National Clinical Advisory Team - NCAT

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The Clatterbridge Cancer Centre
Investment in Liverpool Project

Desktop Review

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1. Introduction

   The project team working on behalf of Clatterbridge Cancer Centre approached NCAT to provide clinical assurance prior to public consultation regarding the proposal to build a new fully integrated cancer centre on the Royal Liverpool Hospital site as outlined in the Investment in Liverpool Project Strategic Outline Case. In view of the preparedness of the case, and intention to move much of the present services based at Clatterbridge it was considered not necessary for NCAT to carry out a formal visit, but a desktop review of the existing information would suffice. This report will be forwarded to the project team for further consideration and in advance of the review of the project by OGC Gateway

2. Information Considered

   1. The organisation and deliver of non-surgical oncology services in the Merseyside and Cheshire Cancer Network: a feasibility study into the potential for the relocation of non-surgical oncology service from Clatterbridge to Liverpool. *Authors Professor Mark R Baker, Mr Roger G Cannon:* Report to the Cancer Taskforce 15-10-2008
   2. Strategic Outline Case *Authors The Clatterbridge Cancer Centre NHS Foundation Trust* undated but received by NCAT December 2013

3. Proposal and clinical case for change

   Presently the Clatterbridge Cancer Centre NHS Foundation Trust (CCC) provides radiotherapy and chemotherapy for the Cheshire and Merseyside population as well as serving the population of North Wales. In addition the Royal Liverpool and Broadgreen Hospitals NHS Trust provide the majority of tertiary cancer surgery for this region which includes specialist surgery, radiology and pathology. The CCC's main base is in Bebington, Wirral and this has been the situation for many years. It means that the radiotherapy centre is not centrally located within

the population it serves, being south of the River Mersey whereas 67% of its feeding population live north of the river. Not only is CCC's main base at Bebington eccentric within its population, but it is becoming increasingly separated from other specialist cancer services. Because it is a single specialty hospital it does not have on site acute services such as intensive care for the sickest of patients. This will mean too that ground-breaking innovations such as intraoperative radiotherapy are not being pursued because of the physical separation of acute hospital facilities and specialist cancer services. Whilst Clatterbridge has an international reputation for performing world-class research, its current separation from the academic campus in Liverpool means it is not able to maximise the research opportunities for cancer patients. In the long run this will mean that cancer patients within Cheshire and Merseyside may not receive all the available therapeutic modalities possible.

An independent review of cancer services in Cheshire and Merseyside considered some of these problems (Baker Cannon report 2008) and concluded that big benefits could be gained for patients and their families by expanding the services provided by CCC through the establishment of a specialist cancer centre in Liverpool whilst retaining many of the services at Clatterbridge to ensure local access and the development of services across the area. Currently CCC does have an existing network of clinic arrangements across Merseyside and Cheshire, and can provide chemotherapy on 9 hospital sites in the region. It is the intention that this network would continue.

Subsequent to these recommendations a strategic outline case has been developed by the project team with the intention that a full outline business case be developed following public consultation on the preferred option. The strategic outline case is predicated on the expectation of CCC Trust that the need for cancer services will continue to increase across the region and that there is presently a substantial degree of unmet need. In addition the expectation is, following the publication of NHS Wales Strategy for the Future, that over time cancer patients in North Wales will be treated by services within Wales and not have to travel north to the Clatterbridge Centre in the Wirral as presently.

Thus the case for change presented by CCC is:

1. A requirement to expand CCC's current services
2. A need for seamless pathways for patient-centred care for all patients across the network providing a full range of chemotherapy in outpatients.
3. To provide best possible cancer care and health outcomes.
4. To create a centre of excellence for cancer treatment and research
5. To make best use of NHS resources
6. CCC to remain a specialist trust

The drivers for change are seen as:

1. The ageing population and a range of long term conditions.
2. The rising incidence of cancer (particularly in Cheshire and Merseyside region).
3. Meeting the national expansion of chemotherapy services.
4. Addressing the issue that CCC is not on an acute site thus has lack of access to ITU/HDU and a lack of access to other specialties.
5. Improving research potential, for instance be in a position to undertake first in human (FIH) and high risk phase 1 trials and some class 2 gene therapy studies.
6. Address the issue of the continuing reduction in services at the Clatterbridge site.
7. Improve access so the new centre is located more centrally within its feeding population.
8. Enable continued development of all types of cancer treatment.

The project team has summarised the case for change as:

1. The drive from clinicians to create more locally accessible services
2. A need to reduce journey times for radiotherapy for a significant proportion of patients
3. Meet the threat from independent sector providers locating radiotherapy centres north of the Mersey
4. The potential for existing NHS providers of radiotherapy to provide more accessible services, possibly in partnership with the independent sector.

4. Discussion

The following will concentrate on the clinical case for change and whether, as the case states, this will improve quality of care for patients and secure world class cancer services for the future population of Cheshire and Merseyside. I will not consider the affordability or the value for money of these proposals, which are a matter for OGC Gateway to review. Additionally I have not addressed the issue of competition within the market, which is stated as one of the Trust's objectives in making this reconfiguration proposal. It is of course for the commissioners to consider what the needs of their population are, and how these should be provided. Nevertheless I would point out that CCC's proposal to move the cancer centre would make it more difficult for other private providers or others to come into the marketplace. Additionally the range of services provided by CCC and the academic links they create are unlikely to be duplicated by other private providers. This will be a matter for commissioners to consider in due course when CCC's proposals seek commissioners' support.

I accept the case made by the Strategic Outline Case that the incidence of cancer is increasing and that already there is a problem of unmet need within the population of Cheshire and Mersey, some of which is due to poverty. It is recognised that for many different reasons people of lower social class present later with cancer and will not always access the services in a timely way. Additionally the range and practice of treatments for cancer is extending and plans for the future must take account of this. This fact, along with the ageing population (cancer is predominantly a disease of the old) will mean that commissioners do need to plan to increase the capacity of cancer services and how they will develop cutting edge treatments. Cancer therapy will always need to be tied closely to research and development as the pace of change in non-surgical treatments of cancer is rapid. Additionally there will always be a requirement to ensure that those treatments that can be delivered locally are delivered locally. This led to a standard model of cancer networks which is established nationally and appears to be well developed in Cheshire and Mersey centred on CCC's services. The intention that chemotherapy networks should remain and be developed can be strongly supported. Chemotherapy, even with modern palliatives, can still be a distressing experience thus travel times for treatment should be keep as short as possible and most acute general hospitals

should be in a position to deliver chemotherapy for their local populations, working in partnership with cancer centres. Radiotherapy in contrast requires skilled teams and large expensive pieces of kit, and these need to be centralised so that their usage is maximised, expertise is maintained and patients always have access to the latest technology. The intention here is for satellite units delivering radiotherapy to continue at Clatterbridge and a further unit at Aintree. This latter unit is especially important due to the existence of the regional neuroscience centre within the Walton Unit attached to Aintree Hospital. Having radiotherapy on site to deliver treatment to brain and spinal tumours will be of great benefit to patients with these disorders, as will be the provision of stereotactic radiosurgery, a key element in the modern treatment of brain tumours and other neurological problems.

To conclude, I agree with the CCC that there is a strategic need to address the increasing requirement for treatment of cancer and associated disorders.

For me, the key issue here is about the provision of safe and high quality care to those patients with cancer who require an inpatient stay. The Clatterbridge Cancer Centre in many ways is a historical oddity being as it is a single specialty hospital treating cancer. For many years it has provided high quality cancer care and is well known to people in North Wales, Cheshire and Merseyside as being the cancer centre. They know what it means to be sent to Clatterbridge. The problem that CCC has is one faced by all single specialty hospitals; that is the lack of supportive services, in particular the lack of access to intensive care and high dependency units (critical care) and secondly provision of easy access to other specialties. Whilst I accept that Arrowe Park does provide visiting services, this is not the same as having on site provision of on call rotas in anaesthetics, acute medicine and surgery. Nobody starting from scratch these days would plan a single specialty hospital. There are of course two other notable exceptions in the cancer world - the Royal Marsden Hospital, London and Christie Hospital in Manchester. The report does allude to these two hospitals so it might be asked why CCC is any different from them, and should not continue in the same way. My understanding is both the Marsden and Christie Hospitals have on site critical care services and do have other hospitals close by providing acute services. It might be possible for Clatterbridge to develop these on site services but at a cost - they would not provide value for money as for much of the time these services

would not be needed. The requirement is ease of access to a critical care service which is also employed doing other things, that is the critical care, medical and surgical services of an acute general hospital.

For many years CCC has delivered high quality care without these on site services but it has probably meant they have not been able to take on certain types of patients, ie those who are acutely ill, and deliver certain types of treatment. As patients are getting older and more likely to have multiple morbidities, and as treatments are becoming more intensive, patients in future are more likely to have other problems requiring the attention of other specialists. They are more likely to become acutely sick with their cancer treatment and will need the support of important others as above. Thus when planning for cancer services for the future, as CCC is doing, the ideal situation is to place cancer services within or nearby an acute hospital. Any plans should ensure that a new build is closely connected to the acute hospital by linked corridors or bridges. Patient transfers should not depend on an ambulance service.

To conclude, when planning ahead there is the requirement for cancer services to be nested within acute hospital services to ensure the prompt support of critical care, acute medicine and surgery services. Clearly the more specialists that can be on site the better, as cancer patients have multiple needs crossing many specialties including infectious diseases, haematology/blood transfusion, neurology, cardiology, gastroenterology etc. Looking at the options appraisal I see that options 3, 4, and 5 (option 6 was dismissed as not meeting the first requirements for an appropriate plan) meet NCAT's expectations of a modern cancer service.

The next issue the CCC presented as a reason to change their present situation is the requirement for increasing academic links. Again this can be strongly supported. Whilst CCC has managed to generate much valid research in the past, strong academic links (see above) are a sina qua non for all sizeable cancer centres. Steps have already been taken to develop the academic presence and increased research presence at CCC and links with the cancer research centre at the Royal Liverpool Hospital. Cancer services need to go hand in hand with a strong research programme. Every cancer patient should be considered a potential research subject and every patient be given the

opportunity to partake in research if possible. These can be highly dangerous and expensive treatments with outcomes that sometimes may only provide marginal improvements. This sort of data needs to be collected on a proactive basis to develop a strong evidence base for delivery of value for money services. My understanding is that to develop first in human (FIH) and high risk phase 1 trials and some class 2 gene therapy studies are only possible if there is on site critical care. The Royal Liverpool Hospital is in a strong position with its academic connections to provide the sort of links that CCC requires, and to provide the critical adjacencies to develop the acute services required. The potential for research is likely to be greater with the Royal Liverpool rather than Aintree Hospital.

A further driver for change is the present location of CCC within Wirral. Whilst transport connections to Clatterbridge are reasonable, it is again an historical oddity that cancer services have been developed in a geographic location which is eccentric within the catchment population. The population of North Wales though has depended on services at Clatterbridge for many years. It is the strategic intention of the Welsh Assembly to ensure that most treatment of Welsh patients takes place within Wales. Hence it does seem likely that in time cancer services will be developed in Mid and North Wales. Having said that, this may well be a long time coming and the sparse population of North Wales may not justify the building of a new fully comprehensive service – time will tell. Either way it is wise for CCC to consider that over the years this source of referral may fall away, and it does seem appropriate that they should concentrate on where within the Mersey and Cheshire region they should be located. The present situation does seem perverse in that 73% of potential patients live north of the Mersey and have a longer trip to make across Liverpool and the Mersey to reach the Clatterbridge services. On the other hand, when dealing with serious disorders such as cancer requiring specific highly specialised services, patients are prepared to travel. Hence, as above, although we have been focused her on the CCC project, it would be appropriate for commissioners to consider other models and other providers, always assuming that other providers are able to demonstrate the high quality services that CCC does provide and intends to provide in the future.

NCAT at this stage has not taken a view on how many highly expert cancer centres are required throughout England, considering population, epidemiology of disease, geography and the requirement for multiple and highly complex specialist treatments. Thus we are not in a situation to be categorical about the required population base to support a full comprehensive autonomous cancer centre. Having raised this issue it would seem unlikely that there are additional ways of providing this service without Clatterbridge and the practicality is that we must maximise existing resources even when considering the future. Additionally the political implications of considering any providers to replace CCC would be considerable.

5. Reviewing the options appraisal

When considering movement of a unit to a new location it is helpful for the public to gain an understanding of how travel times might improve by calculating isochrones for the current and new units. It will be important to demonstrate how patients will be a maximum of 45 minutes away from a cancer centre, in keeping with national policy

I will confine my comments, as above, to clinical considerations. However I thought the process and scoring used in rating the options appeared appropriate. Thus to repeat: options 3, 4 and 5 can be supported by NCAT. The difference between options 3 and 4 would be that the inpatient wards would be within the Royal Liverpool Hospital itself but there are financial consequences to that. From a clinical perspective I can see either option working; my only observation would be that even though CCC would try to insist on ring fencing those beds within the Royal Liverpool Hospital, any acute hospital like this will have its pressures and when push comes to shove and there are patients waiting in the Emergency Department to be admitted, these patients could potentially displace cancer patients from those beds if they were located within the hospital.

From the plans it was not clear where the critical care beds would be placed. There may be economies of scale to consider here. If these plans are for a limited number of critical care beds within an identified cancer centre there may well be affordability issues and additionally sustainability problems of anaesthetic staff cover and others coming over from the RLH to oversee those patients. Thus

future plans may wish to address this in more detail and how in practice it would actually work. Being part of a larger general intensive care unit within the acute hospital may have considerable advantages for the cancer centre and is the way a number of specialties do work. Whilst again there may be problems with access, patients do benefit from the multidisciplinary care such units are able to offer. It is easier to provide high dependency units within specialist units but there must be clear protocols for movement between HDU and ICU to ensure the right patient is in the right place, and transfer is easy between them.

To conclude, I can see why option 4 has scored better than option 3. Option 5 scores worse than either of these two options for both financial reasons, and this mainly appears to be due to the existence of the Linda McCartney Centre at the Royal Liverpool Hospital, but also there maybe clinical and academic considerations. I can see that from a clinical and academic standpoint, the Royal Liverpool Hospital would be more likely to be seen as the stronger partner for CCC.

Whilst 3, 4 and 5 are options that can be supported, NCAT would agree with the conclusion of the SOC that option 4 is the strongest option.

The bed capacity for the new unit is based on existing bed capacity and usage. The project team will need to carefully consider what future capacity is required in view of increasing demand, complexity of case mix, more invasive cancer treatments and the wish to meet up to date standards of bed occupancy and turnover. The split between high dependency beds, intensive care beds and routine care beds needs to be modelled in line with the expected case load and case mix. From the present plans it is not clear where critical beds will be located in option 4. Whilst I would predict that the CCC project team on behalf of CCC clinicians would prefer to locate the beds within the new centre, there is a strong case to be made for locating these beds within the generalised ITU at the Royal Liverpool (assuming there is sufficient capacity) on grounds of sustainability, quality and value for money.

6. Conclusions
    1. The clinical case for change can be strongly supported.
    2. Options 3, 4 and 5 can all be supported in addressing the issues brought forward by the CCC.
    3. Further work needs to be considered regarding the issue of future capacity of the inpatient service, ensuring that this addresses future predicted demand and uses best practice bed utilisation for this type of service. Additionally further work needs to be done to quantify the need for various types of critical care and routine beds, and where these are to be provided and staffed; whether in the acute hospital or the cancer centre itself.
    4. Options 3 and 4 are stronger clinically and on research criteria than option 5. The differences between options 3 and 4 may depend on the spread of different types of bed. Overall on the evidence provided option 4 is probably the strongest option.
    5. Matters of value for money, affordability and considerations of market share for CCC have not been directly addressed by NCAT.
    6. The outline business case will need to develop isochrones for population base served by the new proposed CCC radiotherapy centre in contrast to the present situation, to ensure they meet national policy guidance of less than 45 minutes travel time and demonstrate to the public that access will be improved.

7. Recommendation

NCAT can support the development of next steps, in particular the production of an outline business case. The current proposals are ready to proceed to public consultations. The project team should consider the conclusions above and address these concerns. Their response should be timely (eg within one month) and be scrutinised by the Local Action Team responsible for cancer services in Cheshire and Merseyside.

Chris Clough

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