Transform our blood cancer centre – a new Haematology Day Unit
Creating a spacious purpose-designed unit for patient-centred haematology treatment

“We observed the space in the Haematology Day Unit to be very compact, with patients sitting very close together due to lack of space. This increased the risk of infection for patients who were immunocompromised.”

Care Quality Commission, April 2015
Transform our blood cancer centre – a new Haematology Day Unit
Creating a spacious purpose-designed unit for patient-centred
haematology treatment

Executive Summary

The Haematology Day Unit at Cambridge University Hospitals (CUH) is an internationally renowned centre of clinical excellence which provides a full range of services for the diagnosis and management of patients with all types of blood disorders. Treatments for malignant haematology include: high-dose chemotherapy, pre and post bone marrow transplant and supportive care. Treatments for non-malignant haematology include those for bone marrow failure and aplastic anaemia (deficiency of blood cells).

Patients on the current Haematology Day Unit are receiving excellent care but in seriously cramped conditions, squeezed in ‘knee to knee’. Limited space creates an overspill of patients leading to treatment in other locations which prevents efficient care for patients. Comfort and privacy is also severely compromised especially with a lack of spacious dedicated space for waiting, quiet time and private conversations with clinicians.

Consequently, the Haematology Day Unit is moving to a far more spacious dedicated building in the Summer of 2017; we will increase treatment spaces from 11 to 23 helping to meet increasing demand for haematology day services, meaning we can offer more treatments to more patients giving them the care they deserve.

Addenbrooke’s Charitable Trust (ACT) is fundraising to enhance these facilities and create a calming environment for patients who are undergoing stressful, uncomfortable and lengthy treatments often for life-altering conditions.

The NHS is funding the £1.5M refurbishment and build costs. ACT seeks to raise an additional £363,000 for therapeutic counselling, specialised medical equipment, a better patient experience, video conferencing and a welcoming outside space.

Background

The Haematology Department at Cambridge University Hospitals (CUH) provides a full range of in and out-patient services for the diagnosis and management of patients with all types of blood disorders, including cancers of the blood. The department, which has close links to the University of Cambridge’s Department of Haematology, is internationally renowned for its clinical expertise, laboratory diagnostic work and scientific research into the understanding and treatment of blood disorders.

The East Anglia Blood and Marrow Transplant Unit, based within the department provides a comprehensive service for the treatment of cancer. It offers high-dose therapy with bone marrow and peripheral blood stem-cell support, plus a dedicated outpatient department with day-case facilities for the treatment of patients undergoing transfusion, chemotherapy and apheresis (blood treatment).
**Geographical Area**

As well as being the local hospital for patients living in the Cambridgeshire area (covering a population of around 647,200 people), patients travel to CUH for haematology treatment from around the Eastern region: 53% are from Cambridgeshire and Peterborough, 12% from West Essex, 9% from West Suffolk and 8% from Bedfordshire. 18% are from other areas in the Eastern region.

More generally, the services provided by CUH can extend as far as the North Norfolk coast to the Thames Estuary covering 7,300 square miles and serving a total population of nearly five million people.

**Current Haematology Day Unit**

The current Haematology Day Unit opened in September 2005 on ward E10.

75-80% of patients are receiving treatment for a malignant blood disease: high dose chemotherapy, pre and post bone marrow transplant and supportive care.

Demand has steadily increased by 35% from 7,860 visits in 2010 to 10,606 in 2016.

The Haematology Day Unit has eight treatment chairs, two beds and one side room. There are over 650 patient attendances every month. There are 35 per day in the week. To meet increasing demand the unit has opened at weekends treating 15 patients per day.

**Project Need**

The hospital does its utmost to care for all patients with blood disorders. We have such expert haematology consultants and nurses here, but so many patients and so little space means that patients have to sit knee-to-knee while they're having really invasive treatments. Imagine what it can feel like to be a patient. Staff are falling over equipment to reach patients making very busy doctors and nurses' jobs even harder. Family feel like they're in the way but their presence is essential to patients' emotional wellbeing in hospital. Research shows that recovery is not just about how good the medical treatment is but the emotional and social support patients have from all around them.

In their April 2015 inspection of the hospital, the Care Quality Commission (CQC) visited the unit and said:

“*We observed the space in the Haematology Day Unit to be very compact, with patients sitting very close together due to lack of space. This increased the risk of infection for patients who were immunocompromised.*”

The CQC also commented on the impact of this on privacy and dignity. The lack of space means that the only place to have confidential discussions for staff and patients is the doctor’s small office which means staff having to decamp to a small staff room to carry on their work as best as possible.

There is nowhere to store equipment which is taking up valuable room in the corridor and due to a lack of accessible space there are far too few computers which delays processing of patient notes.
New Haematology Day Unit

The Haematology Day Unit is moving to the (recently vacated) Dialysis Unit, a spacious ground-floor building with independent access and in close proximity to the main car park. To re-fit the unit and furnish with additional standard equipment will cost the NHS in the region of £1.5m. ACT seeks to fundraise an additional £363,000 to meet vital needs over and above the capacity of NHS funding. The project is due for completion in July 2017.

An image of the plan outline of the New Haematology Day Unit
Projects to enhance the new Haematology Day Unit include:

1. Expansion of space to meet demand and enhance patients’ experience

“It’s clear that hospital design can help reduce pain and stress” Roger Ulrich, Professor of Architecture at Chalmers University, Sweden - a pioneer in research of the effect of hospital buildings.

The relocation of the Haematology Day Unit from E10 will also release much-needed space that will directly benefit a range of patients.

The new unit doubles capacity with 23 treatment spaces compared to the current 11, this will help to meet increasing demand for haematology day services, enable a wider range and level of treatments to be delivered and contribute to improved management of waiting times.

Our ability to isolate infectious patients is severely limited, with only one side room which is always in demand. The new unit has four side rooms, allowing for better management of infectious patients and, ultimately, controlling the spread of infection to other patients and staff.

The new, larger unit, allows for segregation of male and female patients giving them privacy and dignity especially when receiving treatment and in consultation with medical staff.

The positive knock-on effect of the relocation of the Haematology Day Unit is that in the newly vacated E10 there is further opportunity to expand the Apheresis Department. Addenbrooke’s runs a therapeutic Apheresis service and performs stem cell collections, red cell exchanges, plasma exchanges and extra corporeal photopheresis procedures.

In turn the relocation of the Apheresis service to E10 will allow for the current Cancer Assessment Unit to increase capacity by 50% from six to nine beds enabling more patients suffering from cancer to access emergency 24 hour support with the right clinician when they need it without having to attend general A&E.

2. Therapeutic counselling to support patients through diagnosis and treatment

Supporting patients through difficult times as they come to terms with their initial diagnosis and ongoing treatment is essential to their health and emotional wellbeing. Having dedicated time and a space where a patient is listened to and able to speak freely about their fears and challenges can offer vital support to their overall mental health. We are looking to provide the first three years of crucial funding for a full time counsellor to help support oncology patients, including all those with Leukaemia and related blood disorders who need a counsellor.

<table>
<thead>
<tr>
<th>Counselling</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oncology support counsellor for 3 years</td>
<td>£114,867</td>
</tr>
</tbody>
</table>

Counselling Total Cost
3. State-of-the-art equipment making treatment quicker and more effective for patients

There are three pieces of specialist equipment that will help to meet the increasing demand for treatment of patients with Leukaemia and blood related disorders.

A Platelet Agitator
Haematological conditions and cancers can cause low platelets in the blood and need for platelet transfusion. Platelets require constant agitation to live. A ‘platelet agitator’ machine keeps platelets at room temperature and gently moves the platelets around. Currently there is a platelet agitator in the main blood bank department and a nurse is required to make a ten minutes round trip to collect platelets (not including any waiting time). This happens up to twenty times a day. Installing a platelet agitator in the new Haematology Day Unit will mean that all planned platelets can be collected for the day that morning, reducing delays to patients and saving valuable staff time.

An Extra Corporeal Photopheresis (‘ECP’) machine
An ECP machine is used to treat chronic Graft versus Host Disease (GvHD), a horrendous side effect caused by bone marrow transplantation. Symptoms of chronic GvHD vary from patient to patient and include severe blistering and shedding of the skin, diarrhoea and vomiting.

ECP reduces level of immunosuppressive treatment, decreases the risk of life-threatening infections and potential admission to intensive care. We only have one ECP machine and some patients are still having to travel 50 plus miles to London or 90 miles to Nottingham for treatment. A second ECP machine would enable the service to ‘repatriate’ patients so that they could receive treatment in Cambridge.

Case Study

Dean Morley from Newton in Suffolk was diagnosed with lymphoma in 2004 when he was just 34 years old. Today, following two stem cell transplants and numerous other therapies, he is cancer free. But he still visits Addenbrooke’s once a week for additional treatment.

In 2013 Dean started ECP treatment for his GvHD. At that time, he had to travel the 152 miles from his home to Nottingham. Three hours each way by car driven by a relative. A single ECP treatment is given over two consecutive days so he would stay overnight in hospital accommodation. By the end of the two days he was exhausted.

Dean says “That’s why when I heard it was going to be available at Addenbrooke’s in December 2015, I was delighted! I was so honoured to be the first patient at Addenbrooke’s to receive ECP – it’s marvellous. I have had 42 procedures to date and it’s really helping with my skin condition.”

The relocation of the Apheresis service to ward E10 and the purchase of an additional ECP machine will enable even more patients to be treated nearer to home.
3. (continued)

A Blood Cell Separator
Blood cell separators are used to treat patients with a range of conditions including those undergoing stem cell transplantation for haematological cancers including Leukaemia. Blood cell separators work by separating blood into its component parts e.g. red cells (for sickle cell disease) or plasma (for autoimmune disorders) or for the collection and storage of components (e.g. stem cells for transplantation). Purchasing an additional fourth machine would enable more patients to be treated for elective red cell exchange and more patients to receive plasma exchange procedures as outpatients. This will also reduce delays for patients.

<table>
<thead>
<tr>
<th>Specialised Medical Equipment</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platelet agitator</td>
<td>£7,003</td>
</tr>
<tr>
<td>ECP machine</td>
<td>£30,000</td>
</tr>
<tr>
<td>Blood Cell Separator</td>
<td>£63,160</td>
</tr>
<tr>
<td>Treatment trolleys</td>
<td>£9,000</td>
</tr>
<tr>
<td></td>
<td><strong>£109,163</strong></td>
</tr>
</tbody>
</table>

4. Dedicated video conferencing facilities for virtual meetings to speed up patient care

Video conferencing is widely used to support clinical decision making for all cancer care treatments. CUH cares for patients across the Eastern region which requires regular conversations with other hospitals. This dedicated equipment will be used to hold virtual multi-disciplinary team meetings (MDTs) for patients with Leukaemia and related blood disorders. It will allow clinicians to access radiology images and pathology samples instantaneously so that they can plan patients’ care in a timely and effective manner lessening delays to patients’ treatment programmes.

<table>
<thead>
<tr>
<th>Video conferencing</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video conferencing equipment and installation</td>
<td>£70,000</td>
</tr>
<tr>
<td></td>
<td><strong>£70,000</strong></td>
</tr>
</tbody>
</table>

* Currently we have received an indicative donor pledge for £50,000 towards video conferencing

5. Enhancing patient comfort in a non NHS environment

Our enhancements to the unit will make it feel less like a hospital for patients. Transforming the space will make patients feel less stressed while they spend long periods of time on the unit.

Patients and their relatives will have access to a relaxing and tranquil quiet room with appropriate ‘non NHS’ style furniture, artwork on the walls, a radio and magazines.

Blue tooth headphones will allow patients who wish to, to individually enjoy the distraction of watching television (without unnecessarily disturbing those that don’t wish to.)

We will make patients more comfortable by providing four recliner chairs with memory foam seats and six treatment chairs. Also we will provide two ward wheelchairs (one for the Haematology Day Unit and one for the relocated Apheresis service on Ward E10).

In 2011 the British Medical Association noted ‘The visual arts have been shown to have a positive impact on patients who engage with them.’ At the Chelsea and Westminster Hospital art exhibitions were reported to have led to reduced rates of anxiety and depression for chemotherapy patients.

To provide a welcoming and non-NHS environment we seek to enhance the ambiance of the unit through art work and designed ‘wall glamour’ with graphic representations of the locality and region determined by consultation with staff and patients.
5. (continued)

<table>
<thead>
<tr>
<th>Patient Comfort</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiet room: furniture, artwork and radio</td>
<td>£4,000</td>
</tr>
<tr>
<td>Art and wall design</td>
<td>£24,500</td>
</tr>
<tr>
<td>Recliner chairs x 4</td>
<td>£8,028</td>
</tr>
<tr>
<td>Treatment chairs x 6</td>
<td>£5,200</td>
</tr>
<tr>
<td>Ward wheelchairs x 2</td>
<td>£2,700</td>
</tr>
<tr>
<td>Bluetooth headphones to go with TVs</td>
<td>£4,000</td>
</tr>
<tr>
<td>Umbrellas</td>
<td>£40</td>
</tr>
<tr>
<td>Magazine subscriptions</td>
<td>£500</td>
</tr>
<tr>
<td></td>
<td>£48,968</td>
</tr>
</tbody>
</table>

6. Outside Space brought back to life and colour

Sad as it is, the outside area at the entrance to the new Haematology Day Unit site is somewhat depressing and neglected. We aim to bring this area back to life and vibrant colour making it more welcoming. It will be transformed into a haven of peace, a place to remove oneself, if only for a few minutes, from the hustle and bustle of the hospital for patients and visitors alike.

<table>
<thead>
<tr>
<th>Outside space</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redesigned outside space</td>
<td>£20,000</td>
</tr>
</tbody>
</table>

Benefits

The Institute of Medicine’s (2001) six dimensions of ‘patient centred care’ are all enhanced in different ways by the new Haematology Day Unit. (e.g. compassion and empathy, co-ordination and integration, information and communication, physical comfort, emotional support and involvement of family and friends). The benefits are various:

- Meeting the real needs of staff and patients by involving them at the design and planning stage
- Increasing each and every patient’s experience by the creation of a non-NHS feel within the unit through artwork and wall glamour, comfortable furniture and the provision of Bluetooth headphones, a radio and magazines
- Enabling more patients to receive treatment in the appropriate environment – on the Haematology Day Unit, in a dedicated space for the Apheresis Service on Ward E10 and the expansion of the Cancer Assessment Unit diverting cancer patients from A&E
- Creating an overall ambient, calming, comfortable and welcoming environment in the unit for patients, relatives and staff
- Ensuring privacy and quiet space for patients both in the dedicated quiet room and in the spacious surroundings of the treatment rooms and waiting areas
- Enhancing mental wellbeing with an oncology counsellor to provide therapeutic support for patients from initial diagnosis and through their ongoing treatment
- Meeting increasing demand for treatments with state-of-the-art equipment treating more patients and providing Apheresis services closer to home for patients
- Decreasing delays to patients’ treatment programmes via the use of videoconferencing for Multi Disciplinary Team meetings
- Lifting the mood of patients and staff with a designed, colourful and peaceful outside space
Appendix

About Addenbrooke’s Charitable Trust (ACT)

Addenbrooke’s Charitable Trust (ACT) is the dedicated charity that supports the work of Cambridge University Hospitals NHS Foundation Trust (CUH).

The mission of ACT is to bring benefits to patients and the public through support for the care, research and education provided by CUH and the wider NHS in Cambridge, extending the scope and beneficial impact of the hospitals’ activities beyond that which can ever be achieved through government funding alone. Our aims are to grow the amount of charitable support that we can provide and to ensure that this is directed where it will yield the greatest public benefit. ACT’s location at the heart of the Cambridge Biomedical Campus and our close relationship with clinicians, scientists and hospital managers means that we are uniquely well positioned to achieve these aims.

We are an independent, registered charity and our role is to act as steward of gifts and grants made in support of the NHS Foundation Trust; to ensure that spending of such funds is for charitable purposes and is supplementary to NHS provision; and to fundraise to increase the charitable resources available. Our charitable purposes encompass enhanced patient care, patients’ amenities, innovation, education and translational research that is close to clinical application.

A grant-making body can route its support for the work of CUH through ACT with the security that we will safeguard funds, ensuring that they will only be spent for the purposes intended. We also work with hospital staff to ensure that all the accountability requirements of the funder are met, such as reporting back on progress in a timely manner.

The ACT annual review 2015/16 and the ACT annual report and financial statements 2015/16 are available at: http://www.act4addenbrookes.org.uk/Aboutus/Publications

About Cambridge University Hospitals (CUH)

CUH is the organisation that runs Addenbrooke’s and The Rosie Hospitals and having recently received a rating of ‘good’ by the Care Quality Commission (CQC) is in the top 15% of hospitals in the UK.

It is one of the UK’s leading centres for healthcare, health-related research and the education of clinical professionals. CUH works in partnership with the University of Cambridge, the Medical Research Council and other organisations located on the Cambridge Biomedical Campus to advance knowledge and practice in all three of these strands of shared mission. CUH is one of only five academic health science centres in the UK and a university teaching hospital with a worldwide reputation. The hospital’s vision is to be one of the best academic healthcare organisations in the world.