---

Camden 220,300  
Enfield 312,500  
Haringey 254,900  
Islington 206,100  
**TOTAL: 1,350,200**

Sum total of London Cancer population  
12 CCGs - **3,168,200**

#### Essex

**CCG Population**  
West Essex 286,000  
Mid Essex 377,000  
NE Essex 311,100  
Thurrock 157,700  
Southend 173,700  
Castle Point & Rochford 171,300  
Brentwood & Basildon 248,100  
**TOTAL: 1,724,900**

*Source: Population Statistics - Source: Population Census 2011*
## Appendix 4 - Referring CCG by ethnic group composition (Census 2011, ONS)

<table>
<thead>
<tr>
<th>CCG</th>
<th>White British</th>
<th>Asian Pakistani</th>
<th>Chinese</th>
<th>Black African/Caribbean</th>
<th>Mixed</th>
<th>Other†</th>
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<tbody>
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<td>Essex</td>
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<td></td>
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</tr>
<tr>
<td>West Essex</td>
<td>86.8</td>
<td>2.4</td>
<td>0.6</td>
<td>2.1</td>
<td>1.9</td>
<td>6.2</td>
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<tr>
<td>Mid Essex</td>
<td>92</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>6</td>
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<tr>
<td>NE Essex</td>
<td>91</td>
<td>0.8</td>
<td>0.7</td>
<td>0.9</td>
<td>1.5</td>
<td>5.1</td>
</tr>
<tr>
<td>Basildon &amp; Brentwood</td>
<td>89</td>
<td>1</td>
<td>0</td>
<td>2</td>
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<td>7</td>
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<tr>
<td>Thurrock</td>
<td>80.9</td>
<td>2.1</td>
<td>0.5</td>
<td>7.8</td>
<td>1.9</td>
<td>6.8</td>
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<tr>
<td>Castle Point &amp; Rochford</td>
<td>95.5</td>
<td>0.6</td>
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<td>0.7</td>
<td>1</td>
<td>2</td>
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<tr>
<td>Southend</td>
<td>87</td>
<td>2.1</td>
<td>0.6</td>
<td>2.1</td>
<td>2.1</td>
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<tr>
<td>City &amp; Hackney</td>
<td>36.8</td>
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<td>1.5</td>
<td>22.5</td>
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<td>35.7</td>
<td>3.2</td>
<td>7.3</td>
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<td>19.6</td>
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<td>Waltham Forest</td>
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<tr>
<td>Barking &amp; Dagenham</td>
<td>49.5</td>
<td>12.4</td>
<td>0.7</td>
<td>19.9</td>
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<tr>
<td>Havering</td>
<td>83.3</td>
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<td>6.1</td>
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<tr>
<td>Redbridge</td>
<td>34.5</td>
<td>33.2</td>
<td>1.1</td>
<td>8.8</td>
<td>4.1</td>
<td>18.3</td>
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† includes white non-British, Arab and other Asian
Appendix 5 - Market share AML Barts Health for 2011 and 2012 (market analysis export: HRG AML; CHKS)

<table>
<thead>
<tr>
<th>PCT</th>
<th>Market share %</th>
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<tr>
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</tr>
<tr>
<td>Tower Hamlets</td>
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<td>Waltham Forest</td>
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<td>Redbridge</td>
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<td>Essex &amp; Herts</td>
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<td>Herts</td>
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Appendix 6 - Pan-London HSCT Commissioners’ Needs Analysis 2004 – 2007: First BMT according to provider and SHA region of residence

<table>
<thead>
<tr>
<th>Trust</th>
<th>SHA region of residence</th>
<th>Essex (n=178)</th>
<th>Herts (n=133)</th>
<th>NC London (n=185)</th>
<th>NE London (n=148)</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>n %</td>
<td>n %</td>
<td>n %</td>
<td>n %</td>
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<tr>
<td>Addenbrookes</td>
<td>19</td>
<td>10.6%</td>
<td>17</td>
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<td>(n=38)</td>
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<td>BLT</td>
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<td>(n=238)</td>
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<td>GSTT</td>
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<td>Hammersmith</td>
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<td>(n=30)</td>
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<tr>
<td>KCH</td>
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<tr>
<td>(n=7)</td>
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<tr>
<td>UCLH</td>
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<td>78</td>
<td>58.6%</td>
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<td>(n=223)</td>
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<td>Royal Free</td>
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<td>13</td>
<td>9.8%</td>
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<td>(n=82)</td>
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<td>RMH</td>
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<td>4</td>
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<td>(n=16)</td>
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<tr>
<td>St George’s</td>
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<td>1</td>
<td>0.8%</td>
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<td>(n=2)</td>
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## Appendix 7 – Market share for BMT, Barts Health for 2011 and 2012 (Market analysis export: HRG BMT; CHKS)

<table>
<thead>
<tr>
<th>PCT</th>
<th>Market share %</th>
</tr>
</thead>
<tbody>
<tr>
<td>INEL</td>
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<tr>
<td>Tower Hamlets</td>
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<tr>
<td>City and Hackney</td>
<td>80</td>
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<td>Waltham Forest</td>
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<tr>
<td>Redbridge</td>
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<td>Barking &amp; Dagenham</td>
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<td>Havering</td>
<td>62.5</td>
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<td>Essex &amp; Herts</td>
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</tr>
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<td>W Essex</td>
<td>12.5</td>
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<td>SW Essex</td>
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<td>Mid Essex</td>
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<tr>
<td>NE Essex</td>
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<tr>
<td>Herts</td>
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Appendix 8 - Barts Health specialist haemato-oncology multidisciplinary team

<table>
<thead>
<tr>
<th>Speciality</th>
<th>Haemato-oncology Team Members</th>
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<tbody>
<tr>
<td>Haemato-oncology</td>
<td>Professor John G Gribben</td>
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<tr>
<td></td>
<td>Dr Matthew Smith</td>
</tr>
<tr>
<td></td>
<td>Dr Jeff Davies</td>
</tr>
<tr>
<td></td>
<td>Dr David Taussig</td>
</tr>
<tr>
<td></td>
<td>Prof Jamie D Cavenagh</td>
</tr>
<tr>
<td></td>
<td>Prof Finbar Cotter</td>
</tr>
<tr>
<td></td>
<td>Dr Silvia Montoto</td>
</tr>
<tr>
<td></td>
<td>Dr Rifca Le Dieu</td>
</tr>
<tr>
<td></td>
<td>Dr Samir Agrawal</td>
</tr>
<tr>
<td></td>
<td>Dr Rebecca Auer</td>
</tr>
<tr>
<td></td>
<td>Dr Wendy Mills</td>
</tr>
<tr>
<td></td>
<td>Dr Olivia Kreze</td>
</tr>
<tr>
<td>Haematology (Newham)</td>
<td>Dr Wendy Mills</td>
</tr>
<tr>
<td>Haematology (Whipps Cross)</td>
<td>Dr Naim Akhtar</td>
</tr>
<tr>
<td>Haematology (Homerton)</td>
<td>To be appointed</td>
</tr>
<tr>
<td>Palliative Care</td>
<td>Dr David Feuer</td>
</tr>
<tr>
<td>Clinical Nurse Specialist (Barts Health)</td>
<td>Filippo Oliviero</td>
</tr>
<tr>
<td></td>
<td>Corrine Quinn</td>
</tr>
<tr>
<td></td>
<td>Andrea Guy</td>
</tr>
<tr>
<td></td>
<td>Samantha Miles</td>
</tr>
<tr>
<td></td>
<td>Deo Boodoo</td>
</tr>
<tr>
<td></td>
<td>Maresa Farrell</td>
</tr>
<tr>
<td>Clinical Nurse Specialist (Whipps Cross)</td>
<td>Karen Bennett</td>
</tr>
<tr>
<td>Radiology</td>
<td>Dr Athar Haroon</td>
</tr>
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<td>Radiology (Whipps Cross)</td>
<td>Dr Tom Butler</td>
</tr>
<tr>
<td>Haematopathology</td>
<td>Dr Marie Calaminici</td>
</tr>
<tr>
<td></td>
<td>Dr Hasan Rizvi</td>
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<td>Histopathology</td>
<td>Dr Samir Agrawal</td>
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<td>Histopathology (Whipps Cross)</td>
<td>Dr Melanie Powell</td>
</tr>
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<td>Ms Rumenia Akther</td>
</tr>
<tr>
<td>MDT Co-ordinator</td>
<td>Andrew Wilson</td>
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<tr>
<td>Data management</td>
<td>Dr Chloe Orkin</td>
</tr>
<tr>
<td>Infection &amp; Immunity</td>
<td></td>
</tr>
</tbody>
</table>

Members with specific responsibilities:
- **Service improvement lead** - Dr Rebecca Auer
- **Core member responsible for participation in clinical trials** - Prof John Gribben
- **Core member with responsibility for user issues, patient and carer information** - Andie Guy
- **Core member for reporting PET and cross sectional imaging** - Dr Athar Haroon
### Appendix 9 – Adjunctive services by Barts Health site

<table>
<thead>
<tr>
<th>Facility</th>
<th>SBH</th>
<th>RLH</th>
<th>WXH</th>
<th>NGH</th>
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<tbody>
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<td>CNS</td>
<td>On site</td>
<td>SBH</td>
<td>On site</td>
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<tr>
<td>Psychological services</td>
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<td>On site</td>
<td>On site</td>
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<td>Dietetics</td>
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<td>On site</td>
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<td>Information services</td>
<td>On site</td>
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<td>On site</td>
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<td>PALS</td>
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<tr>
<td>Patient advocates</td>
<td>On site</td>
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<td>On site</td>
</tr>
<tr>
<td>Palliative care</td>
<td>On site</td>
<td>On site</td>
<td>On site + Margaret Centre hospice</td>
<td>On site</td>
</tr>
<tr>
<td>Social services</td>
<td>On site</td>
<td>On site</td>
<td>On site</td>
<td>On site</td>
</tr>
<tr>
<td>Rehabilitation services e.g. physio/OT</td>
<td>On site</td>
<td>On site</td>
<td>On site</td>
<td>On site</td>
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<tr>
<td>Complementary therapies</td>
<td>On site</td>
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<td>Spiritual support</td>
<td>On site</td>
<td>On site</td>
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<tr>
<td>Carer and bereavement support</td>
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<td>On site</td>
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### Appendix 10 – Travelling time to Barts Hospital across London Cancer region

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<thead>
<tr>
<th>No.</th>
<th>Hospital</th>
<th>Borough</th>
<th>Postcode</th>
<th>Distance to SBH from each site (single journey in miles)</th>
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<td>City of London</td>
<td>EC1A 7BE</td>
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<td>1.</td>
<td>University College Hospital</td>
<td>Camden</td>
<td>NW1 2BU</td>
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<td>Camden</td>
<td>NW3 2QG</td>
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<td>3.</td>
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<td>Islington</td>
<td>N19 5NF</td>
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<td>4.</td>
<td>Homerton Hospital</td>
<td>Hackney</td>
<td>E9 6SR</td>
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<td>5.</td>
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<td>Newham</td>
<td>E13 8SL</td>
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<td>Haringey</td>
<td>N18 1QX</td>
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<td>Enfield</td>
<td>EN2 8JL</td>
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<td>Havering</td>
<td>RM7 0AG</td>
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<td>Harlow, Essex</td>
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Appendix 11 - Original research published from CHO, BCI in last REF cycle (2008-date)


# Appendix 12 - Example job plans

<table>
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<th>MONDAY</th>
<th>TUESDAY</th>
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<th>THURSDAY</th>
<th>FRIDAY</th>
<th>SATURDAY</th>
<th>SUNDAY</th>
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</thead>
<tbody>
<tr>
<td>Outreach</td>
<td>MDM - SBH</td>
<td>Outpatient clinic SBH</td>
<td>Ward round when attending SPA otherwise</td>
<td>Outreach AoS and Day unit review</td>
<td>Cross-site on call 1 in 10 (Ward round WXH/NUH)</td>
<td>Cross-site on call 1 in 10 (Ward round SBH)</td>
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<td></td>
<td></td>
<td>Ward round when attending SPA otherwise</td>
<td>Whipps Cross</td>
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<td>BMT MDM Tissue typing Consultants’ meeting</td>
<td>Outreach AoS and Day unit review</td>
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<td>Whipps Cross</td>
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