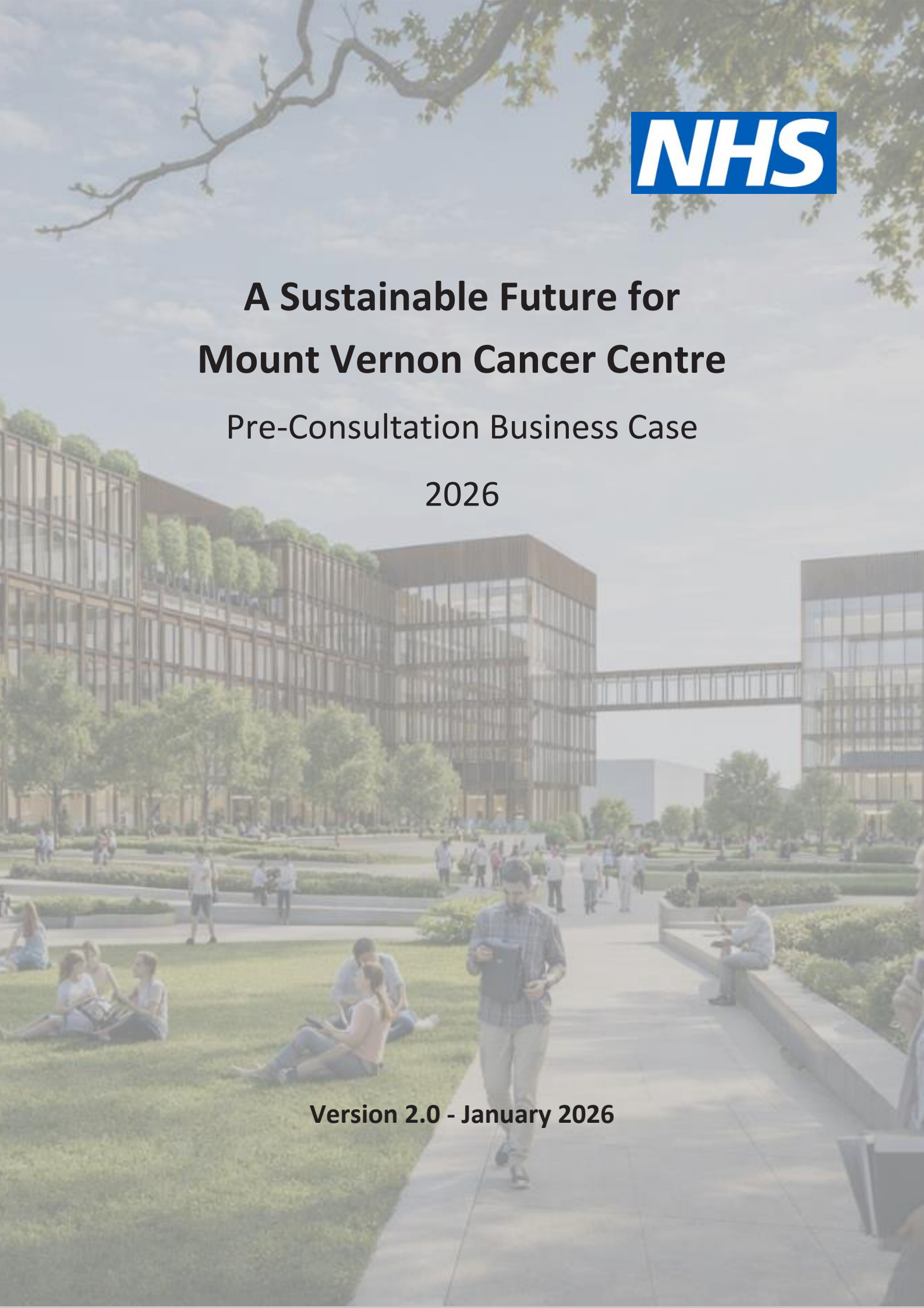

A Sustainable Future for Mount Vernon Cancer Centre

Pre-Consultation Business Case

2026

Version 2.0 - January 2026

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Glossary

AHP	Allied Health Professional
BLMK	Bedfordshire, Luton & Milton Keynes Integrated Care Board
BOB	Buckinghamshire, Oxfordshire & Berkshire Integrated Care Board
Brachytherapy	A form of radiotherapy in which the radioactive source is placed inside the body and close to the area requiring treatment.
CAP	Clinical Advisory Panel
CEO	Chief Executive Officer
CQC	Care Quality Commission
CT	Computed Tomography – a scan which captures detailed internal images of the body and is often used during diagnosis, treatment planning and disease monitoring.
Day Case	A patient admitted electively (for a planned attendance) during the course of a day with the intention of receiving care who does not require the use of a hospital bed overnight and who returns home as scheduled
DMBC	Decision-Making Business Case
ENHT	East and North Hertfordshire Trust
EHIA	Equality and Health Inequalities Impact Assessment
Elective	Planned admission for care, either to an inpatient ward or daycare setting
EOL	End Of Life
FBC	Full Business Case
Fractionation	The number of fractions (individual radiotherapy doses) as part of a course of radiotherapy
Haematology	The diagnosis and treatment of patients who have disorders of the blood and bone marrow. Sometimes these diseases are cancerous and this is known as malignant haematology.
HWE	Hertfordshire and West Essex Integrated Care Board
ICB	Integrated Care Board
ICS	Integrated Care System
JCC	Joint Commissioning Consortium
JHOSC	Joint Health Overview and Scrutiny Committee
LA	Local Authority
Linac	Linear Accelerator – the machine used to deliver external beam radiotherapy (conventional radiotherapy)
LoS	Length of Stay – the duration of an inpatient admission

MDT	Multidisciplinary Team – a team made up of staff from a number of different professional groups and specialties, for example surgeons, oncologists, nurse specialists and pharmacists.
MRI	Magnetic Resonance Imaging – a scan which captures detailed internal images of the body and is often used during diagnosis, treatment planning and disease monitoring.
MMC	Modern Methods of Construction
MVCC	Mount Vernon Cancer Centre
NCI	National Cancer Institute
NCL	North Central London Integrated Care Board
Networked Radiotherapy	A satellite unit run by the same team as the main radiotherapy department, using the same IT systems for booking and planning treatment, run to the same standards and protocols.
NIHR	National Institute for Health and Care Research
NHSE	NHS England
NHP	New Hospital Programme
Non-Elective	Non-elective admissions are unplanned, emergency admissions
NWL	North West London Integrated Care Board
OBC	Outline Business Case
Oncology	A medical specialty that focuses on the diagnosis and treatment of cancer.
PCBC	Pre-Consultation Business Case
PET Scan	Positron Emission Tomography - a test that uses a small amount of radiation to scan inside your body, to diagnose and plan treatment for conditions such as cancer. It is usually used in conjunction with a CT scan (Pet-CT) or MRI scan (Pet-MRI)
PPI	Patient and Public Involvement
PSSC	Paul Strickland Scanner Centre – an independent charity which provides imaging services on the Mount Vernon site for Mount Vernon Cancer Centre and other patients
Radiotherapy	The use of high energy X-Rays to treat cancer
SACT	Systemic Anti-Cancer Therapy – anti-cancer drugs including chemotherapy and immunotherapy
UCLH	University College London Hospitals NHS Foundation Trust
VfM	Value for Money
WHTH	West Hertfordshire Teaching Hospitals NHS Trust
WGH	Watford General Hospital
WTE	Whole Time Equivalent

Section 1: Executive Summary

Introduction and Context

This Pre-Consultation Business Case describes the proposals for the future of the services currently delivered at Mount Vernon Cancer Centre (MVCC) in Northwood, Middlesex. MVCC provides specialist non-surgical cancer care to a broad catchment population of over 2 million people, serving patients in East of England, London and the Thames Valley. MVCC has been subject to a series of reviews over the years, due to ongoing concerns about its sustainability. The most recent review was commissioned in 2019; this confirmed that the service was not sustainable on the current site, given the changing landscape of cancer care (and increasingly complex treatments) coupled with the poor condition of the estate. The review concluded that some or all of the service should be re-provided on an acute hospital site and that the management of the service should transfer to a specialist cancer provider. University College London Hospitals NHS Foundation Trust (UCLH) was selected as the preferred provider to take over management of MVCC in January 2020, subject to completion of due diligence and agreement on terms of the transfer.

Since then, the NHSE MVCC Strategic Review Programme Board led by the East of England has been overseeing a process to identify an appropriate proposal for the future of the service and secure funding for this proposal; this is described in this document.

Case for Change

Over time, the supporting clinical services and adjacencies on the Mount Vernon site have reduced. Patients that can be treated on site are limited, and should a patient deteriorate or need input from other clinical specialties then they require transfer to another, non-specialist hospital. This is particularly challenging given the ageing cancer population, with increasing co-morbidities, and the complexities of the new and emerging anti-cancer therapies.

Furthermore, the MVCC estate is dilapidated and not fit for purpose, having been built as a Tuberculosis (TB) hospital in 1904. It has not undergone significant modification since then and not been maintained to the standard that is required. Its physical facilities do not offer what is needed in the management of cancer patients and there is inadequate digital infrastructure to support delivery of networked care.

Service provision at MVCC is increasingly fragile and it is important that a strategic decision on its future is made now, to create a clear way forward and ensure that future investment plans are optimised. Service re-provision offers opportunities to address access concerns in the catchment, including unequal access to care. It should also enhance opportunities for the specialist workforce and thereby support recruitment and retention as well as facilitate research and innovation.

Engagement

The MVCC Strategic Review Programme Board has overseen an extensive programme of stakeholder engagement, including patient and public engagement. This is described in detail in the document. The proposals within this document will be subject to full and formal public consultation which is planned to launch in January 2026.

Options

During the review process, 4 main options have been considered for the future of the MVCC service:

1. Do minimum
2. Re-provide the service on an acute site (identified as Watford General Hospital)
3. A regional re-provision of services, which sees the service split between the three regions that it serves; East of England, London and the South East, with a new service development to serve the East of England catchment.
4. Service closure and a managed dispersal of the service to existing cancer services.

Detailed analysis has confirmed that without a re-provision plan, the 'do minimum' option would lead to the dispersal of the service, which would be extremely challenging both in terms of infrastructure required across multiple locations to service the need of the MVCC patients (particularly in relation to radiotherapy) and disruption to established networks of cancer care. Feedback from patients suggests it would be unacceptable to patients and the public given the significant impact on patient access to services and care. The option of regional reprovision creates different operational challenges, including negative impacts on patients and the workforce, clinical sustainability concerns, and no material cost benefit against the preferred option and was therefore also discounted.

Following extensive engagement, a preferred clinical model for the future service was agreed. This proposes full re-provision of the service on an acute hospital site, to provide a specialist hub and an enhanced network of oncology care across the catchment.

Analysis of the essential criteria for the future site for MVCC resulted in Watford General Hospital site being shortlisted as the preferred site for re-provision. A functional brief, activity plan and schedule of accommodation informed a feasibility study and cost plan. The preferred option is not simply to provide a like-for-like replacement, but to enable repatriation of malignant haematology care from UCLH and enhance pathways of care, for example with theatre provision for the brachytherapy service. It is proposed that the new MVCC operates within an enhanced network of care, including the potential for Networked Radiotherapy at either Luton or Stevenage to improve access for patients in the north of the catchment, and enhanced services in North West London to bring care closer to home. This will ensure a modern service, compliant with best standards and fit for the future.

Following initial development of the preferred option for MVCC, discussions have been ongoing with the NHSE national team and NHSE Director of Finance. The preferred option has been re-tested and refined. Alternative options, including closure of the service, have been explored and discounted with the support and agreement of the national finance team. In 2025, further work to consider how to integrate this proposed scheme with the New Hospital Programme redevelopment of Watford General Hospital have led to refinements in the proposal, and revised costs of the scheme.

Financial Case

The preferred option for re-provision on the Watford site plus Networked Radiotherapy in the north of the catchment has been estimated to require £326.9m of capital funding to deliver, if combined and delivered in an integrated project with the redevelopment of Watford General Hospital, which is part of the New Hospital Programme (NHP). Should the reprovision plans be supported through consultation, capital and revenue costs will undergo further refinement through the planning and business case process. Opportunities to deliver additional care closer to home and capital (and revenue) efficiencies between UCLH and Watford General Hospital will be fully tested and evaluated. In addition, the efficiencies from an integrated construction programme, potentially delivered through the mechanism of a Joint Venture, will also be further explored and reflected in any future financial case. This will also set out how the revenue consequences to UCLH of a new Mount Vernon Cancer Centre that cannot be covered by efficiencies will be funded before the scheme can progress.

The NHSE Strategy Planning and Investment Committee and Chief Finance Officer committed to the requirement to identify local and national funding and CDEL[1] to deliver on this priority scheme, subject to the outcome of consultation, in March 2024. More detailed work has followed, and there is now support to proceed to consultation on the basis of a combined Watford General Hospital and Mount Vernon Cancer Centre scheme funded through the New Hospital Programme. Work will be completed in parallel to agree an implementation timeline, should the reprovision be supported at consultation. Final confirmation of the agreement reached will be reflected in the Decision-Making Business Case.

Clearly identified funding for an agreed long term future for MVCC is one pre-requisite of the transfer of management of services to UCLH as a specialist cancer provider, and a decision on the future of the service following consultation will enable UCLH to progress their wider programme of work related to the transfer.

[1] CDEL – Capital Departmental Expenditure Limit
https://www.england.nhs.uk/wp-content/uploads/2021/12/B1256-capital-guidance-for-2022-25.pdf

Recommendation and next steps

Of the options considered in detail, the proposal for re-provision at Watford, with associated enhancements across the network of oncological care, is the only one which is considered to be clinically viable, sustainable and acceptable to those patients, staff, public and wider stakeholders involved in the programme's engagement to date. This proposal has a viable implementation plan, through integration with the New Hospital Programme funded redevelopment of the Watford General Hospital site. As such, it has been supported through the assurance process and approved to proceed to public consultation.

Public consultation will take place to fully understand the impact of proposals on patients and the public, ensure alternatives have been adequately considered, and select the right location for a potential additional radiotherapy unit. Three options will be consulted on:

Option A

- A new, purpose built Mount Vernon Cancer Centre on the Watford General Hospital site delivered as an integrated redevelopment scheme for the site. The new MVCC will include diagnostics, SACT (Systemic Anti-Cancer Treatment such as chemotherapy and immunotherapy), radiotherapy, inpatient, outpatient and daycase treatments and supportive services. MVCC services would be run by UCLH, with acute supporting services provided by Watford General Hospital (for example A&E, critical care, supporting clinical specialties). Watford General Hospital is the closest acute hospital site to the current MVCC site, and the only acute hospital that can provide all of the required supporting clinical services as well as meet the travel and access criteria.
- Continuation and strengthening of MVCC's network of oncological care, with increased care closer to home through
    - repatriation of haemato-oncology services for Hertfordshire and Bedfordshire patients previously provided at MVCC, but now provided at UCLH in central London, to the new Cancer Centre on the Watford site
    - a new chemotherapy service in the new Hillingdon Hospital and enhanced chemotherapy at Northwick Park hospital
    - increased radiotherapy capacity at Imperial for patients from North West London for whom this would provide better access
    - a commitment to appropriate diagnostics (especially blood tests) and other simple interventions provided closer to home, by local hospitals or in primary care where possible.
    - more opportunity for virtual appointments and chemotherapy at home.

Option B

This is the same as option A but with the addition of a networked radiotherapy unit (run as a satellite by the MVCC team) in the north of the catchment, at Lister Hospital in Stevenage to improve access.

Option C

This is the same as option A but with the addition of a networked radiotherapy unit (run by the MVCC team) in the north of the catchment, at Luton and Dunstable Hospital in Luton to improve access.

Section 2: Introduction

2.1 Overview & Objectives

This Pre-Consultation Business Case (PCBC) sets out in detail the proposals to deliver a sustainable future for the Mount Vernon Cancer Centre (MVCC). The preferred option is to redevelop MVCC on the site of Watford General Hospital, so as to provide appropriate facilities with sufficient clinical adjacencies for the service to run a safe, effective and comprehensive specialist cancer service into the future.

This document informs the process of public consultation, explicitly providing decision-makers with adequate information to decide whether there is a case to launch a public consultation. Public consultation will seek the views of all patients and members of the public impacted by the proposals. In order to ensure this document meets this purpose it seeks to achieve a number of key objectives, detailed below:

- Provide the context, both in broad terms but also specifically in relation to the MVCC Strategic Review which was initiated in 2019.
- Make the case for change for the proposed redevelopment of the MVCC as the best solution in terms of optimising the care received by patients and creating a high quality, sustainable service.
- Describe the proposed clinical model of care and how the new Cancer Centre will deliver this as the focal point of a networked cancer service.
- Describe the process and options considered to develop this proposal.
- Detail the process undertaken to engage the public, staff and other stakeholders in the pre-consultation phase and demonstrate how their feedback has shaped the review process and development of options.
- Demonstrate clearly that proposals are at a formative stage, and as such that the process of public consultation to seek the views of patients and public affected by these proposals is meaningful. As such, the document details a number of areas of detailed work that will be required but that have not yet been undertaken in depth, pending the feedback and decision making on the proposals.
- Set out how the review process and all subsequent proposals made meet the legal obligations including the 4 tests for service change as set out by the Department of Health and Social Care (DHSC), and the additional test included by NHSE in 2017.
- Demonstrate the capital costs, revenue implications and enable an assessment of the financial affordability of the proposal.
- Set out the structure of governance which will support the review and implementation process, including public consultation.

This document also acts as the basis from which the subsequent Decision Making, Strategic, Outline and Full Business Cases will be created.

2.2 PCBC scope

This PCBC has been developed in line with the NHS England guidance document "*Planning, assuring and delivering service change for patients*" (version 3, March 2018) and subsequent Addendum published in May 2022, and HM Treasury's Green Book guidance relating to the capital investment decisions involved in supporting the proposed changes. It follows the recommended structure of a Pre-Consultation Business Case (PCBC).

The scope of this PCBC encompasses all services currently provided at MVCC which are currently under review through the MVCC Strategic Review, initiated in 2019. These services are detailed in section 3.2.2. This includes consideration of the re-provision of some services currently provided via SLA by other organisations (such as Hillingdon Hospitals Trust and the Paul Strickland Scanner Centre) in direct support of the specialist cancer centre service, but excludes community palliative & hospice care which is not provided by MVCC (including Michael Sobell Hospice which is run independently of MVCC. See section 3.2.2 for services provided by MVCC). The organisations involved in the Strategic Review and development of these proposals can be found at Appendix 13.

The exact detail of what options will be consulted upon is described in section 9. The transfer of management of MVCC services to University College London Hospitals NHS Foundation Trust (UCLH, described in section 2.3.1) is not the subject of public consultation, following a previous process in 2020 which identified UCLH as the future preferred provider of MVCC services.

2.3 Governance

This section details the responsibilities and governance structure for this proposal to progress to public consultation. Appendix 13B provides more detail outlining the approach to decision-making which was agreed by the Joint Commissioning Consortium (JCC) in August 2024.

2.3.1 Roles and responsibilities for the public consultation

Commissioning arrangements

NHS England in the East of England delegated specialised commissioning functions for the services provided by MVCC to ICBs on 1st April 2024 but retains accountability for the commissioning arrangements. Commissioning strategy and decisions are agreed at a Joint Commissioning Consortium (JCC) of six East of England ICBs, of which Hertfordshire and West Essex (HWE) and Bedfordshire, Luton and Milton Keynes (BLMK) ICBs are the primary referrers to MVCC. London and the South East regions delegated their commissioning

functions on 1st April 2025. As a result of this, regions and ICBs have been involved in the programme to date.

The Programme Board (see below) has representation from East of England, London and South East regions and each of the primary ICB referrers to Mount Vernon – HWE, BLMK, North West London (NWL), North Central London (NCL), Buckinghamshire, Oxfordshire and Berkshire (BOB) and Frimley Health. The three regions and six ICBs (at the time of writing) are jointly launching the consultation and have agreed that East of England region will launch the consultation on behalf of all partners with their consent.

The proposed reprovision of Mount Vernon Cancer Centre (MVCC) at Watford General Hospital is strongly supported by NHS England, regional specialised commissioning teams, and all affected Integrated Care Boards (ICBs), as evidenced by formal letters of endorsement (appendix 26). This collective support demonstrates a clear strategic fit with national, regional, and local priorities for cancer care transformation.

In June 2024, ICBs and regional specialised commissioning teams endorsed progression to the next assurance phase and supported consultation, noting financial challenges at the time. They remained closely involved in the programme as it progressed through assurance, and as a route to capital was confirmed in 2025. The letters of support provided in 2025 were written on the basis of organisational approval of the PCBC (latest version at the time), a clear understanding of the proposals being consulted upon, finance and activity assumptions and strategic fit for systems.

Decision-making on the outcome of the consultation will be made jointly by the key commissioning organisations at that time, once the feedback from the consultation has been considered and Decision Making Business Case developed. This will be responsive to ongoing re-organisation across the NHS and commissioning landscape.

The figure overleaf (figure 2.1) sets out the key decisions taken by commissioning organisations to support the assurance process. Support for public consultation has now been reconfirmed in line with commissioner governance set out in appendix 13b.

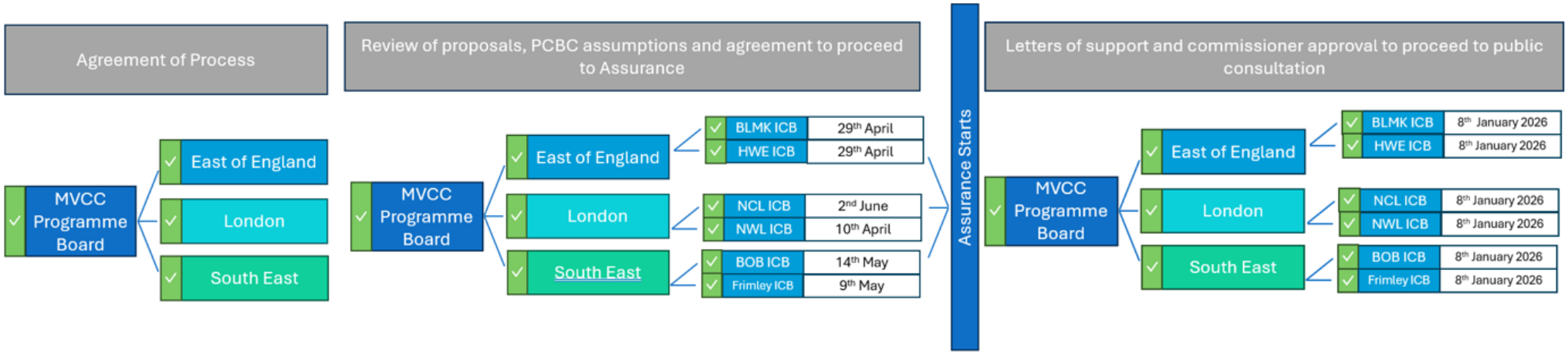


Figure 2.1: Key decisions taken in preparation for public consultation by key commissioning organisations

NHS England

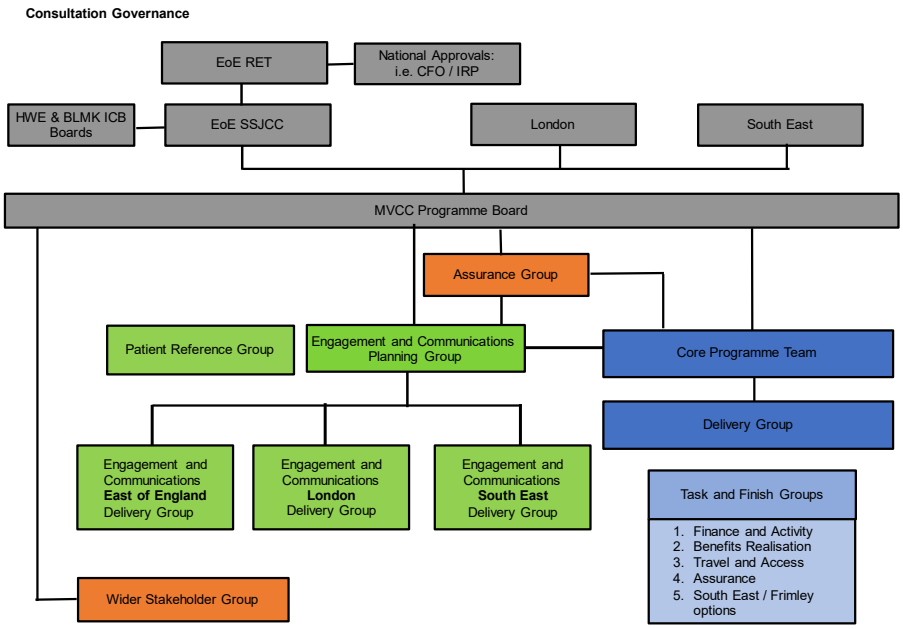
NHS England is providing the statutory assurances and support to all elements of the proposal, working actively with UCLH and other stakeholders to ensure that the process meets statutory requirements. Oversight relating to the public consultation will sit with NHS England (East of England).

UCLH

UCLH was formally selected following Expression of Interest, and subsequent submission, as the preferred provider to take over management of the services at Mount Vernon Cancer Centre in January 2020, subject to a period of due diligence and agreement on funding for the transfer and future of the service.

As the potential future provider of the services, UCLH has played a key role working with stakeholders in development of this proposal which would see services currently provided at MVCC in Northwood moved to a new purpose-built facility on the Watford General Hospital site, as part of an enhanced network of care as described at length in Section 6. This new facility at Watford would be run by UCLH. A decision on this proposal to create a sustainable future for the MVCC service is a critical pre-requisite for the UCLH Board's support to proceed with transfer of the management of services to UCLH. Adequate funding (capital and revenue) for this and the transfer itself will also be required for the transfer to go ahead, to ensure the organisation and the populations it currently serves are not destabilised or disadvantaged by any transfer. UCLH Board are supportive of proceeding to public consultation on the proposed changes as a next step in this process.

Figure 2.2: Consultation governance structure chart – September 2024



2.3.2 Governance structure

Reporting to the NHS England Regional Commissioning Committee, the Mount Vernon Strategic Review was established in 2019 to lead the process. A governance structure to lead the engagement and consultation process is in place which is led by NHSE (East of England).

Mount Vernon Strategic Review Programme Board

The Mount Vernon Strategic Review Programme Board is chaired by Simon Wood, Director of Strategy, NHS England (East of England). Members include senior clinical and managerial leadership from NHSE, ENHT, MVCC, UCLH, ICB's, Hillingdon Hospitals Trust (HHT), and Healthwatch.

The Programme Board was established to develop proposals to ensure the sustainability of services currently delivered from MVCC. The Board will oversee the transfer of services from ENHT to UCLH, development of the proposed reprovision business case, including consultation documents, and provide strategic direction and oversight to the programme. The Programme Board is advisory, with recommendations made to the decision-making bodies as described above.

NHS England

Within NHSE an independent assurance team, chaired by an Executive Director from NHSE South West, has reviewed the proposed consultation document, consultation methodology (including the equality impact assessment), financial modelling and considered the report and recommendations from the East of England and London Clinical Senate. NHS England's Executive Investment Group has confirmed that assurance requirements have been met (Appendix 30).

2.4 Strategic Review Timelines

The Strategic Review has now been underway for over six years, with a huge amount of work completed to date to carefully consider the long term plan for Mount Vernon Cancer Centre services. The following table details the key activities over this period, which are described in the remainder of this document.

Identification of Preferred Option	
July 2019	Independent Clinical Review and Phase One patient engagement
January 2020	Identification of UCLH as preferred provider
Sept – Dec 2020	Patient and public workshops
December 2020	Clinical model developed
December 2020	Additional independent advice sought on service co-location
December 2020	Identification of Watford as the preferred future site

Jan - April 2021	Patient, public & staff workshops to test Watford as the preferred future site and inform the reprovision proposals
May 2021	Preliminary Reprovision Business Case
Further Development of Preferred Option	
June 2021	Clinical Senate Review of proposed clinical model and reprovision
July 2021	Equality Health Impact Assessment on preferred option
May - Nov 2021	Themed patient and public workshops to explore emerging themes
September 2021	Expression of Interest to the New Hospital Programme (outcome May 2023)
February 2022	Re-provision business case updated
Check and Challenge	
2021-2024	Review of options and alternative options with NHS CFO & Deputy CFO
Development of Networked Radiotherapy Proposal	
Jan-Dec 2021	Development of the case for Networked Radiotherapy, options review, feasibility studies and costing
March 2022	Radiotherapy patient and public feedback report
March 2022	Patient and stakeholder engagement on criteria for Networked Radiotherapy
April 2022	Clinical Senate Review of Networked Radiotherapy proposals
May 2023	PA Consulting review of options development process for networked radiotherapy
June 2023	Eastern AHSN review of Networked Radiotherapy proposals
July 2024	Stakeholder support for Networked Radiotherapy decision criteria
Preparing for consultation	
April 2024	East of England Joint Commissioning Consortium (collective ICB support for consultation)
May 2024	NHSE Strategy, Planning and Investment Committee support to proceed through the assurance process to consultation
May-Sept 2024	Draft of PCBC
May-Sept 2024	Draft of consultation document and plan (see Appendix 27)
June-Sept 2024	Development of consultation governance and decision making process alongside refinement of consultation materials, submitted to assurance October 2024
Oct 2024- May 2025	Revisions to PCBC and consultation materials in response to assurance, stakeholder and Joint HOSC feedback

June 2025- Oct 2025	Further discussions with national finance team, West Herts Teaching Hospitals Trust and New Hospital Programme to confirm approach to integration of MVCC and Watford General Hospital projects to ensure route to capital for proposals in this PCBC
November 2025 - January 2026	Route to capital confirmed. Assurance panel review of consultation documents allowing for Executive Investment Group sign off and final decision making regarding public consultation by commissioners.

Section 3: Context

This section outlines the wider context within which MVCC exists, details the history of the site and current services, and the direct context of the Strategic Review within which this proposal has been developed.

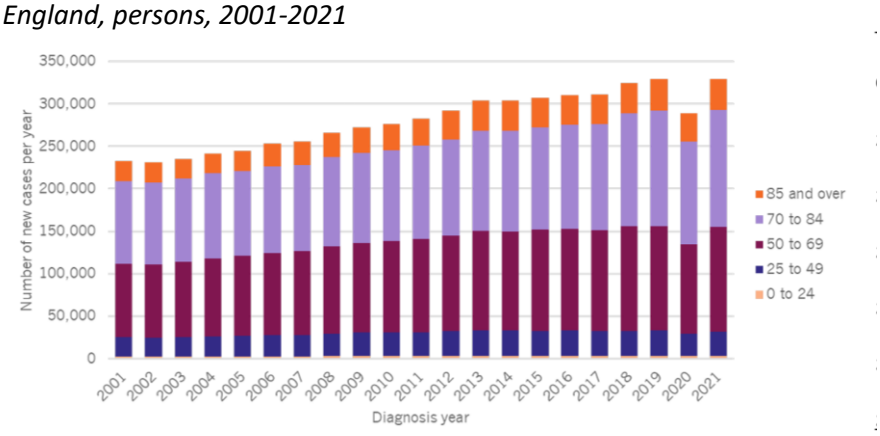
3.1 Cancer in the UK

In the UK, every two minutes someone is diagnosed with cancer. 1 in 2 people will develop some form of cancer during their lifetime and there are more than 200 different types, each diagnosed and treated in a particular way.[2] The number of new cases is increasing year on year and affects the most deprived more than the least by around 16% in females and 19% in males.[3] However, our care has improved significantly in the last 50 years; in the 1970s, 1 in 4 of those diagnosed with cancer would survive for 10 or more years; nowadays, this is 1 in 2.[4] There are a number of factors, outlined below, that contribute to this changing landscape.

3.1.1 Cancer Incidence

The most important risk factor for cancer overall is advancing age. According to the National Cancer Institute (NCI), the incidence of cancer in those over 60 is more than 40 times that for those under 20.[5] Incidence by age group is shown in figure 3.1[6]. This is reflected in mortality rates which are shown in the graph in figure 3.2 below.

Figure 3.1: Incidence trends for all cancers combined excluding non-melanoma skin cancer (ICD-10 C00-C97 excl. C44), England, persons, 2001-2021



[2] Source: NHS, https://www.nhs.uk/conditions/cancer/, 2019

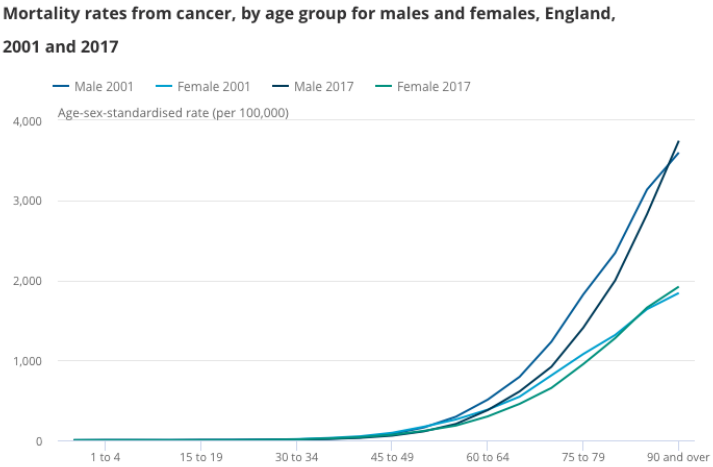
[3] Source: Cancer Research UK https://www.cancerresearchuk.org/health-professional/cancer-statistics/incidence/all-cancers-combined, 2020

[4] Source: Cancer Research UK, https://www.cancerresearchuk.org/health-professional/cancer-statistics , 2025

[5] Source: National Cancer Institute, 2021, https://www.cancer.gov/about-cancer/causes-prevention/risk/age

[6]Source: Technical Annex to Lord Darzi Independent Investigation into the NHS –2024 analysed from NDRS/NHSE. Cancer Registration Statistics. Available: https://www.cancerdata.nhs.uk/incidence_and_mortality NHS England Digital and https://digital.nhs.uk/data-and-information/publications/statistical/cancer-registration-statistics/england-2021---full-release

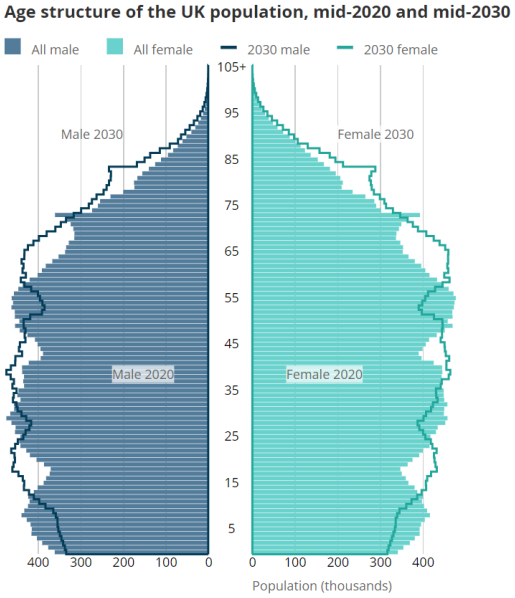
Figure 3.2: Mortality rates from cancer by age



Source: Office for National Statistics (ONS), Cancer registration statistics, England: 2017 (published 2019)

According to the Office for National Statistics (ONS), by mid 2045, the number of people aged 85 years and over is projected to nearly double to 3.1 million.[7] This can in part be explained by the 'baby boomer' generation now reaching 70 -75 years old, but also by increases in life expectancy. Life expectancy in the UK is now 81 compared to 78 in 2000.[8] As life expectancies increase and the population ages, cancer incidence will increase and so will the need for treatment.

Figure 3.3: The United Kingdom's ageing population



Source: Office for National Statistics – National population projections

[7] Source: ONS, https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/nationalpopulationprojections/2020basedinterim#changing-age-structure 2020 based, published January 2022

[8] Source: The World Bank, https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=GB, 2021

This incidence increase is demonstrated by forecasted tumour growth. Figure 3.4 below shows that most solid tumours have a forecast growth of around 1-2% per year:

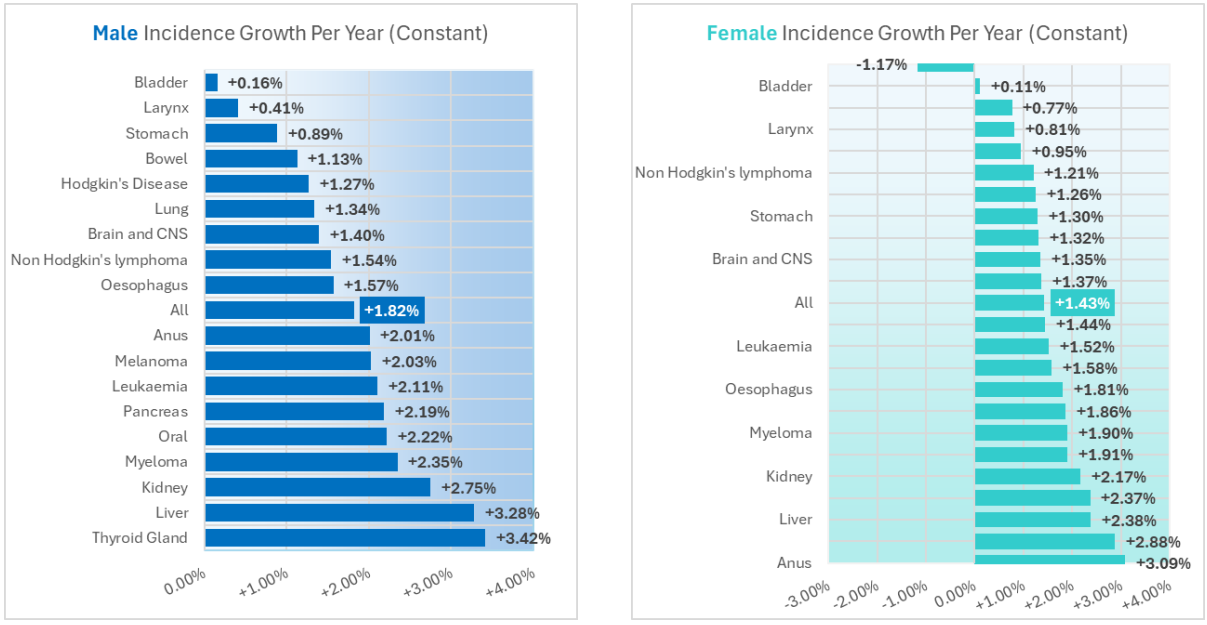


Figure 3.4: Incidence Growth at 2024, by Tumour type, for males and females[9]

The factors outlined above mean cancer diagnoses are increasing. The latest national data, published in May 2024, shows a continued increase in the numbers of cancer diagnoses in England following a dip in 2020 as a result of the pandemic, up from 327,174 in 2019 to 329,665 new cancer diagnoses (excluding diagnoses for non-melanoma skin cancers) in 2021.[10]

3.1.2 Cancer Mortality

At the same time as we are seeing an increase in cancer incidence, the rate of people dying from cancer in England is decreasing, as evidenced in the table 3.1 and graph (figure 3.5) overleaf.

As is clear from the data, mortality has decreased across all four of the most commonly diagnosed cancers in England, and all cancer diagnoses more broadly. These general decreases in mortality rates, while incidence rates have increased, suggest that more patients are living longer following diagnosis, with more time in healthcare.

[9] Source: Cancer Incidence and mortality projections in the UK until 2035 – Smittenaar et al – British Journal of Cancer (2016) 115, 1147-1155

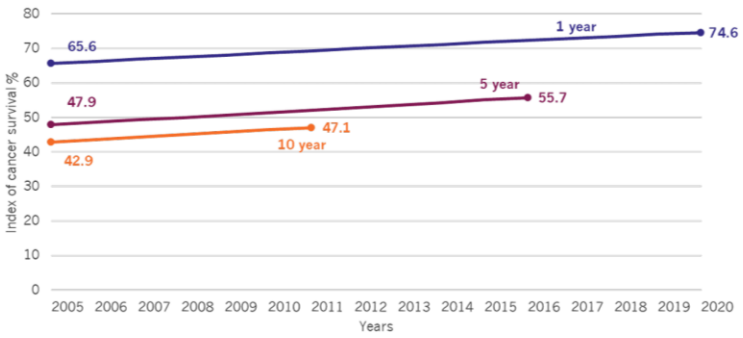
[10] Source: NHS England https://digital.nhs.uk/data-and-information/publications/statistical/cancer-registration-statistics/england-2021---full-release 23rd May 2024

Table 3.1: Cancer mortality for top 4 tumour types in England, 2009 vs. 2018, per 100,000 population

Cancer site	Sex	2009 Mortality (%)	2018 Mortality (%)	Decrease (%)
Breast	Female	38.2	33.0	5.2
Colorectal	Male	38.0	31.8	6.2
	Female	22.3	20.8	1.5
Lung	Male	81.8	63.5	18.3
	Female	48.6	44.4	4.2
Prostate	Male	50.8	46.0	4.8

ONS Dataset: Cancer registration statistics: cancer mortality in England, 2018 – published 2019

Figure 3.5 Index of cancer survival by calendar year of diagnosis in England, Persons aged 15 to 99 years, diagnoses 2005 to 2020[11]



	CAGR 1yr survival	CAGR 5yr survival	CAGR 10yr survival
2005 - 2020	0.90%	NA	NA
2005 - 2008	1.00%	1.40%	1.60%
2009 - 2011	0.90%	1.40%	1.50%
2012 - 2016	0.80%	1.30%	NA
2017 - 2020	0.80%	NA	NA

Notes: Dataset recorded until 2020. This is a survival index whereby the case mix is held constant, so it does not reflect changing incidence. The index of cancer survival has improved over the time period, with a 0.9% CAGR for 1-year survival (2005 to 2020). Greater improvements were seen for 5-year and 10-year index of cancer survival. The index of cancer survival provides a convenient, single number that summarises the overall pattern of net cancer survival (excluding non-melanoma skin cancer and prostate cancer). It combines net survival estimates for breast cancer (women only), colorectal (bowel) cancer, lung cancer and other cancers. The index of cancer survival can be compared over time because it is adjusted for any changes in the profile of cancer patients by age, gender or type of cancer.

3.1.3 New treatments

Cancer mortality is heavily influenced by the changing environment of cancer treatment, a hugely dynamic landscape with innovation occurring at a rapid pace and constantly emerging therapies and technologies.

The biggest current changes are in the provision of systemic anti-cancer therapy (SACT). Since the 1940s, cytotoxic chemotherapy has been the mainstay of cancer treatment and still remains one of the most effective treatments against cancer. However, advances in molecular biology in more recent years have allowed scientists to understand the intrinsic mechanics of cancer cells and have given rise to a whole new generation of drugs that intervene with these mechanics, known as targeted therapies. SACT comprises targeted therapies, such as

[11] Source: Technical Annex to Lord Darzi Independent Investigation into the NHS –2024 analysed from NDRS/NHSE. Cancer survival: Index for sub-Integrated Care Boards, 2005 to 2020. Available: https://digital.nhs.uk/data-and-information/publications/statistical/cancersurvival-in-england/index-for-sub-integrated-care-boards-2005-to-2020 Credit given to Cancer Research UK for original visualisation.

immunotherapies, monoclonal antibodies, tyrosine kinase inhibitors (TKIs) and gene therapies.

More than 150 new SACT indications have been recommended by NICE and/or commissioned by NHS England (NHSE) since 2016 and cancer drug indications continue to make up two thirds of the NICE technology appraisal programme.[12] With cancer care moving increasingly towards precision medicine - tailored to an individual patient's biology and pathology - these SACTs are multiplying the treatment options available and expanding the drug pipeline.

Radiotherapy is another core treatment and is used in the treatment of over 40% of patients with cancer, either with curative or palliative intent. High levels of expertise are required in the delivery of radiotherapy, both in terms of specialist workforce as well as specialist equipment. It is another area in which equipment and techniques are continually developing, where innovation drives change.

As cancer treatment evolves so must the configuration of services which deliver this treatment. There is a constant challenge for any cancer service to stay flexible and dynamic enough to accommodate a rapidly changing environment.

3.2 Mount Vernon Cancer Centre

3.2.1 Historical Context

The Mount Vernon Hospital site in Northwood, Middlesex, was opened in 1904 after the Mount Vernon Hospital for Tuberculosis and Diseases of the Lungs, Hampstead, purchased the site in 1901. The 'Hospital at Northwood' was originally designed as a sanitorium for long term illness associated with Tuberculosis (TB) - the cause of 10% of all deaths at the time - and was opened as the 'country branch' of the Hampstead site due to its suitable open-air access and easy transport links to London. The Hospital did not become focused on cancer until 1928; this year saw the highest incidence of cancer deaths ever recorded and a bill was authorised to discontinue the treatment of TB and ensure that the Hospital specialised in cancer treatment alongside its general services. The design of the main building, with wards stretching out either side of a central staircase hall, was unmodified, despite its conversion from a sanatorium to a District General Hospital (DGH) with specialist services.

The Mount Vernon site has gone through various additions, modifications and closures throughout its history. Radiotherapy has been a lasting presence, with the Radiotherapy Centre and its six machines established during the Second World War and the first linear particle accelerator (Linac) purchased in 1973. The Plastic Surgery Unit was opened in 1953 and was one of the major specialised services at MV alongside cancer care. This was closed in

[12] Source: Future siting of the central hub of the Mount Vernon Cancer Centre, Professor Peter Clark, 2020

2006 after the poor condition of the buildings was not addressed and the service merged with the Royal Free Hospital. This area is now used as a car park. MV also had an Accident & Emergency (A&E) Department for nearly 30 years from 1968 to 1997. When it closed, a Minor Injuries Department opened in its place but did not offer a 24-hour service. There have not been any emergency support services present on site since and acute support services have gradually depleted over the years.

The main building, now the Mount Vernon Cancer Centre, has remained largely unchanged since its establishment in 1904. The Mount Vernon Hospital is in separate buildings on the same site and is run by Hillingdon Hospitals NHS Foundation Trust, providing a limited range of elective services.

3.2.2 Current Services and Facilities at MVCC

MVCC now provides a specialist tertiary non-surgical cancer service. MVCC does not provide any surgery for cancer patients, and this is delivered within a range of hospitals across the catchment, depending on the tumour type and level of complexity. It also does not provide primary diagnostic services for patients with suspected cancer who will be referred from their GP to their local hospital for these preliminary tests.

MVCC operates within a network of oncology care, with its oncologists providing leadership for services across the DGHs within the MVCC catchment, as shown in table 3.2 (although to note these services are run by the local DGHs, *not* as outreach MVCC services). They provide the oncology support to local Multi-disciplinary Team (MDT) meetings which are the meetings at which all specialists come together to consider a patient's diagnosis and agree on a suitable treatment plan for that patient. Some patients will then have surgery and oncology care locally as detailed in the table below, and some will need to attend MVCC for treatment.

Primary services provided at MVCC are non-surgical cancer treatments; radiotherapy (including brachytherapy) and SACT (Systemic Anti Cancer Therapies, predominantly chemotherapy but some immunotherapy). The clinical income from all commissioners for 2023/24 was £72.1m (including pass through drug costs, without which the value is £43.7m). MVCC's activity is currently commissioned by NHSE's Specialised Commissioning team and local Integrated Care Boards (ICBs).

The total established workforce of over 530 staff includes nurses, doctors, scientific, technical and therapeutic staff, along with managerial, administrative and other support staff. Much of this workforce, particularly for radiotherapy and nuclear medicine, is highly specialised and in high demand across the UK.

Table 3.2 Hospitals within which MVCC oncologists provide local, non-surgical oncology care. This will include input to MDTs, outpatient clinics and some chemotherapy treatments, as detailed below. Please note that the services in these linked hospitals are run by the linked hospitals, they are not run as outreach/ satellite services by MVCC.

Linked Hospitals *MVCC oncologists provide some clinical care within these hospitals and specialist elements of care are provided at MVCC*	**Hospital provides any chemotherapy?**	**Hospital provides any radiotherapy?**
Watford General Hospital	Haematology patients only	No
Hillingdon Hospital	Haematology patients only	No
Northwick Park Hospital	Yes	No
Luton & Dunstable Hospital	Yes	No
Lister Hospital, Stevenage	Yes	No
Wexham Park Hospital	Yes	No

Inpatient Facilities

There are currently 22 inpatient beds providing care for a range of solid tumour oncology patients; the site no longer provides care for any haemato-oncology patients. No cancer surgery is carried out on site. The physical structure of these facilities is poor, and despite some recent refurbishment, largely unchanged since the wards were originally built. The ward cares for a range of patients who require inpatient treatment because they:

- Have complications of their cancers
- Are unwell during or following their radiotherapy / chemotherapy treatment
- Are having radio-isotope treatments or brachytherapy
- Are undergoing treatment which is particularly arduous, or are frail.

Following transfer of the hospice service to Hayes and Harlington in 2019, the ward also supports admissions for some specialist palliative care, symptom control and end of life care. (MVCC does not provide any other non-specialist, community palliative or end of life care, or hospice care and these are out of the scope of this strategic review and service proposals).

There are limited support facilities onsite and, in particular, there are no onsite surgery and acute medical services and no Intensive Care Unit (ICU) or High Dependency Unit (HDU) facilities. A strict set of admissions criteria is in place; patients requiring enhanced clinical support are transferred to non-specialised DGHs for acute medical care or surgery.

Daycare and Outpatient Facilities

Systemic Anti Cancer Therapies (chemotherapy and immunotherapy) are provided in both the daycare and outpatient setting at MVCC. Patients from all solid tumour groups, including those on clinical trials, are treated in the Cancer Centre's Chemotherapy Treatment Suite where they receive cytotoxic drug regimens and targeted systemic therapies. The Chemotherapy Treatment Suite is open Monday to Friday, from 08:00-20:00. It has 20 treatment chairs and one bed. The John Bush Supportive Care Unit (JBU) is open Monday to Friday, from 08:00-19:00 and has eight treatment chairs and one side room. It also provides some SACT treatments but predominantly the supporting treatments that some patients will need, such as blood transfusions. An average of 60 patients are treated as daycases across both units per day, and many of these patients will attend frequently over a period of weeks or months. In addition, MVCC has a separate outpatient department with 20 clinic rooms, an Acute Oncology service, Central Venous Access devices (CVAD) service and a six-chaired Research & Development Unit which runs alongside the JBU. Some chemotherapy will be given on an outpatient basis and MVCC have also recently launched a chemotherapy at home service for eligible patients.

Radiotherapy

The radiotherapy centre has 7 Linacs covering a 5-day service 7am-8pm. The brachytherapy service at MVCC provides for both High Dose Rate (HDR) and Low Dose Rate (LDR) treatments. The brachytherapy service at MVCC is nationally recognised and accepts a significant number of referrals from outside its catchment area.

Molecular radiotherapy treatments are provided by the MVCC nuclear medicine team on an inpatient and outpatient basis. They also provide a diagnostic service and radiopharmacy service which supplies not only MVCC nuclear medicine department but a number of other healthcare organisations.

Other Facilities

MVCC has its own outpatient dispensary and inpatient pharmacy, but no aseptic chemotherapy production unit.

Specialist cancer diagnostic imaging (CT, MR, PET CT) is provided on site by the Paul Strickland Scanner Centre, a specialist medical imaging centre working as an independent charity to improve the lives of people affected by cancer and other serious conditions.

The Lynda Jackson Macmillan Centre (LJMC) is in a separate building to the clinical facilities but is an integral part of the service, run by the MVCC team. It provides support and information services for patients and their families to help them cope with all aspects of cancer from diagnosis, through treatment and beyond.

MVCC has a small but growing private patient service which includes provision of chemotherapy and radiotherapy treatments. This is run directly by the MVCC team and any profits are re-invested in NHS services.

3.2.3 MVCC catchment

MVCC has a broad referral base from a wide geographical area, serving two million people across Hertfordshire, Bedfordshire, Northwest London and parts of the Thames Valley, with a variable demographic profile across this geography. The main catchment is a mixture of urban and rural areas in close proximity to London.

Six Integrated Care Systems (ICSs) spanning London and East of England refer a proportion of patients for treatment at MVCC. Proportions of activity are given in table 3.3.

Table 3.3: % proportion of MVCC total activity by ICS (inpatient, outpatient, daycase, diagnostic and radiotherapy activity)

Integrated Care System	% of total MVCC activity – 2019/20	% of total MVCC activity – 2023/24
Herts and West Essex	44	42
North West London	27	36
Bedfordshire, Luton and Milton Keynes	13	11
Bucks, Oxfordshire and Berkshire	5	6
Frimley Health	4	3
North Central London	2	1

MVCC Review: Our Integrated Care Systems; feedback on cancer strategic priorities and impact on the MVCC Review, 2020. 2023/24 figures added May 2024.

More than 97% of activity in 23/24 came from 11 former CCGs footprints across the six ICSs. The patient numbers as split by former CCG footprint, comparing the 2019/20 data used in the earlier stages of this review as compared the most recent 2023/24 data, are shown in table 3.4 overleaf.

Diversity profile across catchment

Health needs differ across communities and the level of ethnic diversity varies across the catchment. The incidence of cancer overall is generally lower among ethnic minority groups in England, particularly in Asian, Chinese and Mixed groups, where it ranges from 20-60% lower than in white groups. However, as cultural assimilation can lead to behaviour changes over time, there is some evidence to suggest that cancer rates in South Asian communities are converging towards those in the white population.

Figure 3.6 MVCC Catchment map with key neighbouring hospitals and towns marked. The darker shading shows the areas from which more patients are referred

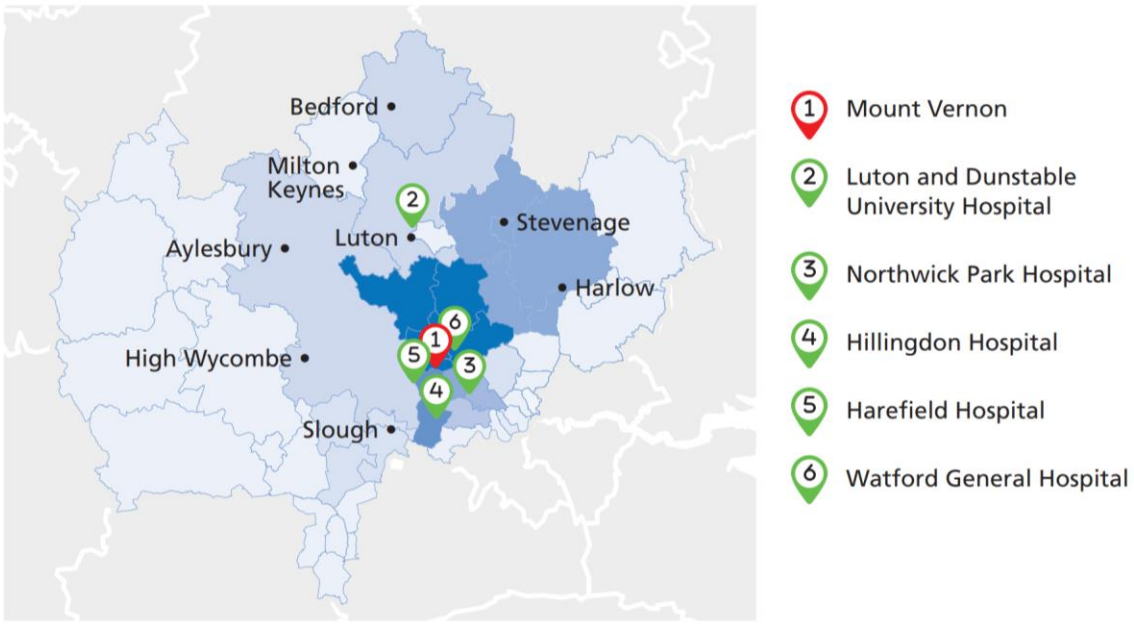


Table 3.4: MVCC Unique patient count by former CCG area - from annual activity data (all activity – inpatients, outpatients, daycases, diagnostics and radiotherapy)

	2019-20	2019-20 %	2023-24	2023-24 %
NHS HERTS VALLEYS CCG	3,364	27%	3,682	28%
NHS HILLINGDON CCG	1,702	14%	1,866	14%
NHS EAST AND NORTH HERTFORDSHIRE CCG	2,212	18%	1,862	14%
NHS HARROW CCG	1,080	9%	1,089	8%
NHS BUCKINGHAMSHIRE CCG	715	6%	930	7%
NHS BEDFORDSHIRE CCG	800	6%	790	6%
NHS LUTON CCG	612	5%	685	5%
NHS BRENT CCG	512	4%	648	5%
NHS EALING CCG	454	4%	509	4%
NHS EAST BERKSHIRE CCG	385	3%	392	3%
NHS BARNET CCG	137	1%	106	1%
Other CCG area/ Unspecified	603	5%	413	3%
TOTAL unique patients	**12,576**		**12,972**	

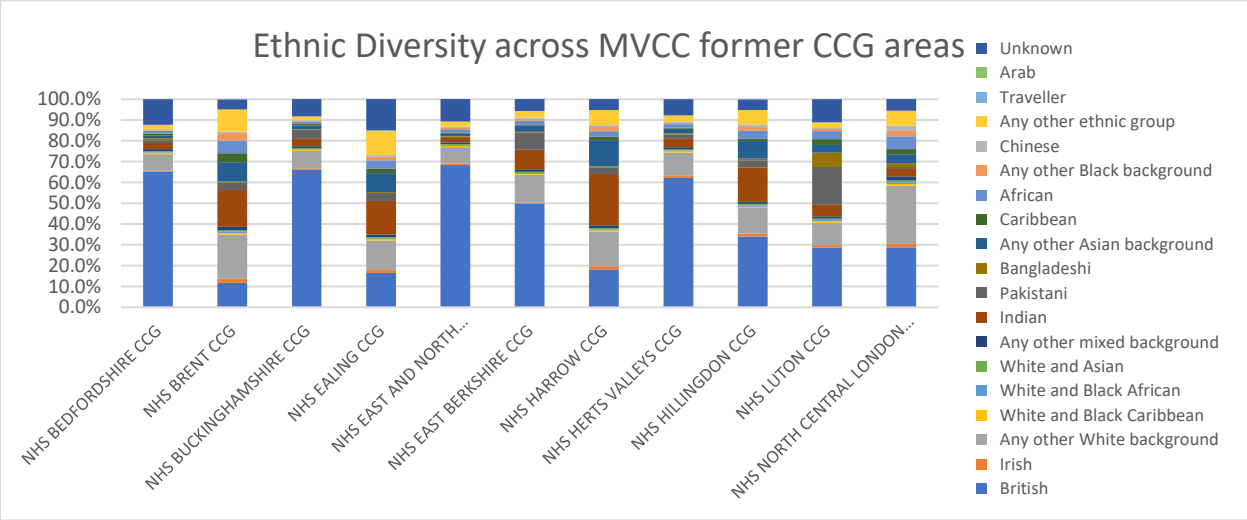
Source: NHSE

For females, cancer incidence is lower among black women compared to white counterparts, but for males it is similar for both. However, black males are significantly more at risk of prostate cancer than white males and white women are more at risk of breast cancer than Asian or black women.[13] Whilst screening rates for breast and cervical cancer are lower among ethnic minority women, there is limited evidence to suggest that there are ethnic inequalities

[13] Source: Kings Fund, https://www.kingsfund.org.uk/publications/health-people-ethnic-minority-groups-england, 2023

relating to cancer diagnosis and staging.[14] Patient diversity presents challenges both in addressing potentially new and complex health needs and delivering accessible healthcare services. Health inequalities across MVCC's catchment are examined below.

Figure 3.7: Ethnic diversity across former CCGS contributing 97% of all MVCC clinical activity



Source: NHS Digital, https://digital.nhs.uk/data-and-information/publications/statistical/mi-ethnic-category-coverage/current, 2021

Deprivation

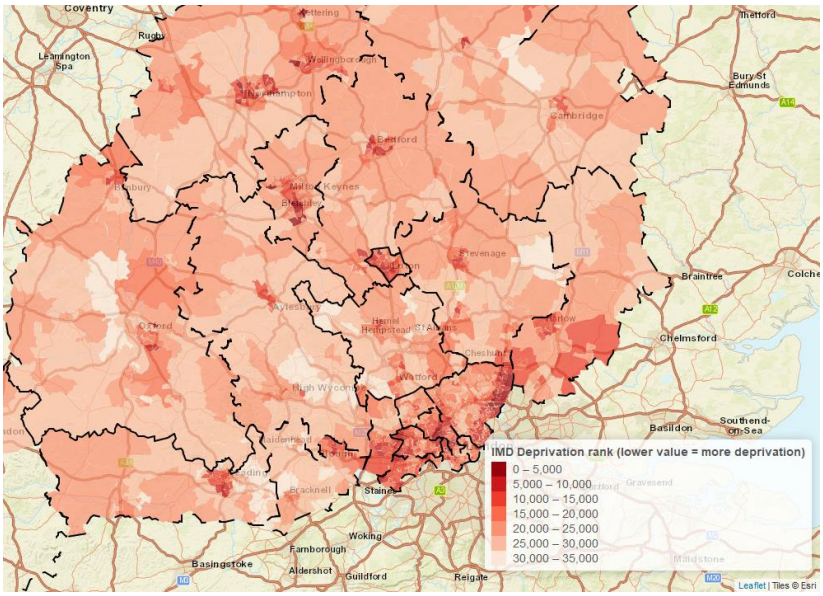
Deprivation also has an impact on population reliance on health services as it is associated with a higher incidence of multiple morbidity, mental health disorders and reduced life expectancy.[15][16][17] NHS Data from 2020 found that male and female mortality rates in the 20% most deprived quintile are at least 53% higher than in the least deprived quintile.[18] The below map and chart show the overall distribution of deprivation in the regions relevant to MVCC, based on the Index of Multiple Deprivation (IMD) combined measure. This is concentrated in London, and some surrounding towns – most notably Luton, Brent and Slough.

Health inequalities – cancer outcomes

Various health inequalities can be identified across the catchment area. Table 3.5 shows the one-year survival index (%) for all cancers combined for all adults aged 15 to 99 years for the ICSs in the MVCC catchment area for the year 2016. The survival rates are all above the England average, except for Bedfordshire, Luton and Milton Keynes ICB.

[14] Source: Public Health England, https://www.ethnicity-facts-figures.service.gov.uk/health/physical-health/cancer-diagnosis-at-an-early-stage/latest, 2021
[15] Source: Charlton et al., Impact of deprivation on occurrence, outcomes and health care costs of people with multiple morbidity, 2013
[16] Source: Delgadillo *et al.* On poverty, politics and psychology: the socioeconomic gradient of mental healthcare utilisation and outcomes, 2016
[17] Source: ONS, https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthinequalities/bulletins/healthstatelifeexpectanciesbyindexofmultipledeprivationimd/2017to2019, 2021
[18] Cancer Registration Statistics, 2020: https://digital.nhs.uk/data-and-information/publications/statistical/cancer-registration-statistics/england-2020

Figure 3.8: Deprivation rank in the MVCC extended catchment



Source: Edge Health report: MVCC patient flow, 2020

One-year survival in the former CCGs referring patients to MVCC ranges from 69.3% in Luton CCG to 78.3% in Barnet CCG. This is not clearly correlated with stage at diagnosis or % of emergency presentations. Five-year survival is lower for the East of England as compared with London.

Table 3.5: One-year survival by ICS

ICS	Survival (%)
Bedfordshire, Luton and Milton Keynes	71.7
Hertfordshire and West Essex	73.4
North West London	74.9
North Central London	75.0
Frimley Health	74.7
Buckinghamshire, Oxfordshire and Berkshire	73.7
England	**72.8**

ONS Dataset 2021: Cancer survival in England, with 95% confidence intervals, Tables 10 to 16

Demography Pressures - Change in forecasted demand for services

In addition, the population across England is projected to increase by around 9.9% in the 15-year period between 2021 and 2036[19]. Considering a shorter time period, the table overleaf (Table 3.6) shows projected population increase by region.

[19] ONS National Population Predictions: 2021 – interim : https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/nationalpopulationprojections/latest

Table 3.6: Population change by region

Region	Mid-2018 Population	Mid-2028 Population	% Population Change
London	8,908,000	9,342,000	4.9
East	6,201,000	6,512,000	5.0
South East	9,134,000	9,539,000	4.4
England	**55,977,000**	**58,752,000**	**5.0**

ONS Dataset: Subnational population projections for England: 2018-based

This general population increase, alongside the increase in those over 65 years and over, is only likely to increase the pressure on health services and diseases associated with ageing.

3.3 The MVCC Strategic Review – where are we now?

MVCC has been subject to a long series of reviews over a period of more than 30 years. Due to the complexity of the large catchment area and patient flows, the number of organisations involved, the lack of capital funding, the continual change in oversight management, commissioning and network arrangements, these numerous reviews and recommendations have not resulted in any substantial change to the service. Given ongoing concerns raised by ENHT and the MVCC clinical team about the clinical sustainability of MVCC, a formal strategic review commenced in May 2019 with the support of all parties involved. The review is currently being led by NHS England (NHSE) East of England on behalf of all commissioners to ensure that services provided on the site are safe and sustainable. Given the planned dissolution of NHSE it should be noted that the governance and oversight arrangements will be reviewed to reflect the changing responsibilities of DHSC and ICBs.

As part of the review, an Independent Clinical Review Panel was commissioned in July 2019 (full report, see Appendix 1) that concluded that the MVCC site was not clinically sustainable in the medium-term and made various recommendations including:

- Short term actions to strengthen services immediately
- Transfer of accountability and ownership of the MVCC services from ENHT to a tertiary cancer centre
- Re-provision of part or all of the services to an acute site co-located with critical care.

An 'Expressions of Interest' process was initiated at the end of 2019 to identify an appropriate tertiary provider to take over the leadership of the cancer services at MVCC. University College London Hospitals NHS Foundation Trust (UCLH) already had an academic and clinical collaboration in place with MVCC and in January 2020 UCLH was selected by NHSE and a representative stakeholder panel as the preferred provider. UCLH has undertaken preliminary due diligence (2021). The transfer of management of services still requires approval from the UCLH Board, which will need various conditions and adequate funding to be agreed, including

a sustainable plan for the future of the services, which this PCBC describes. The UCLH Board have been clear that any transfer must not compromise the care that it delivers to its current populations, through financial destabilisation.

The proposals and preferred option within this PCBC have been sighted but not yet finally approved by the UCLH Board, as UCLH do not currently manage the services. The Board is supportive of proceeding to public consultation as the next step in this process, and on the basis of a collaborative approach with WHTH as described in section 6.5.3. The Board has not yet considered the transaction (transfer of MVCC services) in its entirety, as due diligence will need to be refreshed given the time that has elapsed since the preliminary review in 2021. Subject to commissioners making a clear decision on the reprovision, following the feedback from the consultation and development of the Decision Making Business Case, this refresh could take place. Once there is an adequate degree of certainty regarding capital for the reprovision, secured through the business case approval process, as well as terms agreed for the transfer itself, a decision will then need to be taken on the transfer of the management of MVCC from ENHT to UCLH. Following any final decision, a transfer would not be expected to take place in less than 9 months, to allow adequate time to prepare for this transition.

A Transitional Support Team (TST) made up of UCLH staff and funded by NHSE was established in July 2020 to strengthen and support the leadership at MVCC and to work with NHSE and the MVCC team to develop options for the future of the service. This process and full details are described in Section 6. The TST has continued to work closely with the MVCC team in support of their maintenance of high quality services in the interim period, as well as with NHSE in support of further evaluation of the options for the long term sustainable future for the service.

Stakeholder engagement throughout has been delivered through the Strategic Review Programme Board and through wider engagement, including patient engagement and staff engagement (see Section 5).

Section 4: Case for change

There are a number of factors which together give a clear case for the changes required to ensure a sustainable future for the specialist cancer services for the MVCC population.

These fall into three broad categories:

- Reduction in acute clinical services provided on the Mount Vernon site, at the same time as the needs of cancer patients become more complex and these supporting clinical services are needed, resulting in an unsustainable model of care
    - Recruitment and retention of specialist cancer workforce is at risk in a service without a credible and sustainable model of care

- Decline of an estate originally built for a very different cohort of patients 120 years ago & resultant inability to deliver the specialist cancer care of the future
    - Inadequate fabric and maintenance of the buildings, not capable of the required modernisation, impacting the ability to meet the needs of modern cancer care

- Opportunities to further improve care through change
    - Care closer to home
    - Reducing health inequalities
    - Specialist workforce
    - R&D and Innovation

These factors are outlined here in detail; set within the regional and national policy context.

4.1 What makes MVCC unsustainable without change?

There are a number of specific challenges for MVCC which sit within a regional and national context, rendering a long term future on the current site unsustainable.

4.1.1 MVCC - an unsustainable clinical model

Reduction in acute clinical services on the site

There are now far fewer acute clinical services on the Mount Vernon site as a whole than at any other time in its history. There is no critical care service, very few other medical and surgical specialties on site, or an A&E. This significantly hampers the delivery of comprehensive specialist cancer care.

Services for patients with blood cancers (haematological malignancy) have already closed at MVCC, with inpatient haematology ceasing to be delivered in early 2019 due to the lack of adequate supporting clinical services, and the limited outpatient consultation and treatment services transferring to other hospitals in August 2022. Many patients having more complex treatments, or planned inpatient care, have to be managed at a specialist centre such as UCLH, in central London, resulting in a significant travel burden for patients and their families. Some care is offered for some patients in hospitals closer to home, including haematology patients who become unwell and may be admitted to the acute hospital closest to their home. However, this can make specialist management difficult, given teams in these hospitals may be unfamiliar with the management of the complications of newer haematological therapies, or more intensive therapies which can cause complex side effects such as chemotherapy induced bowel problems which may require inpatient care.

While inpatient facilities for solid tumour oncology patients have been retained at MVCC, they are increasingly unable to manage all elements of patient care as a result of the reduction of supporting clinical specialties on the site. The Independent Clinical Review in 2019 highlighted concerns around the provision of inpatient care . The report stated:

> "There is increasing concern as to whether high quality, safe and sustainable oncology services can continue to be delivered within the existing organisational framework and there is an urgent need to address this concern."
>
> *Independent Clinical Review into Mount Vernon Cancer Centre 2019*

The full report is available at Appendix 1. Key findings included:

- The current services at MVCC are unsustainable—urgent action is required.
- Modern oncology care requires comprehensive medical and surgical support, including critical care, which MVCC lacks.
- Staff are losing key skills due to frequent transfers of acutely ill patients to other hospitals.
- Existing care pathways are fragmented, with patients being sent to non-specialist hospitals, affecting their treatment quality.
- Simply dividing MVCC's catchment area among other providers would be disruptive and impractical.
- Some immediate changes have been made, such as stricter admission criteria to prevent emergency transfers, but further action is needed

While a number of measures were immediately put in place to address these concerns, and the services retained on the site are clinically supported and safe, an increasing proportion of patients who should be managed at the specialist cancer centre cannot be; and will be admitted or transferred to a non-specialist site instead, or another specialist centre further from home. This impacts treatment options for some patients, for example those recommended for brachytherapy treatment which requires inpatient admission. If a patient

does not meet the MVCC admissions criteria (for example due to a comorbidity) then they cannot receive brachytherapy at MVCC. Some may be able to travel into a centre in London for this treatment, others may not and may therefore have to opt for another treatment which may result in an inferior clinical outcome. For other patients, the current clinical model can result in fragmented care, with some acute care necessarily provided on other non-specialist sites, by teams without knowledge of the patient or the expertise to manage their condition. This introduces risk to these patients, and has the potential to negatively impact both their clinical outcomes as well as their experience of care. The current clinical model is illustrated through the high level pathway shown at figure 4.1 overleaf.

With no critical care or high dependency support on site, or other medical or surgical specialties, then transfer in an acute situation if an inpatient deteriorates is essential. This is currently carried out by staff dialling 999 to call an ambulance for the patient to be taken to the Emergency Department at Watford General Hospital or Hillingdon Hospital to support their ongoing clinical care. This adds to the clinical risk through having to move an extremely unwell patient, and potential for delays in them accessing higher acuity care. In 2024, there were 130 patient transfers from MVCC to other local hospitals as follows in table 4.1:

Destination hospitals	Number of transfers in 2024
Watford General Hospital	73
Hillingdon Hospital	43
Northwick Park	12
Harefield Hospital	1
Other	1

Table 4.1: Ambulance transfers from MVCC to neighbouring hospitals 2024

Change in population, their health and comorbidities

As described in Section 3, the most important risk factor for cancer overall is advancing age; this has a predicted increase of 1500 cases per year in the current catchment. However, there are many other significant factors that affect cancer prevalence. Non-behavioural causes such as air pollution, infections, hormones and genetic pre-disposition are becoming increasingly understood and enveloped into personalised therapies. There are also a number of lifestyle related risks such as weight, smoking, alcohol, diet, exercise and sun exposure; in the UK it is estimated that 40% of cancers are preventable[20], with 15% of these caused by smoking and 6% by obesity.[21] As lifestyles continue to change and evolve, consideration of these factors will be necessary to futureproof a new cancer service.

[20] World Cancer Research Fund, 2022, https://www.wcrf-uk.org/preventing-cancer/uk-cancer-statistics/
[21] Cancer Research UK, 2021

It is important to note that the probability of morbidity increases with age; for those aged 60 to 64 years, approximately 17% have a chronic condition, rising to >25% in those aged 80+.[22] Cancer patients with complex needs require close monitoring and a potentially broad range of support from a wide range of clinical disciplines and specialties, as well as higher acuity support such as critical care. Patients with comorbidities that are likely to need critical care and acute specialty support are unlikely to be admitted to MVCC due to the lack of clinical adjacencies available.

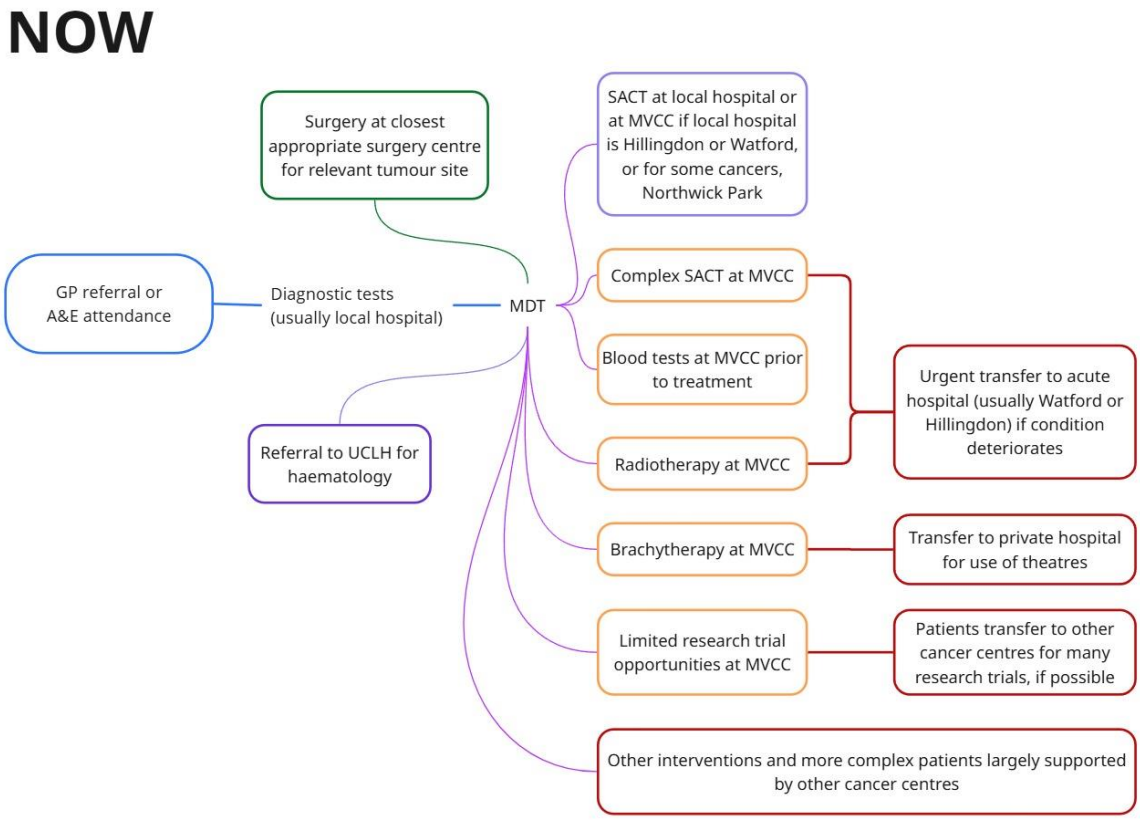


Figure 4.1 shows at a high level the pathway delivered by the current MVCC Clinical Model. Figure 6.13 compares this with what the proposed future model would deliver.

Change in anti-cancer treatments; research and standard of care

Historically, when the only available systemic anti-cancer therapy (SACT) was conventional cytotoxic chemotherapy, the severe side-effects (namely hair loss, nausea, vomiting, mucositis, myelosuppression and infection) associated with it ruled out its use in many older patients and those with comorbidities. Now, novel SACTs tend to lack the traditional toxicities of older cytotoxic chemotherapy, meaning those who would not have previously been considered for chemotherapy are now eligible for treatment. For many patients, there are also more lines of treatment available to them.

[22] Trends in morbidity and risk factors, 2018 https://www.gov.uk/government/publications/health-profile-for-england-2018/chapter-3-trends-in-morbidity-and-risk-factors#trends-in-morbidity-by-age

However, new therapies have a diverse toxicity profile affecting a wide range of organs and require acute specialist support in severe cases. The future of SACTs will be in combining these novel therapies with each other (and with radiotherapy) which will likely result in unpredictable toxicities and require increased multidisciplinary team (MDT) input with non-oncological hospital-based specialists. A modern cancer centre must evolve in line with cancer treatment and therefore requires an integrated approach to care encompassing established partnerships, access to a wide range of acute clinical disciplines, emergency support and availability of a diverse and specialist cancer multi-disciplinary team (MDT); the importance of these requirements is only likely to increase in the future and the isolated nature of MVCC is outdated.

The lack of acute infrastructure and production facilities severely limits the research trial activity that can safely be delivered on site, not just early phase trials, but increasing numbers of later phase studies involving complex molecules. This may mean that some patients will refuse the opportunity of taking part in these trials due to the additional distance required to travel to other centres, such as UCLH (with a disproportionate impact on those from deprived communities, thus exacerbating the health inequalities they experience). In addition to the potential negative impact on individual patients, this access challenge can result in an overall reduction in recruitment to trials.

Core clinical drivers for change

As identified by the Clinical Advisory Panel Review (July 2019 – Appendix 1)

- *The need for onsite surgical and comprehensive medical acute support services to quickly and safely manage treatment related toxicities / complications, acute illness linked to patient comorbidities and frailty as well as disease related sequelae.*
- *The need for the service to be flexible in the long term in order to cope with the different types of treatment likely to be introduced. For example, in just the next 12 months, NICE has 40 new cancer drugs being appraised, the majority of which are thought will be recommended for the Cancer Drugs Fund or routine commissioning.*
- *A need for a networked service with equitable patient access to consistent management protocols and appropriate trials for their condition.*
- *The recognition that research needs to be embedded with the clinical service to drive clinical developments and improved patient outcomes.*
- *An appropriate infrastructure of expert workforce, IT connectivity and accommodation.*
- *The need for daily consultant reviews of oncology patients acutely admitted to the oncology wards.*
- *An increasing patient awareness of what constitutes an appropriate environment for their medical needs.*

p.7

Recruitment and retention of the specialist cancer workforce is also very challenging in the absence of a credible clinical model, particularly given the options available to these specialist staff to work at other cancer centres. The lack of exposure to the novel therapies being developed through the research and innovation pipeline is also challenging, with developments in genomics and personalised treatments. The MVCC service must have adequate infrastructure and be future-proofed such that it can both generate new developments and innovations in cancer care and respond to the changing nature of standard of care treatments. Appendix 8 summarises some of the key current workforce challenges.

The Independent Clinical Review of 2019 confirmed the need for some or all of the service to re-locate to be adjacent to an acute hospital for the reasons outlined above.

The Strategic Review Programme Board commissioned a further independent piece of work to detail the directly adjacent clinical services that would be needed to optimise the provision of specialist cancer care. This report is included in full at Appendix 12. It confirmed the complex support requirements for specialist cancer services, given the changing nature of anti-cancer treatments and the changing demography of the cancer patient. Specifically, this detailed the requirements listed below, which cannot be met on the current site:

The clinical cancer centre hub must be capable of caring for its in-patients which have the treatments it delivers, the complications that arise from those therapies and the comorbidities which require acute clinical opinions from other specialties. To do this, there must be the following:

- *24-hour inpatient emergency access to the assessment of need for escalation of care for in-patients, particularly by the on-call on-site acute medical team and also by the acute surgical on-call on-site team*
- *24-hour on-site critical care outreach for in-patients with potential transfer to high-dependency and intensive care units located on the same geographical site*
- *On-site consultation capability for in-patients requiring acute care (diabetology, cardiology, respiratory medicine, gastroenterology, nephrology, endocrinology, dermatology, infectious diseases, ENT, haematology): for the complications of cancer, for the complications of treatment and to maintain timing of treatment plans such that interruptions are minimised (especially for radiotherapy fractionation)*
- *Immediate access to support pathological services (especially haematology and biochemistry)*
- *Outpatient access to a wide variety of clinical specialties: diabetes, cardiology, respiratory medicine, gastroenterology, renal medicine, endocrinology, dermatology, neurology, urology, ENT, gynaecology, palliative care, pain management services*
- *Rapid access for urgent physiotherapy services*

It follows that the adjacent acute hospital facility will have an Accident & Emergency department on the same geographical site.

The report concluded:

> *"The provision of acute medical and surgical care may change in the future. Cancer treatments will alter too and so the provision of cancer care by a cancer centre. Both these evolutions may be difficult to predict at present. Since cancer is now and will increasingly be a very great contributor to healthcare needs in an ageing population, it is important that whatever these changes may be, both acute services and cancer care can innovate, change and evolve together. The clinical hub of a cancer centre requires a wide variety of on-site acute medical and surgical support and an acute hospital on the same site requires much oncology input. Functional integration of the acute services and cancer centre provision in the near future will ensure functional integration in the long term future*."

4.1.2 MVCC estate and clinical facilities - "dilapidated and not fit for purpose"[23]

As recognised in the NHSE commissioned Independent Clinical review in 2019, the estate is not in a good state of repair and concerns have been raised around its long-term sustainability without significant investment. In 2021, it was estimated that over 50% of the estate was in a poor condition and the backlog maintenance requirement was around £33m (with £14m of this deemed urgent). During a series of public engagement events in the summer of 2019, negative views around the state of the buildings were identified, particularly in regard to the inadequacy of waiting rooms, unacceptable maintenance issues (such as leaks) and insufficient rooms for medical staff, specialist nurses, dietitians and speech and language therapists. The layout of the site was also identified as problematic, particularly for new patients, those with disabilities and those who have their care split across different sites. The inpatient facilities include limited numbers of side rooms, required for the management of patients who may be immunocompromised as a result of their anti-cancer treatment, or may be at the end of life. The current MVCC buildings are not just old and in deteriorating condition, they were never designed specifically for the needs of cancer patients, let alone the needs of cancer patients being treated in the 21st century. While a focussed backlog maintenance programme is now underway, investing £10.1m in the site between 2022 and 2026 to address the worst of its issues and sustain it for a short interim period, many of the design and fabric issues with the buildings are much more significant and not easily remedied (including roofs, asbestos, electrical and heating systems).

Additionally, the digital infrastructure available at MVCC has been identified as posing a clinical risk, with an over-reliance on paper notes and manual processes. The IT connectivity, Picture Archiving and Communication System (PACS) and electronic patient record systems in place for networked activity are all of a low standard. There is only limited access connection

[23] Mount Vernon Cancer Centre Strategic Review, Clinical Advisory Panel Review and Recommendations, July 2019

of the radiology systems between Paul Strickland Scanner Centre which carry out most scans for MVCC, and the MVCC systems, and none with the other hospitals in its catchment area which support cancer patient management, thus undermining the effectiveness and efficiency of clinical management. The NHS Long Term Plan and now the new Ten Year Health Plan emphasise the importance of digitally-enabled care, stating that technology will play a central role in helping clinicians use the full range of their skills, reducing bureaucracy, stimulating research and enabling service transformation. Without the appropriate infrastructure in place, this potential cannot be accessed and inhibits MVCCs ability to modernise for the benefit of its patients. These challenges also contribute to daily frustration for clinical staff. Furthermore, patients are not able to benefit from digital access to their patient record.

Managing the ageing estate, designed to provide for a different era of healthcare, has been exacerbated by the way in which it is owned and managed by two separate organisations. Although MVCC has been managed by East and North Hertfordshire NHS Trust (ENHT) since 2004, the site is owned by The Hillingdon Hospital Trust. The complexities of a landlord-leaseholder relationship between two organisations, where neither have their primary base at Mount Vernon, in the context of a financially challenged NHS has contributed to the failure to maintain the site in better condition. The 2019 independent clinical advisory panel report described the estate as 'dilapidated and not fit for purpose'. A CQC report in 2019 acknowledged that the complex estates agreement and lack of proximity to provider presented challenges that may benefit from a different arrangement.

A history of challenge at MVCC

MVCC has been subject to a long series of reviews over a period of more than 30 years. Despite the dramatic transformation of oncology provision, largely as a result of the changes in therapies outlined above, these numerous reviews and recommendations have not resulted in any substantial change to the service. This can, in part, be explained by the following reasons:

- The complexity of the large catchment area and patient flows
- The number of organisations involved
- The lack of capital funding
- The continual change in oversight management, commissioning and network arrangements.

Despite the presence of various complexities contributing to the apparent lack of progress in addressing the challenges facing MVCC, the challenges themselves have actually remained largely unchanged over the years. In 2003 a review by the Joint NHS Scrutiny Committee found that services at Mount Vernon Cancer Centre needed to change to accommodate the advances that would likely occur in the treatment of cancer. It was also understood that the effective functioning of multi-disciplinary teams was crucial to ensuring the quality of cancer

care and that this would be impossible to achieve on the Mount Vernon site. Service consolidation was proposed, with plans to move the Mount Vernon services to Hatfield. The consultation outcomes were supportive, however for financial reasons the plans could not be progressed. A decision was therefore taken not to relocate but to upgrade services and buildings on the current site in Northwood. In 2009, the Mount Vernon Cancer Services Development Project aimed to clarify the future of the centre and ensure that services were poised to deliver high quality cancer care. The location of the centre came under scrutiny and, again, the large majority of stakeholders supported keeping the cancer centre at the MV site.

CQC reports have reflected the challenges for MVCC, with 'Requires improvement' ratings since 2015 (with inspections in 2015, 2018 and 2019). In the most recent report, from 2019, the CQC noted that the trust did not make sure the design, maintenance and use of facilities, premises and equipment kept people safe. It was noted that staff were passionate and committed to delivering quality care but morale was impacted by uncertainty around the future of MVCC.

Despite the historical trend, a much broader stakeholder consensus has now been agreed, which is a significant step forward. From the engagement events that have taken place over the last few years and the review by the Independent Clinical Advisory panel, it is clear that the public and the organisations involved are supportive of action being taken over MVCC (see Section 5 for more details). Likewise, the clinical teams at MVCC have had concerns for some time about the clinical sustainability and long-term future of the centre. The majority of stakeholders welcome the current NHSE-led review in order to create momentum for strategic change and importantly, for the first time, they are now open to a change in location.

4.1.3 Policy context

MVCC operates within the context of regional and national policy priorities, which in its current configuration it will be unable to deliver.

The NHS Ten Year Health Plan and future policy direction

The recently published Ten Year Health Plan for England, builds upon existing priorities identified in the NHS Long Term Plan, published in 2019, as the current Strategic Review of MVCC began. This set out its priorities for healthcare with key themes which are currently difficult, or impossible for MVCC to fully deliver in its current configuration and site:

- Care closer to home
- More joined-up and coordinated care
- More proactive in the services it provides
- Reduced pressure on emergency services
- Maximising the opportunities of digitally-enabled care
- Research and innovation to drive future outcomes and improvement.

The redevelopment proposals for Mount Vernon Cancer Centre (MVCC) are aligned with the NHS Ten Year Plan, which sets out three fundamental shifts in care delivery: a move to more proactive, population health management; a shift to more integrated and coordinated care; and a focus on digitally enabled, personalised care.

The PCBC's preferred option supports these shifts specifically to cancer services:

- To speed up the path from innovation to business-as-usual, spreading proven new techniques and technology and reducing variation.
- To provide safer and more precise treatments including advanced radiotherapy techniques and immunotherapies to continue to support improvements in survival rates.
- To ensure every person diagnosed with cancer has access to personalised care, including needs assessment, a care plan and health and wellbeing information and support.

These priorities are woven throughout the PCBC and will be further strengthened in future business cases to ensure clear, demonstrable alignment with the NHS Ten Year Plan.

These principles have guided and informed work to develop proposals for a sustainable future for MVCC over the past 5 years. Lord Darzi's recent investigation into the state of the NHS[24] highlights the ongoing challenges the NHS faces to respond to the increasing numbers of patients being diagnosed with cancer within a technologically developing landscape. A national Cancer Plan is awaited, but the Ten Year Health plan reinforces the direction of travel for cancer as outlined in the NHS Long Term Plan. The themes of innovation, personalised care, care closer to home and digitally enabled care are all strongly emphasised as priority areas into the future. Advances in cell and gene therapy, Artificial Intelligence enhanced imaging and remote digital monitoring are all mentioned but currently outside the reach of MVCC with its current clinical adjacencies and infrastructure.

In order to achieve these ambitions and improve cancer outcomes and experience, our modern cancer centres need to have optimum, state-of-the-art facilities at their disposal to allow them to be focal centres of specialist excellence that are fully equipped to deliver modern and innovative cancer treatments whilst supporting the whole wellbeing of their patients. Appropriately designed facilities and effective clinical infrastructure will support emergency care and admission avoidance whenever possible and allow patients to have personalised care integrated in one place, whilst leading networks of digitally enabled care outside these specialist centres and closer to where patients live.

[24] Independent Investigation of the National Health Service in England -Lord Darzi, September 2024

Integrated Care System strategy

The Boards which dominated the reviews of MVCC that occurred in the early 2000s no longer exist, following the establishment of CCGs in 2013 as a result of the 2012 NHS reforms. However, the strategic intent has been maintained and strengthened by the NHS England regional teams and the Integrated Care Boards (ICBs), from six of which come the majority of patients treated at MVCC (see Table 4.2).

Table 4.2: ICSs in MVCC catchment – 2023/24 All activity data (inpatient, daycase, outpatient, diagnostic and radiotherapy)

ICS	% of total MVCC activity
Herts and West Essex	42
North West London	36
Bedfordshire, Luton and Milton Keynes	11
Bucks, Oxfordshire and Berkshire	6
Frimley Health	3
North Central London	1

MVCC operates within this regional policy context with each ICB having its own agenda and cancer strategy, in line with the needs of its population. All six converge on some universal priorities which have shaped proposals:

- The importance of ensuring rapid access to the highest quality cancer treatment, including clinical trials and innovative treatments
- A universal ambition to ensure more cancer care is delivered closer to home
- The need to continue to improve patient outcomes and experience and reduce the inequalities observed in each of the ICSs.

Over the past five years, the ICBs have played a crucial role in the Strategic Review in collaboration with NHSE. The ICB strategies support the case for change and their input has been used to develop the options proposed (see Section 6, and Appendix 5a & 5B). No further update to ICB or regional cancer strategies is expected until after publication of the National Cancer Plan (expected in early 2026). However, a review of strategic fit against ICB and regional cancer priorities will be undertaken at each stage of the business case process to maintain alignment and assurance. The newly formed Central East ICB, which will become the largest ICB stakeholder, has included support for the Mount Vernon proposals in its ICB commissioning intentions and the East of England Cancer Alliance has confirmed that it will publish a new cancer strategy approximately 4-6 months after the new national Cancer Plan is published. Mount Vernon Cancer Centre remains a strategic transformation priority for the East of England regional team, who have led the Strategic Review, alongside colleagues from London and South East regions. This sustained focus reinforces MVCC's critical role in delivering improved cancer outcomes and addressing long-standing service challenges.

4.2 What opportunity is there to improve care through service change?

In addition to MVCC services being unsustainable without change, there are a number of potential opportunities to further improve care through service change.

4.2.1 Delivering Care Closer to Home and reducing Inequalities

The impact of travel distance to receive treatment on the outcomes of patients receiving non-surgical cancer care has been the subject of much investigation. Although evidence is inconsistent, there is a strong indication that longer travel distances negatively impact patient uptake of Chemotherapy and Radiotherapy[25]. Furthermore, studies across Europe have shown that individuals living in more deprived areas have a lower uptake of non-surgical cancer treatment, and higher mortality than those living in more affluent areas[26]. This is evident within the MVCC patient cohort in which the former CCG areas possessing a relatively more deprived population demonstrated a lower uptake of radiotherapy proportional to the size of the cancer population when this was reviewed in 2021.

These inequalities within the MVCC population are further demonstrated by the figures regarding mortality which show:

- One year survival in the former CCG areas referring patients to MVCC ranged from 69.3% in Luton CCG to 78.3% in Barnet CCG. This is not clearly correlated with stage at diagnosis or % of emergency presentations.
- Five year survival is lower for the East of England as compared with London.

Reviewing on a map (see figure 3.7) indicates the wide geography from which patients attend MVCC. Early patient engagement has demonstrated that the distance patients have to travel to attend MVCC is a challenge for many patients; in some cases journey time influenced decisions they made regarding their treatment. MVCC patients hold a significant desire to improve local access to services and to ensure travel times to receive specialist care do not increase (see Section 5).

The redevelopment of the MVCC on a different site, adjacent to an acute hospital, presents the opportunity to address these concerns by considering sites which reduce the journey times for patients attending the centre.

[25] Ambroggi M, Biasini C, Del Giovane C, Fornari F, Cavanna L. Distance as a Barrier to Cancer Diagnosis and Treatment: Review of the Literature. Oncologist. 2015;20(12):1378-1385. doi:10.1634/theoncologist.2015-0110

[26] Merletti, F., Galassi, C. & Spadea, T. The socioeconomic determinants of cancer. *Environ Health* **10,** S7 (2011). https://doi.org/10.1186/1476-069X-10-S1-S7

Given that more deprived populations are disproportionately impacted by longer travel times (due to lower access to cars, higher dependence on public transport and lower economic freedom to take time away from paid employment to make journeys[27]) redevelopment of the MVCC presents the opportunity to improve these health inequalities.

The impact of the new Cancer Centre would be furthered by strengthened networking of oncology provision within these more deprived areas. This would facilitate a more equitable distribution of clinical services throughout the catchment, ensuring care is delivered closer to home, further reducing journey times. MVCC already operates within a network, with MVCC oncologists providing clinical services in Northwick Park, Hillingdon Hospital, Luton & Dunstable, Watford General, the Lister Hospital and Wexham Park. A stronger, networked oncology provision would help to support the delivery of more of the less complex chemotherapy at all DGHs within the MVCC catchment and ensure that simpler interventions, such as blood tests, are delivered closer to home.

Given this, the opportunity to develop a Networked Radiotherapy unit, in the form of a second satellite radiotherapy site is also being considered. This would aim to improve access for patients undergoing radiotherapy and is in line with local ICB strategy as well as national policy. Networked Radiotherapy is explored in more detail in development of the clinical model (in Section 6).

Finally, the specialist knowledge and facilities available at a consolidated cancer centre would allow for greater innovation in home-based and remote care. This could allow specialists from more affluent and better served areas to provide care to more deprived areas remotely. This factor alongside reducing the total number of journeys patients have to make to the Cancer Centre would help to address the health inequalities present in the MVCC population.

4.2.2 Repatriation of Haemato-Oncology Services

> *"There are currently gaps in specialist support -for example Haematology. Currently, these patients are being referred to specialist centres - mainly UCLH. This service could be provided locally but there isn't the expertise in these rare cancers under the current Mount Vernon oncology offer"*
>
> *BLMK* - ICS Update to Programme Board December 2020

As detailed above, currently more complex or less common cancer patients may have to have their care at other specialist centres such as UCLH, given the gaps in clinical service adjacencies on the Mount Vernon site. This particularly applies to blood cancer patients (haemato-oncology) due to the complexity of their management. The redevelopment of

[27] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/823068/national-travel-survey-2018.pdf

MVCC offers the opportunity to provide the necessary clinical infrastructure, including the adjacency to critical care and other support services, to enable the repatriation of specialist cancer work from central London.

Through developing consolidated cancer services in collaboration with the co-located acute hospital, MVCC would be able to ensure patients only have to travel longer distances for highly specialist treatment, such as Bone Marrow Transplant or CAR-T cell therapy. The expanded service provision would also provide the opportunity for a broader range of clinical education and participation in research trials.

As the leader of the networked oncology provision, MVCC would also provide support to haematology services across the MVCC catchment. With the support of a specialist tertiary cancer centre the DGHs will be better placed to provide high quality Haematology care close to patients' homes. Blood cancers as a group are the 5th most common tumour type[28] and so this change has the potential for significant impact. Based on 2023/24 activity, transfer from UCLH could equate to 4200 bed days, 2600 day case episodes and around 7800 OP appointments per year.

4.2.3 Workforce

> *"There is no flexibility to innovate – for example when someone thinks 'wouldn't it be good if we did…' we can never do" - MVCC Staff Feedback 2020*

MVCC clinical staff are highly motivated, collegiate and work hard to deliver high quality clinical services. However, in its current form recruitment and retention of a specialist cancer workforce is extremely challenging (Appendix 8).

Staff want to be able to treat more complex patients to develop their skills and enable them to become experts in their fields, with career progression and opportunity. However, the lack of critical care facilities and clinical infrastructure to support more complex oncological cases results in patients being transferred elsewhere. This has caused a reduction in the breadth of clinical experiences that staff are exposed to and subsequently a deskilling of some healthcare professionals. Innovation is difficult in light of the challenges of the estate, and it can be hard to retain staff who cannot be part of delivering comprehensive tertiary oncology care, when a proportion of the more specialist elements of this care cannot be delivered on the MVCC site. Many of the professional groups who deliver care at MVCC are highly specialist staff, who are in short supply nationally (e.g. radiotherapy physicists, SACT trained nurses, consultant oncologists) and therefore have a choice of where they would like to work.

[28] Twenty most common cancers 2017-19 – Cancer Research UK
https://www.cancerresearchuk.org/health-professional/cancer-statistics/incidence/common-cancers-compared#heading-Zero

The development of new facilities capable of supporting more complex cases, including the repatriation of patients from central London trusts, the full breadth of the oncology care pathway and novel therapies being developed and trialled will offer staff the experience and training necessary to develop or retain expertise in their field. The potential to increase staff satisfaction is also important; satisfied staff are known to provide better patient care[29].

4.2.4 Research and Innovation

Many trials require supporting clinical facilities and higher dependency care than is available on the MVCC site. They may also require onsite production facilities. Current site infrastructure is inadequate to allow for the full provision of research and innovative therapies and service delivery models for patients. There are a number of examples of trials that could not be opened at MVCC due to its facilities, for example the INTerpath-001 trial for which the first participant, treated at UCLH, was an MVCC catchment resident[30]. Some patients will be able to access these trials by travelling to other specialist centres but travel times may be prohibitive or place a significant burden on patients for frequent trial visits. As described above, patients from more deprived populations are most adversely impacted by longer travel times. Opportunity to take part in trials is certainly limited by the MVCC facilities. There is an opportunity to address these issues and resultant health inequalities with a service move.

The design of the current MVCC is also such that it can be difficult to adapt services and adopt new innovative models of care delivery. A new, purpose-built facility would provide the necessary flexibility to support change and innovation in the future, and ensure provision of a comprehensive centre for oncological research and innovation. Given the size of its catchment population, a new MVCC could enable a significant boost to the overall cancer research capacity in the NHS.

[29] https://www.england.nhs.uk/wp-content/uploads/2018/02/links-between-nhs-staff-experience-and-patient-satisfaction-1.pdf
[30] 'British man tests first personalised melanoma vaccine' (April 2024) https://www.bbc.co.uk/news/health-68897731

Section 5 - Patient and Public Engagement: Pre-consultation

Feedback from patients, staff and the public has shaped the ongoing review of services at MVCC and the development of options. By maintaining a comprehensive programme of engagement with the public throughout the formative stage of the programme it has ensured that the review process remains focused on achieving a service which provides excellent and safe care to patients.

The activities conducted so far do not constitute a full public consultation, but instead represent informal engagement to listen to feedback on the existing service, listen to ideas, test emerging thinking on how the services could develop, and identify priorities. The engagement activities also provide an additional means of sharing any new information and highlighting the progress being made.

The products of the engagement activities have formed the basis for developing potential models of care which meet the key challenges currently facing MVCC, including the limited clinical support available for patients who are very unwell and the poor state of the buildings.

The engagement activities can be broadly categorised as:

1. Rolling Information Sessions and Feedback Opportunities
2. Phase 1- Understanding the current service and Identifying patient priorities
3. Phase 2- The development of options
4. Next Steps

5.1 Rolling Information Sessions and Feedback Opportunities

The MVCC Strategic Review is a transparent process in which stakeholders are kept sufficiently informed of all proposals so as to permit consideration and response. Throughout the first two phases of the programme, the Mount Vernon Cancer Services Review Engagement Team ran a rolling series of events allowing interested patients and stakeholders to attend a 60 minute update and "Q&A" session on the progress and timeline for the review. This was supplemented by regular stakeholder updates to those who wished to be kept informed. A regular patient reference group has also been in place since early in the review, its frequency determined by the pace of the programme and agreement of the patient representatives.

Patients, the public and other stakeholders also have access to the MVCC website (mvccreview.nhs.uk), an interactive website where patients could share stories about their experiences, put forward their ideas, ask questions and take part in polls. The website

remains up to date with all of the information generated by the review. It also acts as a central point through which the schedule of engagement activities, relevant documents and patient feedback can be shared.

All review activities have been closely coordinated with patient groups, health care bodies and local authority groups from across the catchment. This included making full use of these organisations' respective communication networks to share updates and advertise engagement events.

5.2 Phase 1: Identifying patient priorities (2019-20)

Engagement activities conducted during phase 1 of the Strategic Review focused on understanding patients' views on the current MVCC, what they require in the future MVCC and gaining feedback on the two models of care proposed within the Independent Clinical Review 2019 and outlined in section 6.

Table 5.1 provides an overview of the engagement exercises carried out during phase 1 and a high-level summary of the feedback gained. The full Phase 1 engagement report commissioned by NHS England is included in Appendix 10.

Overall, this stage of engagement demonstrated that the public all highly rate the standards of care at MVCC and a general concern raised that these standards might not be maintained if services were dispersed to DGHs. Although there was resistance to the idea of moving any services away from the MVCC site, patients and staff recognised that the current facilities were not sustainable and there could be advantages to the single site model. This includes improved continuity and consistency of care.

It was important to people that there should be a streamlined system of record keeping to allow seamless information sharing between services. It was also important that non-clinical services such as the Lynda Jackson Centre should be co-located with any future cancer centre.

Patients recognised that being able to access some services closer to home, as outlined in both models, was attractive to people, especially those living furthest from MVCC, and were keen to explore further opportunities to improve access to care and treatment locally where appropriate.

Table 5.1- Summary of Phase 1 engagement activities and feedback themes. Please see Appendix 10 for the full Stage 1 engagement report.

Activity	Details	Insight Gained
Review of existing patient feedback	Summary of findings from previous engagement activities	• Patient feedback, friends and family test and National cancer patient survey indicate that staff deliver good care at the MVCC • The centre is struggling to cope with the numbers of patients, has difficulties maintaining waiting times and widespread issues with the state of buildings and the physical infrastructure.
6 bespoke engagement events	Carried out in 6 locations across the MVCC catchment. Facilitated discussions focused on current MVCC services and views on the 2 proposed models (detailed in section 6)	• Patients and staff expressed a deep affection for the buildings, hospital site and the care being delivered by staff, with acknowledgement that the buildings were in a state of disrepair and change was required. • People agreed that the priority must be expert care and therefore travelling a significant distance was worth it to access quality care in a centre of excellence. Receiving care across several sites tended to be seen as stressful and detrimental to continuity of care. • Model 1 was understood by many to be a good model with advantages to having services on a single site, including continuity of care. Model 2 was preferred by those who had a great affinity for the buildings and the site, on the assumption that the existing site could be the second site. This model, however, caused some concerns about whether continuity of care would be affected. The transition to tertiary leadership was regarded as a positive move.
11 Interviews with people with protected characteristics	Representation from: People with disabilities, Black and Minority Ethnic Groups, Gender reassignment, LGBTQ+	• The most important thing of all was that staff were aware that people could have particular needs such as: cultural dietary requirements or end of life practices, physical needs for people with disabilities, the placement of transgender people on wards and how to communicate with people with little or no English. • The overall view was that staff should be able to ask people in a considerate way what patient needs were, and then have enough understanding to meet the needs, or find out how to get help in meeting the needs.
An online, open access survey on www.mvccreview.nhs.uk	Accessed via the MVCC review website. Advertised throughout associated service providers' communications networks. 190 responses received.	• Staff and quality of care are highly regarded with many commenting it was worth travelling long distances for the quality of care they received. • Renovation of buildings was perceived as the biggest change needed to improve experiences for future patients • The three aspects people ranked as being of prime importance to them in a cancer treatment centre were: knowing their consultant and care team and having the same team throughout their treatment; having care of the highest possible quality and being kept informed at all times about treatment and what to expect.

5.2.1 What we did with this feedback

Patients worked alongside the programme team through a series of workshops to take these insights and build on them to further develop the clinical model and select the preferred site, as described in full in section 6 of this Pre-Consultation Business Case. New opportunities were created for people to get involved.

Due to COVID-19 restrictions, the opportunity to speak to established patient groups was greatly reduced, with the need to focus on online discussion and focus groups rather than face to face opportunities for engagement. Events were promoted extensively, but the Covid-19 circumstances made this more challenging and the overall numbers attending the events were low. However, the smaller numbers meant that it was possible to hear detailed views and experiences of the patients who participated.

Clinical model

Online focus groups were run with patients to look at specific cancer pathways – for example, breast, prostate and gynae, to understand the patient journey and the impact that different clinical models could have. Additionally, focus groups on chemotherapy and radiotherapy services were held to further tease out patient experiences and views, and the clinical model discussed in the face to face workshops was explored in more detail.

As the team worked with patients over a number of months, a clinical model emerged that responded to patient insight and ideas and the challenges patients experience with the current clinical model. The development of the clinical model is fully described in section 6.1.1.

Through the focus groups, the patients participating accepted that an effective networked radiotherapy unit capable of a comprehensive range of radiotherapy treatments, could really only operate from a single main unit. If the redeveloped cancer centre remained within a few miles of its current location to cause the least disruption for patients, any networked unit needed to be placed where it could best improve access, even though it would mean no longer having any cancer services on the current site.

This was acknowledged by almost all patients. Only one patient maintained a preference for the cancer centre to remain on the site.

Site selection

Patient views on travel times through the early engagement influenced the criteria for selection of a potential site for the relocated cancer centre. Three of the five criteria were transport related, the remaining two were clinical (see full detail in section 6.1.2).

Through a series of workshops considering location, patients expressed strong views against selecting the hospital sites furthest away from them. Watford emerged as a fairly neutral contender, and therefore generally the most acceptable, largely due to its proximity to the

existing site and minimal impact on travel times compared to other sites. Hillingdon, Northwick Park, and to a lesser extent Luton and Dunstable hospitals were the next most acceptable in most of the workshops. Watford was the only site that met all five criteria.

Geography-based online workshops were then held over a few months to test the impact of a Watford option.

Care closer to home

Through the insight and involvement of patients, additional components to the proposal were developed. In particular, if the cancer centre was to move away from its current site, patients and the programme team explored the possibility of some chemotherapy remaining in the North West of London.

Hillingdon Hospital does not have a chemotherapy unit and patients were keen to see if we could enable some Hillingdon patients to have chemotherapy there instead of travelling to the Watford site. Patients in North West London felt much more comfortable about the proposal for the Watford site once the Hillingdon chemotherapy unit was firmly on the table (see section describing the proposals for North West London, section 6.3.2).

Following the positive reception to this, proposals were also developed to increase the amount of chemotherapy that could be done at Northwick Park.

Patient insights combined with a piece of work to understand differences in patient outcomes, directly led to a rethink of a historic request for networked radiotherapy. This ultimately led to the modelling of the proposed networked unit in three different locations – Stevenage, Luton and Slough, with Stevenage and Luton both securing large enough patient numbers to be viable (in either or, not both (two) locations). The framing of the public consultation proposing options which include a networked radiotherapy unit in either Stevenage or Luton (alongside an option of no networked radiotherapy unit) is a result of this work (see section 6.4.2).

Patients remained very agitated about travelling to Mount Vernon for a blood test a few days prior to treatment, and not being able to have the test at their local hospital. The programme team committed to trying to find a more local solution as part of its ongoing development of proposals.

Patient engagement

Insight from the early work and feedback from patients helped shape the style and content of future engagement and the topics that patients wanted to get involved with. The Phase 2 engagement programme was built around three key areas as a result of this early engagement:

- Topics that mattered most to patients
- Topics to help understand specific inequalities being highlighted by the EHIA
- Geographical focus where engagement had been less effective.

5.3 Phase 2: The development of options (2020-24)

Phase 2 of the MVCC Strategic Review has focused on developing the possible options for the new MVCC (detailed in full in Section 6). To support the formation of these options a further programme of patient and public engagement was conducted. This built on the information gained from the phase 1 engagement activities and aimed to gain sufficient quantity and breadth of feedback to ensure that the potential options for the redevelopment of the MVCC accurately reflected the needs of the population. The challenges of undertaking this work during the COVID-19 pandemic persisted, with sessions being run online. However, this made it easier for some patients to get involved, and there was flexibility of day of the week (weekday and weekends), and time of day (morning, afternoon and evening) to enable as much involvement as possible.

This phase of engagement included carrying out a wide range of bespoke focus and working groups alongside attendance at established interest groups and the formation of a patient reference group. A feedback report was discussed by the MVCC Programme Board in November 2021.

5.3.1 Phase 2 approach

Methods used to engage patients and the public included:

Distribution of Information: Regular information, including updates following Programme Board meetings, and information about how to get involved, is distributed to a network of over 1,000 stakeholders. This includes communications teams in former CCGs, ICSs, providers, Healthwatch, and Local Authorities within the Mount Vernon Cancer Centre catchment, who use their own networks to further disseminate the information. It also includes 48 MPs within the catchment and 398 patients and members of the public who had registered to receive information as of the November 2021 report.

Website: A dedicated, interactive MVCC review website (mvccreview.nhs.uk) was launched in January 2021. The website had received 18,500 visits[31] and 3,880 document downloads by September 2024. The interactive style of the site enables people to post ideas, stories and questions, amongst other activity.

Focus Groups: Over 100 focus groups on a range of topics, including those with a geographical focus, inequalities focus, and themed working groups. Meetings have taken place virtually over Zoom – the preferred video conferencing platform for the overwhelming majority of participants (this followed some early testing of alternatives). Attendance has ranged from 1-

[31] Cookies are used to count visits so any site visitor that disables cookies will not be counted in these numbers.

15. Feedback received by April 2021 fell into clear themes and individual patient and public workstreams were established to explore in more depth the views, experiences and ideas of patients, carers and local people, along with some workstreams where engagement had been lower than elsewhere, with targeted poster and social media campaigns promoting involvement:

- Transport and Access
- Care Closer to Home
- Patient Records
- Information and Support
- Design and Layout
- Disabled Access and Experience
- Learning Disabilities
- Radiotherapy
- Luton Outcomes
- East Berkshire Access
- North Central London Access.

Telephone Calls / 1:1 interviews: Not everyone likes to participate via video conference, even with cameras switched off, and telephone calls have taken place where that has been appropriate. This includes 90 minute phone interviews of haematology patients, including an inpatient and her partner, to 30-60 minute conversations with individual members of the public to explain the review.

Walking conversations: An experimental covid-safe face to face engagement approach was trialled. It involved walking and talking with a community leader to gain insights into a highly diverse community with high levels of deprivation and low engagement.

MP meetings: Mount Vernon Cancer Centre consultants wrote to 48 MPs in the catchment and invited them to meetings on the site. Several MPs have responded to the offer with a number of meetings having taken place / being arranged.

Newsletters / media: The Mount Vernon Cancer Centre Review has been featured in a number of local media publications, particularly following attendance at Health Overview and Scrutiny meetings, or following the issuing of the stakeholder update which also goes to a number of journalists. In addition, a number of hospital, community and neighbourhood publications have carried information about the review, such as North Central London and North West London publications, a column written by the Chair of the Brent Scrutiny Committee in the Brent and Kilburn Times, Slough CVS, neighbourhood newsletters, foundation trust member newsletters and more. Partner organisations have promoted events by social media, with around 8% of website traffic arriving via social media posts.

Paid for social media campaign: Using algorithms to target geographies and demographics that were underrepresented in the engagement so far, promoting opportunities to engage in topics most relevant to them.

Attendance at meetings: This has included formal attendance at Hertfordshire, Hillingdon, Central Bedfordshire and Harrow Health Scrutiny meetings, as well as informal discussions and meetings with other local authorities. Examples of other meetings include attendances at Herts Valleys Patient Forum, discussions with the Chair of Northwood Resident's Association, virtual visits to a Harrow Somali Women's Group, a Prostate Support Group, and various staff meetings.

Surveys: A survey of radiotherapy patients, and a survey of patients receiving 'virtual' appointments have taken place. Other surveys are ongoing or planned, including surveys of patients in decision clinics at District General Hospitals that refer into Mount Vernon Cancer Centre.

Patient Reference Group: This group is made up of members nominated by Healthwatch organisations and the Cancer Alliance. It meets monthly and has undertaken the Options Appraisal along with stakeholders, reviewed the consultation document and plan (see Appendix 27), and each of the workstream reports, along with other activities.

5.3.2 Inequalities and seldom heard groups

From the outset of the Mount Vernon Cancer Centre Strategic Review, a key aim has been to understand and reduce inequalities in access, experience and outcomes for people who use – or may need to use – cancer services across the catchment. The Equality Health Impact Assessment (EHIA) has run alongside the engagement programme throughout, and has shaped our engagement.

Engagement has been designed to reflect where patients live and where inequalities are most marked. For example, phase 2 locality groups were held in towns across all major flows to MVCC, including those on the fringes, with further activity commissioned where initial engagement had been lower in Luton, East Berkshire (Slough) and North Central London.

Different techniques were trialled, including walking conversations with trusted local community leaders to understand the views of residents in highly diverse, deprived communities with historically low engagement, and a paid social media campaign using targeted algorithms to reach under-represented demographics and geographies and promote opportunities to get involved on issues that mattered most locally – this was used particularly in Slough, Luton and Barnet. For the digitally excluded, word of mouth was the most effective.

Telephone interviews and 1:1 calls have been offered to people, including extended calls with haematology inpatients and carers.

A specific workstream was established for East Berkshire, where engagement was lower than anticipated but it remained challenging. This seemed to be primarily because most people had cancer treatment at their local hospital and had no experience of knowledge of Mount Vernon, and the lack of a clear timeline for agreeing the proposals made it difficult.

The Patient Reference Group has included representatives in proportions reflecting patient flows, and the JHOSC membership is also in proportion to patient flows. Both have been incredibly helpful in championing the experiences of those who may not normally have been heard and advising on communications and engagement methods.

The consultation plan (Appendix 27) explicitly links the number and location of consultation events to activity figures, with proposed face to face meetings and town-hall style events across the catchment. Local ICB and Local Authority and many Healthwatch / VSCE colleagues have shared their knowledge of their populations in developing the detailed plan and selecting the venues in their areas.

While the greatest concentration of engagement has, appropriately, been in areas with the largest patient flows, additional groups, campaigns and bespoke outreach have been used to ensure that outer catchment areas are heard in proportion to their needs, not only their numbers.

Alongside open events, specific work has been undertaken – and is planned for consultation – to reach groups who are often under-represented in formal engagement:

- People living in more deprived communities and low-engagement areas:
    - Work on East Berkshire Access (including Slough) where distance and travel times risk compounding inequalities
    - Work in North Central London where most patients do not use MVCC and engagement was low
    - A pilot cancer transport scheme in BLMK, responding to concerns from people in low-income and zero-hours employment who were struggling to attend treatment because of travel costs and time.
    - Dedicated ‘Luton Outcomes’ work, reflecting Luton’s high deprivation, large Black and minority ethnic population and poorer cancer outcomes
- People with disabilities and long term conditions
    - A ‘Disabled Access and Experience’ group with patients with mobility needs or experience of brain tumour, explored how the current MVCC environment can be unwelcoming for people with mobility needs (e.g. narrow corridors, sloping

reception area, waiting rooms where wheelchairs or rollators block walkways, lack of privacy and dignity) and discussed the impact the Watford site might have on people with disabilities.
    - A dedicated 'Learning Disabilities' group focused on the needs and experiences of people with learning disabilities and autism and their carers, including how to provide accessible information and Learning Disability friendly consultation materials.
- People from ethnic minority communities and culturally specific groups
    - Engagement has included virtual and face to face visits to community groups including Harrow Somali Women's Group, Luton Black Afro-Caribbean Faith in Cancer event, engagement through the Luton Community Cancer Connectors into South Asian, Black Afro-Caribbean and Eastern European communities and discussions with Ukrainian refugees. This has built understanding of cultural and language barriers, such as the taboo nature of cancer in some Black African faith communities which makes it difficult to enable early diagnosis or to support patients through their disease.

Together, these activities provide a more systematic approach to identifying and engaging seldom heard communities than is immediately apparent from headline numbers alone. The feedback from people meeting one or more protected characteristic or health inclusion factor has been similar to the overall feedback. Travel and access remains the primary concern – both at the current site, and at Watford, with the most significant differences in views being geographical.

The most notable exception is the experience of cancer patients from different ethnic backgrounds who are more likely to have a late diagnosis and then potentially significant travel challenges. Whilst patients from Eastern European backgrounds sometimes found the language barrier was an issue, patients from some Black and Asian backgrounds were more likely to decline treatment or seek treatment late. Improving access for these patients could see an increase in patients able to attend their treatment and help improve outcomes.

The learning from this engagement work has fed into the detailed consultation planning with partner organisations identifying communities in their areas such as Harefield Traveller Community, Nepalese British Community in Hillingdon, Hillingdon Older People's Assembly, Afro Caribbean Society, and the Roma Trust.

Planned consultation activities include bespoke community outreach developed with each ICB, local authority and VCSE partners to reach these groups in ways that fit local context – for example through faith leaders, homeless and refuge organisations, age-based charities and community champions, rather than relying solely on formal meetings or online surveys.

Recognising that engaging with those who are seldom heard requires time and connections through trusted partners, and that every area and community is unique and may need different approaches to consultation, around half the consultation budget has been allocated for bespoke community engagement in partnership with or led by local VSCE organisations.

5.3.3 Phase 2 feedback – impact on Options development and proposals

Feedback reports are included in Appendix 11 and an overview of activities undertaken is provided in table 5.2 below.

Overall the feedback at this stage of the programme showed that there was widespread acceptance of the case for change as detailed in Section 4 of this document. Although some affection for the site and buildings was evident, when this was explored in greater depth in the Phase 2 engagement the attachment was found to be centred more on the "family" of staff and less the physical infrastructure. Whilst some people highlighted the value of the extensive green space for a cancer centre, a redeveloped MVCC on an acute site was generally understood to be better positioned to meet the needs of cancer patients. This includes allowing access to more advanced treatments and research; whilst attracting and retaining a skilled specialist workforce.

In addition to the potential benefits to the clinical service, patients also highlighted the need for the review to address issues with access and travel times to receive treatment. These were cited as currently having a greatly detrimental effect on patient experience and influencing patient's treatment choices.

There was greatly varying feedback regarding the potential sites for redevelopment. However, Watford was seen as the most favourable for a large proportion of the patients spoken to, including for some for whom Watford would not be the closest acute hospital site. Patients' view of potential sites was greatly impacted by potential change to travel time.

There was across-the-board support for the development of care closer to home, including chemotherapy at Hillingdon and Northwick Park, and networked radiotherapy in the north of the catchment, with some strong and differing views on where it should be located.

Patients and the public also felt strongly that this should be an opportunity to improve the sharing of patient records between hospital trusts, enable blood tests to be carried out more locally without needing to be repeated at each hospital, and to develop a pathway that felt more joined-up and patient focused.

This feedback has and continues to be used to shape the options for the future MVCC. These options are covered in detail in Section 6.

Some other ways patient insight and involvement has continued to develop the proposal:

- The patient sessions on design and layout resulted in a report that was sent to the architects who completed the feasibility study who then came and spoke to the group to respond to their ideas and concerns. Key areas they were able to agree as important were green spaces and disabled access around the site. They discussed ideas such as a roof garden, inside greenery and having a number of different outside spaces for patients to escape to rather than one large area.
- Following on from the work on green spaces by the building and design patient group, some patients with local knowledge suggested the Colne Valley was being opened up and came along the bottom of the site. Patients suggested clearly signed, accessible walks for patients and the team has committed to exploring this further at design stage.
- Car parking spaces have been included in the capital cost of the building and a potential location identified at Watford General Hospital with dedicated drop off spaces proposed following the work of the patient transport and access group. Further work is going on with partner organisations to look in more depth at the travel issues, particularly for patients from Slough, and for East to West Hertfordshire.
- Through the Patient Reference Group, patients have directly participated in the setting of criteria shortlisting and scoring of options (see section 6.4.1), and reviewing of key documents.

5.3.4 Phase 2 feedback – improvement to current services

As well as helping to shape and develop the options for the future of the cancer centre, patients have highlighted issues that we can do something about now, and through the partnership approach of the programme have been able to begin to make a reality. For example:

- Chemotherapy at home has been introduced to help overcome many of the access issues patients told us about. Patient feedback on the service is extremely positive. Hertfordshire and Hillingdon Scrutiny Committees have received presentations on the new service and the patient reference group and others have expressed an eagerness to see it rolled out across other treatments as soon as it is possible to safely do so.
- Luton and Dunstable Hospital has introduced a new system to ensure blood test results carried out on their site can be viewed and read by consultants at Mount Vernon Cancer Centre, reducing the number of long journeys Luton patients need to make for one of the most deprived populations.
- BLMK ICB is piloting a transport scheme for cancer patients travelling to either Luton and Dunstable Hospital or Mount Vernon Cancer Centre. Luton is an area of low car ownership and high zero hour contracts which means people do not get paid if they take time off work. Feedback from patients and local people suggested that patients were opting not to have treatment as travel was so difficult.

Table 5.2 – Overview of Phase 2 Engagement Activities – see Appendix 11 for more details

Activity	Description	Dates	Insight Gained
Patient Focus Groups	Seven different topics, including a general update and Q&A, clinical model and estates, radiotherapy, and cancer specific subjects. Each of these took place online and each topic was offered across five different days and times, including a Saturday and an evening, and on Zoom or Microsoft Team.	Oct-Dec 2020	• Participants from all areas were eager for the review to succeed with widespread acceptance of the case for change and an overwhelming preference for care to be delivered through a single site model (stronger specialised services, with improved access to a wider range of treatments and research trials) • The staff are thought of incredibly highly, with words like "family" used frequently; keeping them together was a key requirement. • Words like "nightmare" were used to describe the journey and there were examples of people making choices to move their treatment elsewhere or to decline treatment following a bad travel experience. • Watford considered good option by the majority and the best compromise by a number of those who did not consider it the best option (usually based on another hospital being closer to where they live). Hillingdon and Luton were not well considered. • The key concerns for all acute hospital sites was car parking and travel times.
Pathway Groups	Online focus groups to look at: Breast, Prostate, Head and Neck, and Haemato-Oncology Pathways	Oct- Dec 2020	• Priority is for care to be delivered or overseen by a specialist centre. • Particular strengths of the MVCC were the family feeling and the staff. • Desire to reduce travel time including minimising travel to central London or other specialist centre, including by offering satellite radiotherapy. • Want to see more research, trials and cutting-edge treatments offered. • UCLH involvement welcomed.

Locality groups	Explore the implications of each shortlisted option with local people.	January to March 2021.	• 2 groups each in Stevenage, Watford, St. Albans, Hemel Hempstead, Luton, Bedford, Aylesbury, Slough, Harrow, Hillingdon, Brent and Ealing. • Watford was considered to be a good option by most, or the best compromise by others. Even those London participants who were opposed to considering Luton accepted that Watford would be acceptable, largely because it is accessible on the London train network. Many NWL patients said there were good transport links to Watford, and those who drove didn't think it would be difficult as long as there was parking. Watford is accessible by public transport from most of the area. However, public transport across East to West Hertfordshire was noted as being poor, and as such Watford did not offer a significant improvement to travel to patients from East and North Hertfordshire. Hillingdon, Harrow, Brent and East of England residents all confirmed Watford would be an acceptable option. However, there were concerns from participants from all areas about match day traffic given the proximity to the football ground, and parking. Upon testing, these views were confirmed. Participants were keen to understand what the opportunities and risks were in relation to aligning with the new Watford hospital plan. There was limited engagement from East Berkshire, North Central London and Luton and so further campaigns and events were held with these groups.
Working Groups	In depth review of the key issues identified by the patient focus groups.	April and May 2021	• **The Building, Design and Layout group** evidenced that there was clearly an attachment to MVCC for a number of patients, particularly those living closer to the site, but when that attachment was explored in more detail, every participant said it was the staff. There is less attachment to the site the further away from Northwood patients are from, with patients in parts of Hertfordshire and Bedfordshire being most likely to criticise the site and state of facilities. There were concerns about the name of the new hospital, the impact of the football club and what would happen if the Watford new hospital was not built, or if MVCC was considered an 'after-thought' or 'add-on.' There was also concern about ownership of the land and a desire to prevent repeats of some historical issues between estate owner and service provider. Building design features were discussed and architects were invited to respond, green-space was a particular concern, along with

			planning for expansion for future treatments, scanners currently at PSSC to have improved co-location, transfers to Watford to be 'under cover.' Access and parking was a key issue. In terms of clinical areas, there was mixed feedback on the idea of private or communal chemotherapy treatment areas, and the need for varied facilities to cope with different patient needs and treatment times. In radiotherapy improved accessibility in radiotherapy was important, (more patient toilets, better wheelchair access, improvements to privacy and dignity), and there was strong support for satellite radiotherapy. Other areas raised were pharmacy, pathology, diagnostics, outpatients, inpatients, catering, overnight facilities, entrance, waiting and communal areas, and research and development. There was a desire to have haematology in the new MVCC. • **Information and Support** There was extremely positive feedback about the impact of the Lynda Jackson Centre, with numerous examples of the 'lifeline' it offers patients. Patients felt strongly that it needs to be maintained but would like to see it both at the new MVCC and with an outreach services so that patients living further away weren't disadvantaged in what they could get involved with. Feedback from patients on information and support fell into six key areas: physical space (of the information and support function – integrated into the cancer centre), facilities, activities, information provision, staffing and organisation, and local services. • **Low responding Geographic groups / Inequalities** Luton is the most deprived area within the MVCC catchment and has a large black and minority ethnic population and some of the worst cancer outcomes. People have expressed concern that you are already more likely to die of cancer if you live in or around Luton and in other areas and if the cancer centre moved further away, this would be made worse. There was also concern about Slough, whilst patient numbers are lower, the challenges are similar as for Luton. Hertfordshire patients felt there were rural areas of Hertfordshire with older populations that could be equally disadvantaged due to lack of good transport networks. • **Disabled Access** This group heard explored some of the challenges with the current site. Patients living with disabilities find the design of the hospital unwelcoming, with narrow

			corridors and a slope at reception which makes it difficult to wait with a rollator or wheelchair. There are also problems with wheelchairs or rollators not always fitting in clinic rooms or blocking walkways. This means that disabled patients are sometimes left somewhere 'out of the way' to wait, making it difficult to get help when needed. The concern with Watford was the steep slope the site sits on, and plans needed to ensure that patients with disabilities or debilitating medical conditions did not need to traverse the hill to get treatment. • **Learning Disability** This group heard that there is good support for patients with learning disabilities at the current service, with dedicated staff. This should continue or expand. Involving people with learning disabilities and their carers in the design of the building and in developing learning disability friendly copies of the consultation material would be extremely important. • **Radiotherapy** There was a strong push for radiotherapy at Stevenage, and a strong argument also made for Luton, with stories of patients from both areas refusing treatment or choosing surgical alternatives because of the impact of long and difficult journeys. People in Slough also wanted better access to radiotherapy. • **Care Closer to home** Other than transport and access, the next most commonly raised issue throughout the engagement was the amount of travelling to MVCC for reasons patients thought could have been dealt with more locally – blood tests, covid tests, PIC line insertion. Many of these patients had to travel long distances for these simple procedures. Where local hospitals or GP practices could safely provide services, patients wanted to be able to have tests locally ahead of treatment at MVCC, to reduce the amount of travelling required to MVCC, and for MVCC clinicians to be able to access test results undertaken elsewhere. Proposed chemotherapy and networked radiotherapy developments were extremely welcome, as long as the different sites could see the records. • **Patient records** There were multiple stories of patients having duplicate tests because hospital records were not transferable, or x-rays not being available across the different

			hospitals that were sharing their treatment. Some patients had taken to carrying their own patient records with them because there had been so many occasions doctors had not had access to the information they needed. • **Transport and access** Transport and access has consistently been the main theme raised in any discussion about changes to cancer services. The ability to have a stress-free journey and park easily is important to patients attending cancer treatments, as is the cost of travel. Feedback suggested the travel analysis was optimistic. However, this was consistent in all areas to all sites, so would not have changed the overall conclusion for the proposed Watford site. Watford had the smallest negative impact on travel times overall of any acute hospital site. Public transport links, parking and patient transport were key concerns. Participants in NWL were more likely to be concerned about public transport access to a new site, whereas patients from the East of England felt that public transport access was so poor at the moment, long journeys were normal for them, but they did think this was an opportunity to make improvements. Participants in the East of England were more likely to drive, with most participants experiencing driving times in excess of an hour each way – there were plenty of examples of more than 90 minutes and someone speaking on behalf of people using patient transport or the bus reported journey times of 5-6 hours. Public transport, walking, cycling, mobility access, car access and parking where all explored in some depth.
Patient Reference Group	Representatives geographically proportionate to the patient numbers at MVCC, examine how patient and public feedback is used.	Ongoing, monthly starting on 4th Dec 2020	• This Group was satisfied that the preferences of stakeholders was reflected in the proposal. • The group took part in the scoring of options, setting of criteria, reviewed the Equality Impact Assessment and reviewed each of the working group reports. • The group comprised representation from East and North Hertfordshire, Herts Valleys, Hillingdon, Harrow and Bedfordshire. Representatives were put forward by Healthwatch and Cancer Alliance organisations. The group particularly emphasised the importance of considering patient access, and local and one-stop provision where possible.

5.3.5 Staff engagement

Staff at MVCC have been an important source of insight into how service changes may affect patient care and health inequalities, and on the impact on themselves.

In early engagement, staff and patients participated together in six events sharing views on the initial two clinical models and the importance of maintaining continuity and quality of specialist care. Specific staff workshops were also held and there was a universally held view that the service needed to be relocated to an acute site.

Staff perspectives have been captured through various staff meetings held as part of a rolling engagement programme, alongside other forums, workshops and interviews to explore the impact of the proposals. It has been challenging to maintain their engagement due to the length of time the programme has taken to progress and staff have expressed their frustration with the delays. However, recent conversations with frontline staff confirm that they remain enthusiastic for the proposals to go ahead.

5.4 Next Steps

5.4.1 Ongoing Phase 2 engagement

Following the completion of the working groups, Phase 2 continued with open events to keep stakeholders informed, answer queries and provide the opportunity to get involved in the ongoing development of proposals. Updates are included in Appendix 11.

Due to the length of time of the programme and lack of capital solution, most attendees asked instead to be informed if anything changed, and the groups stopped in 2023. The patient reference group reduced its meeting frequency, eventually agreeing in summer 2023 to delay the next meeting until the programme was in a position to progress. The group resumed in May 2024 and has been meeting monthly since.

In May 2024, ICB and regional engagement leads agreed to mobilise some MVCC engagement events and a communications plan to refresh the case for change prior to consultation, and plan for public consultation. Discussions have also taken place with key local groups, including the Northwood residents' association as well as 13 Health Overview and Scrutiny Committees and a number of Health and Wellbeing Boards in the catchment.

5.4.2 Public Consultation

Following review of the PCBC, assurance and approval of this case, a formal public consultation is planned to ensure more formal consultation and feedback on the proposed plans for the future of MVCC. This consultation will be led by the NHS England Engagement

team on behalf of all commissioners and will adhere to both the guiding principles and NHS England Statutory guidance. The team will be supported by colleagues from the three regions and the six ICBs through an engagement and communications planning and delivery group.

NHS duties to involve or consult with patients and the public are set out in the National Health Service Act 2006 (as amended) and in Statutory Guidance (Publication no: B1762, NHSE, July 2022). More detail on the legal duties is included in the consultation plan at Appendix 27. DHSC applies a test of strong patient and public engagement to service change proposals, as does the London Mayor's Office, and the consultation plan and delivery will need to satisfy both that meaningful patient and public consultation has taken place. In particular, the Gunning Principles will need to be met. These have formed a strong legal foundation from which the legitimacy of public consultations is assessed. They require that:

- Proposals are still at a formative stage: a final decision has not yet been made, or predetermined, by the decision makers at the time of consultation
- There is sufficient information to give 'intelligent consideration': The information provide must relate to the consultation and be available, accessible and easily interpretable for consultees to provide an informed response.
- There is adequate time for consideration and response: There must be sufficient opportunity for consultees to participate in the consultation.
- 'Conscientious consideration' must be given to the consultation responses before a decision is made: Decision-makers should be able to provide evidence that they took consultation responses into account

Legal advice on consultation has been sought from Capsticks who have been advising throughout the development of the PCBC and attending the Strategic Review Programme Board. An independent review of the consultation feedback and plans to respond to feedback will ensure that the consultation is meaningful and patient and public views have the opportunity to further shape the plans.

A number of Health Scrutiny Committees have been engaged throughout the review, including in Hillingdon, Hertfordshire, Harrow, Luton, Brent and Bedfordshire. In total, the team is in direct contact with 13 Health Overview and Scrutiny Committees, 10 of which have agreed to form a Joint Health Overview and Scrutiny Committee (JHOSC) of 17 members which will be chaired by the chair of Hertfordshire Health Scrutiny Committee. The remaining three have very small patient flows into Mount Vernon (Barnet, Bracknell Forest and Windsor and Maidenhead).

A consultation plan has been developed and supported by the MVCC Joint Health Overview and Scrutiny Committee (see Appendix 27). It is supplemented by a highly detailed plan outlining activities during the consultation period. The plan aims to ensure the consultation process is meaningful and inclusive and that those individuals and groups most likely to be

impacted are fully engaged and their voices are particularly clearly heard and considered before decision are made. It will do this through:

- Gathering feedback from patients, staff, stakeholders and local residents, including those from seldom heard and underserved communities - making it as easy as possible to comment through a choice of channels and reaching out effectively to ensure people are aware of the consultation and how to contribute.
- Obtaining feedback relevant to the consultation proposals while retaining flexibility and valuing all contributions - testing strengths and weaknesses, exploring how proposals will impact and potential mitigations, and considering issues relevant to implementation.
- Securing a mix of both quantitative and qualitative feedback to develop understanding of participants' views which are as rich and detailed as possible.
- Where rooted in the data, indicating where there is majority agreement and where there are differences held by different groups or people in different areas.
- Capturing all feedback from the consultation within a single analysis and report to enable decisions to be fully informed

Methodology will be varied to enable as broad participation as possible, with budget specifically set aside to work with VCSE organisations to engage seldom heard groups in different areas in ways that are relevant and meaningful to them.

The consultation will focus on hearing the patient and public's views on the proposed options for the redevelopment of the MVCC, detailed in Section 6. The product of the consultation will be a formal consultation report that will be used to shape the Decision-Making Business Case (DMBC).

Section 6: Options

This section explores the process through which the options for the future of MVCC services were initially developed for the Preliminary Reprovision Business Case in 2021, as well as the way in which these options have been re-tested and modified to result in a recommended proposal to be tested at public consultation. This process is summarised in Appendix 4.

In development of the options for the Preliminary Reprovision Business Case (2021), this section explores:

- Development of the clinical model for the future of MVCC services
- Shortlisting the site options
- The North West London proposal for change
- How the case for Networked Radiotherapy was assessed and developed.

The options were appraised against the criteria agreed by the MVCC Strategic Review Programme Board in July 2019.

The proposed reprovision option is then explored in greater detail with description of:

- The development of the functional brief and schedule of accommodation
- The development of an activity plan
- Feasibility assessment and development of initial design for a new MVCC at Watford
- Detail of proposals for North West London
- Proposals for Networked Radiotherapy.

Following development of the preferred option as described in the Preliminary Reprovision Business Case in May 2021, further work was undertaken at the request of the NHSE Director of Finance to re-examine the options, refine the initial preferred reprovision option and consider if there were any alternative, preferable options. This work is described in section 6.4 and concludes with a recommended and preferred option for the future of Mount Vernon Cancer Centre services.

6.1 Development of the options for the future of MVCC services

A clear case for change was articulated in section 4 and broad support for this has been shown through extensive patient, public and stakeholder engagement (as described in section 5).

The Independent Clinical Review (2019) identified a number of options for the future of MVCC clinical services, and table 6.1 outlines the longlist of options which were considered, with identification of the clinically acceptable options.

Table 6.1 Independent Clinical Review (2019) options for the future of the MVCC service

Long List Description	Panel View	Rationale
Do minimum. Minimal investment to the buildings currently on site, and no change to the clinical delivery model.	This option is not considered clinically acceptable	The safety and sustainability of the MVCC services could not be achieved with this option. A number of high clinical risks have been identified if services do not change in major ways.
Full replacement (non-acute site) – replacement of existing facilities (including inpatient facilities, radio pharmacy and nuclear medicine) on the current (or alternative) site. Aseptic services provided on or off site. No change to the clinical delivery model.	This option is not considered clinically acceptable	This option does not address the need for comprehensive acute service support in the delivery of tertiary cancer care, a clearly identified clinical risk.
Full replacement (acute site) – replacement of existing facilities (including inpatient facilities, radio pharmacy and nuclear medicine) on an acute hospital site, co-located with ITU facilities. Aseptic services provided on or off site.	This option is considered clinically acceptable	• This option would require the build of a new integrated cancer centre on an acute DGH site. • This should preferably be close to the existing MVCC site and central to the existing catchment area to maintain patient access. Leadership for the centre should be through an existing London based tertiary cancer centre. • Services in the new build must include: o Oncology inpatient beds o All types of radiotherapy and appropriate radiotherapy planning facilities o Dedicated oncology teams of nursing staff and AHPs o Access to anaesthetics / theatres for brachytherapy services o Nuclear medicine and radio pharmacy services (preferably integrated with local isotope service) o Chemotherapy day case unit o Aseptic services for oncology pharmacy capable of manufacturing licence o Paul Strickland imaging centre o Linkages to existing hospital o Outpatient clinics o Medical physics hub o Consultant offices o Office for SpRs o Clinical trials offices • Additional radiotherapy satellite provision in the north of the catchment area would be preferable. • A networked chemotherapy service run from the cancer centre on acute DGH sites would be preferable.
Majority replacement – all non-inpatient services provided within a new build MVCC, including radio pharmacy and nuclear medicine. Inpatient ward and brachytherapy relocated to an existing acute tertiary cancer centre site/DGH acute site. Aseptic services provided on or off site. No satellite radiotherapy.	This option is not considered clinically acceptable	The option of building up all but inpatient services on the existing MVCC site and relocating all acute inpatient services to a DGH would largely reproduce current clinical risks and result in lack of cohesion of service delivery.
Ambulatory Hub: ambulatory hub at MVCC providing radiotherapy, chemotherapy and outpatients. Onsite radio pharmacy and nuclear medicine. Aseptic services provided on or off site. Inpatient ward and brachytherapy relocated to acute tertiary site/DGH acute site. Development of new satellite radiotherapy in the north of the patch (e.g. Stevenage or Luton)	This option is considered clinically acceptable	• This would comprise a new build on an acute site with an ambulatory service for radiotherapy (4 linacs) and chemotherapy remaining on the existing MVCC site. • Leadership for the centre should be through an existing London based tertiary cancer centre. • Services in the new build on an acute DGH site must include: o Oncology inpatient beds o Some radiotherapy especially for the most complex radiotherapy e.g. chemo radiotherapy for head and neck cancer. o Dedicated oncology teams of nursing staff and AHPs o Access to anaesthetics / theatres for brachytherapy services o Nuclear medicine and radio pharmacy services (preferably integrated with local isotope service)

		o Chemotherapy day case unit o Aseptic services for oncology pharmacy capable of manufacturing licence o Paul Strickland imaging centre o Linkages to existing hospital o Outpatient chemotherapy suite services o Outpatient clinics o Medical physics hub o Consultant offices o Office for SpRs o Clinical trials offices • Additional radiotherapy satellite provision in the north of the catchment area would be preferable as would networked chemotherapy with a single governance arrangement run from the cancer
Distributed model, with satellite radiotherapy – split all MVCC inpatient, outpatient and ambulatory activity across neighbouring tertiary cancer providers with satellite radiotherapy in the north of the patch (e.g. Stevenage or Luton).	This option is not acceptable	Based upon the review findings, this option would result in: • The loss of expert oncology workforce due to the further demoralisation of the workforce (as there was a clear consensus that this would not be acceptable). • Patient access may also be impacted with a proportion of existing patients having to travel further • The loss of a long established service, highly valued by patients

The Strategic Review has built upon this analysis to develop the Options through:

- Development of a recommended clinical model
- Shortlisting possible future site options
- Further patient and public engagement on the options.

This section describes the process to reach an agreed list of options for the future service re-provision, and then appraises these options to inform the recommended way forward for the service.

6.1.1 Development of the clinical model

Between August and December 2020, extensive work was undertaken to develop a Clinical Model for the future of MVCC services. As detailed above, the Independent Clinical Review had shortlisted the following two options as appropriate for consideration:

- Full Replacement on an Acute Site
- Main Site with an Ambulatory Hub on MV site.

Both options included the possibility of satellite radiotherapy.

The clinical workstream explored the clinical rationale for its preferred model of care, considering a broad range of inputs:

- Data collated by the Cancer Alliance, considering activity, market share, tumour pathways, workforce, outcomes and activity forecast
- A focussed literature review which considered the impact of a patient's travel time to the treatment centre and access to a multi-professional team on outcomes and experience
- Patient engagement during October-November 2020 which included although was not restricted to discussion of the options (see section 5.2)

- Staff engagement to inform the review as a whole but also particularly to inform and feedback on the proposed clinical model
- ICS engagement – the 6 key Integrated Care Systems were asked to provide information on their cancer strategy, share any local data and confirm any proposed changes that would affect the review.
- Learning from other NHS specialist cancer centres, Clatterbridge Cancer Centre and Leeds Cancer Centre, both of whom have been through the process of relocation of a standalone cancer centre onto an acute hospital site
- Review of the relevant National Service Specifications for chemotherapy, radiotherapy, brachytherapy and molecular radiotherapy.

The Clinical Model paper included at Appendix 2 details each of these inputs in full.

Following consideration of the inputs outlined above, the Clinical Workstream developed a clinical vision and key principles for the MVCC service as a whole:

MVCC Clinical Vision & Principles

Mount Vernon Cancer Centre should be a specialist, tertiary, regional non-surgical cancer centre. It should facilitate access to innovative, high quality and efficient services, within the Cancer Centre or closer to home, by harnessing technology. It aims to ensure equity of access, excellent outcomes and exemplary patient experience.

As well as specialist treatment and diagnostics, patients should have access to clinical trials and the full range of supportive care services during their treatment and follow up. Mount Vernon Cancer Centre should provide system leadership, working in partnership with all referring local hospitals to ensure they are also able to provide high quality care to cancer patients, as appropriate.

- *MVCC should be a consolidated centre of excellence for specialist cancer care, of sufficient size to attract and retain the specialist workforce needed to deliver the full range of specialist treatments, with the ability and opportunity to innovate to deliver best patient outcomes and experience.*
- *The range of treatments provided should be such that patients from the MVCC catchment should only expect to have to travel long distances (e.g. to central London or Cambridge) for very specialist care e.g., very rare cancers, very specialist cancer surgery/interventional procedures, BMT, CAR-T Cell therapy. To ensure this, the MVCC service must have adequate infrastructure and be future-proofed such that it can both respond to and generate new developments and innovations in cancer care*
- *MVCC services should be configured to enable patients to minimise travel for services, for example with virtual clinics, self-managed follow up, diagnostics carried out locally & one stop/ same day services. Services must be digitally enabled and integrated to do this effectively.*
- *MVCC must work in a network which facilitates care closer to home wherever possible and appropriate. Opportunities to deliver diagnostics, simple interventions, SACT and radiotherapy closer to home than at MVCC, but as part of the networked, specialist care that MVCC provides, should be explored.*

Detailed proposals by service-type also allowed the Clinical Workstream to consider whether each part could or would be best achieved through the full replacement option or ambulatory hub at MVCC option as recommended by the Independent Clinical Review. The full outline of this service by service assessment is included in the Clinical Model paper (Appendix 2). For example, in the case of brachytherapy, this service requires theatres and anaesthetic input, along with inpatient beds for some patients, and of course most importantly, radiotherapy infrastructure and expertise. This means that it must be based adjacent to an acute hospital site, but also means that there must then be radiotherapy on that site as well.

While there are certainly elements of the service that could continue to be delivered at an ambulatory hub at the current site, the preferred option for all parts of the service was the full replacement option, within a strengthened network of oncology provision. This model should provide the best opportunity to fulfil the dual objectives of bringing care closer to home while at the same time ensuring access to the most up to date treatments.

Key benefits for the model of full replacement as compared with retaining an ambulatory hub at MV:

- *Full replacement and focussed development of a comprehensive Cancer Centre Hub better enables structured delivery of a networked model of care. The choice of any ambulatory 'spokes' of this service can then be assessed based on population need, not a legacy location, and delivered in partnership with local referring hospitals.*
- *Full replacement, consolidation and clinical adjacencies ensures the clinical infrastructure to enable repatriation of specialist cancer services work from central London (notably UCLH)*
- *Access to medical and surgical specialty support benefits the full range of cancer care – inpatient and outpatient, and ensures certain patient groups are not disadvantaged. The increasing complexity of cancer care alongside the increasing requirement to manage cancer patients with additional co-morbidities make these clinical adjacencies increasingly critical to a specialist cancer centre.*
- *Critical mass and the specialist cancer workforce – delivery of the future clinical model hinges on the specialist cancer workforce; ensuring a model which is attractive to staff in terms of the clinical specialism, experience, training and development and research opportunities is key. Education and training opportunities are particularly enhanced by a comprehensive Cancer Centre hub. In addition, to ensure it is possible to have the full range of very specialist multi-professional staff supporting complex cancer pathways, a certain size of service is needed.*
- *Future-proofing – consolidation of services on a site adjacent to and connected to acute hospital facilities gives the best opportunity to future proof the service to respond to the as yet unknown future requirements of specialist cancer care.*

At its December 2020 meeting, the Strategic Review Programme Board supported this clinical model and its recommendation to plan for a full replacement of MVCC services on an acute site, whilst also developing plans to strengthen access and care closer to home. It went on to

shortlist site options for the new MVCC, described in the next section. Subsequent work was then undertaken to further assess the case for satellite or networked radiotherapy and also to consider how we improve the provision of care closer to home.

6.1.2 Shortlisting the Site options

In October 2020, a list of the essential criteria was developed to support decision making on the possible shortlist of future site options for MVCC. As detailed in section 5.2, this was informed by the first phase of patient engagement. Full details of this proposal are included at Appendix 9, with information on how criteria and weighting were developed at Appendix 9B. Three essential areas were identified:

1. *Critical care access*
   In line with the Independent Clinical Review, this was identified as essential for the appropriate care of specialist cancer patients.
2. *Geographical Access*
   Any re-provision on an alternative site should not represent a material deterioration in patient access. This was identified as an important consideration by the Independent Clinical Review and patient engagement.
3. *Other co-located clinical services*
   Independent Clinical advice should be sought on the necessary clinical adjacencies (over and above critical care) for the delivery of modern specialist cancer care.

Clinical adjacencies

The Strategic Review Programme Board commissioned an independent piece of work to detail the directly adjacent clinical services that would be needed to optimise the provision of specialist cancer care. This review was carried out by Professor Peter Clark, Consultant Medical Oncologist at Clatterbridge Cancer Centre and National Cancer Drugs Fund Clinical Lead, and his report is included in full at Appendix 12.

This report confirmed the complex support requirements for specialist cancer services, given the changing nature of anti-cancer treatments and the changing demography of the cancer patient. The Strategic Review Programme Board supported its recommendation as follows:

> *"The clinical hub of the MVCC needs to be co-located on the same geographical site as an acute hospital offering a wide variety of acute services. Such a position not only maximises the benefits to patients in MVCC but also greatly contributes to cancer care in the acute hospital."*

Geographical Access impacts of possible site options

It was agreed that any option for reprovision for service elements on an acute site should not represent a material deterioration in patient access (by private or public transport), and that

this was a pre-requisite to the short list. Full analysis of the access impacts was completed for each of the possible site options within the catchment and is included at Appendix 3a.

Shortlist of site options

Analysis against the essential criteria was completed and is summarised in Table 6.2, with further detail in Table 6.3:

Table 6.2: Acute sites, mapped to essential criteria

Acute site	Critical Care (Note 1)	Co-located services (Note 2)	Average travel time (Note 3)	Increases in 30 min drive times (Note 4)	Public transport (Note 5)
Bedford	✔	✔			
Harefield	✔		✔	✔	
Hillingdon	✔	✔	✔	✔	
Lister	✔	✔			
Luton	✔	✔	✔		
Northwick Park	✔	✔	✔		✔
Stoke Mandeville	✔	✔			
Watford	✔	✔	✔	✔	✔
Wexham Park	✔	✔			

Notes to Table 6.2

- **Note 1:** On-site critical care unit
- **Note 2:** On-site co-located services with specialties as outlined at Appendix 12
- **Note 3:** There should be no material (5 minutes per journey) deterioration in average travel time for population served – see Appendix 3a, Table 7 (slide 18)
- **Note 4:** There should be no significant increase (5 percentage points) in the proportion of patients with long (30 minutes or more) travel time – see Appendix 3a, Table 9 (slide 20)
- **Note 5:** There should be no material (5 minutes per journey) deterioration in travel time by public transport for the population served – see AND no increase in the proportion of patients travelling more than 75 minutes (each way) – see Appendix 3a, Tables 8 and 10 (slides 19 and 21)

On the basis of this analysis, there was only one acute site which met the essential criteria (Watford General Hospital), although deterioration in average travel times were marginal at Hillingdon and Northwick Park. The Programme Board noted however that average travel times mask a significant variation by CCG. For high volume CCGs with existing long travel times (particularly East and North Herts, Bedfordshire and Luton) a move further towards London would lengthen these travel times. Particular concerns were raised by ICS and patient engagement which suggested that the longer journeys to either Hillingdon or Northwick Park would not be acceptable for large proportion of patients who would be adversely affected by these site locations.

This issue of acceptability, and current long travel times, particularly affected BLMK ICB and part of the HWE population. Together patients from these ICBs represent the majority of patients attending MVCC. The Programme Board also recognised that cancer outcomes in BLMK ICB were below average and while the causality is multi-factorial it is acknowledged that difficulties in access impact on radiotherapy uptake and consequent impact on outcomes (Appendix 4).

Relevant areas which were therefore considered by the Programme Board included:

- ICS cancer strategies and acceptability (see Appendix 5A)
- Disparity in geographical access by former CCG area (see Appendices 3 and 4)
- Deprivation
- Patient engagement feedback (see section 5 and Appendix 11)

The consideration of these broader areas led the Programme Board to support the exclusion of these other two possible sites which did not meet the essential criteria set by the programme board. It concluded that only the Watford General Hospital site should be put forward for a full options appraisal (see section 6.2). As was described in section 5, this approach was further tested with patients as well.

Table 6.3: Essential criteria, by acute site

Acute site	Essential criteria
Bedford	Site could deliver critical care and acute specialty adjacencies, however: • the average drive time would increase from 31 minutes to 50 minutes • the proportion of patients with journey (drive) times in excess of 30 minutes would increase from 51% to 93% • the proportion of patients with public transport times in excess of 75 minutes would increase from 61% to 90%, and average public transport journey time from 87 minutes to 116 minutes.
Harefield	Harefield Hospital is close to the current MVCC site, however: • as a specialist Trust does not have all of the acute adjacencies required by the independent clinical advisory panel (see Appendix 1) The location would meet the travel times, and offer an improvement for many patients, however: • the proportion of patients with public transport times in excess of 75 minutes would increase from 61% to 70%.

Hillingdon	Site could deliver critical care and acute specialty adjacencies. Travel times were within the criteria, showing a marginal increase in average drive times (additional 2 minutes), and an increase in the proportion of patients with a drive time of more than 30 minutes from 51% to 56%. In relation to public transport: • the proportion of patients with public transport times in excess of 75 minutes would increase from 61% to 63% (*NB given the size of this difference; further discussion was required by the Programme Board*).
Lister	Site could deliver critical care and acute specialty adjacencies, however: • the average drive time would increase from 31 minutes to 40 minutes • the proportion of patients with journey (drive) times in excess of 30 minutes would increase from 51% to 76% • the proportion of patients with public transport times in excess of 75 minutes would increase from 61% to 85%.
Luton	Site could deliver critical care and acute specialty adjacencies, and has a marginal increase in average drive time from 31 to 33 minutes, however: • the proportion of patients with journey (drive) times in excess of 30 minutes would increase from 51% to 61% • the proportion of patients with public transport times in excess of 75 minutes would increase from 61% to 83%, with an increase in the average public transport travel time from current 87 minutes to 105 minutes.
Northwick Park	Site could deliver critical care and acute specialty adjacencies. Travel times were within the criteria, showing a marginal increase in average drive times (additional 1 minute), and an improvement in the proportion of patients with public transport times in excess of 75 minutes from 61% to 42%. • In relation to the proportion of patients with a drive time of more than 30 minutes, the proportion would increase from 51% to 57%. (*NB given the size of this difference, further discussion was required by the Programme Board*).
Stoke Mandeville	Site could deliver critical care and acute specialty adjacencies, however: • the average drive time would increase from 31 minutes to 45 minutes • the proportion of patients with journey (drive) times in excess of 30 minutes would increase from 51% to 93% • the proportion of patients with public transport times in excess of 75 minutes would increase from 61% to 97%.
Watford	Site could deliver critical care and acute specialty adjacencies. Travel times were within the parameters, showing no change to average drive time, an improvement in the proportion of patients with public transport times in excess of 75 minutes from 61% to 53%, and a marginal increase in the number of patients travelling more than 30 minutes (drive time) from 51% to 52%.

Wexham Park	Site could deliver critical care and acute specialty adjacencies, however: • the average drive time would increase from 31 minutes to 41 minutes • the proportion of patients with journey (drive) times in excess of 30 minutes would increase from 51% to 74% • the proportion of patients with public transport times in excess of 75 minutes would increase from 61% to 89%, with an increase in average public transport journey time from current 87 minutes to 113 minutes.

6.1.3 Care Closer to Home: The North West London ICS proposal for change

North West London (NWL) ICS strategically supports the opportunity to deliver cancer care closer to home, where clinically appropriate. The proposed site move of MVCC to Watford means that additional travel times will be necessary for patients from South Hillingdon, Brent, Ealing and Harrow, and therefore as part of the wider MVCC Strategic Review Programme, and in response to patient feedback in the early stages of the review (see section 5.2.1), NWL reviewed how chemotherapy and radiotherapy could be delivered nearer to home.

The delivery of Systemic Anti-Cancer Therapy (SACT) and supportive care services at Hillingdon Hospital and Northwick Park Hospital (London Northwest Healthcare NHS Trust) would reduce travel times once MVCC has moved (noting that some patients will be able to have their chemotherapy at home, and avoid travel altogether, in a model currently available at MVCC and expected to be extended). London North West and Hillingdon already have considerable shared working with MVCC Oncologists who support patients across their patient pathway working across both the Cancer Centre and Cancer Units. Ensuring that less complex treatments can be delivered in these NWL Trusts, supports the aim of improving the networked model of care as agreed in the Clinical Model.

Similarly, there is support for increased delivery of radiotherapy within NWL, mostly at Hammersmith hospitals (Imperial College Healthcare NHS Trust) for some patients, aligned with improved access, patient choice and patient pathway considerations. As described in section 5.2.1, these proposals for North West London led to increased support for patients for the identification of Watford as the preferred future site for any reprovision.

6.1.4 Assessing the case for Networked Radiotherapy

The Independent Clinical Review highlighted the need for further consideration of a secondary satellite radiotherapy site to improve access to the large MVCC catchment. Currently, although the average patient travel time by car is 32 minutes, 18% of patients have a journey of over 45 minutes each way. Travelling distances for radiotherapy at MVCC have therefore long been identified as a challenge for some patients and this has continued to be a theme highlighted through the patient engagement (see Section 5). The agreed Clinical Model also supported the need to consider this further, rebadging the concept of a satellite

radiotherapy unit as a Networked Unit. This description aims to emphasise its role in the network of care to be provided by MVCC, but also the way in which this second site unit would be a fully integrated part of the MVCC radiotherapy department, operating the same protocols and systems, using the same IT systems and purely providing an alternative location for patients to attend for their treatment.

Following the identification of a shortlisted site option for the re-provision of MVCC, the Programme Board agreed on a process to consider whether there was a case for Networked Radiotherapy as part of the future re-provision of MVCC services. The full detail of the process is outlined in Appendix 6.

The MVCC Strategic Review Programme Board supported the recommendation that Networked Radiotherapy in the north of the catchment should be included in the preliminary business case proposal for the re-provision of MVCC services, due to the ongoing need to address access challenges in the catchment. This was in line with early patient engagement work as described in section 5.2.1. Luton & Dunstable Hospital (Bedfordshire Hospitals Trust) and Lister Hospital (East & North Herts Trust) were both identified as possible locations, and both organisations expressed their support for hosting the Networked Radiotherapy Unit. In 2021, the Programme Board agreed that more work should be done to consider both site options and that Networked Radiotherapy should be considered as part of the consultation. This is described in more detail in section 6.4.2.

Frimley Health and Care ICS

Patients from Frimley Health and Care ICS make up a small proportion of the overall MVCC patient population but the ICS has noted a number of challenges for their diverse population, noting distance to travel for radiotherapy and low radiotherapy uptake. Analysis demonstrates that access for this population would marginally deteriorate by re-provision at Watford, or a Networked Radiotherapy Unit in the north of the catchment. This was noted in development of the Preliminary Reprovision Business Case in 2021, and subsequently, Frimley Health and Care ICS have continued transformation work to look at access to services for their population.

6.2 Initial assessment of the options - 2021

The process described above led to a clear recommended option for the future of MVCC services in 2021; a full replacement of the current services on the Watford General Hospital site, with additional service changes to bring care closer to home for NWL patients, with Networked radiotherapy at either Luton or Stevenage. For completeness, however, the Preliminary Reprovision Business Case also gave some high level comparison with two other options, even those which were not considered to be clinically acceptable by the Independent

Clinical Review. The following options were assessed against the criteria agreed by the MVCC Strategic Review Programme Board in July 2019:

Option I - Do minimum:

This option would retain some services on site but inpatient beds and brachytherapy (as a minimum) would need to move onto an acute site (as per recommendation of the Independent Clinical Review). Investment in the site would be required to ensure safety of facilities remaining on the site. It is believed that the detrimental service impacts of Option I would result in Option III within the medium term.

Option II - Re-provide the services on an acute site:

The proposed clinical model would see:

- A specialist cancer centre at the Watford site, able to deliver complex cancer care, trials and innovation to the MVCC catchment. This would also enable repatriation of some work currently delivered at other specialist centres.
- A networked chemotherapy model, with complex chemotherapy delivered from the cancer centre, and remaining chemotherapy in DGH services, closer to home.
- Radiotherapy delivered from the cancer centre (with potential for a Networked Unit in Luton or Stevenage) delivering a significant reduction in travel times to patients. The reduced travel times would improve equality of access to services for deprived populations, particularly in the Luton and Watford areas.

Option III - Dispersal of the services:

- If no consolidated future for the service can be secured then one option is to close MVCC and disperse services across the East of England, London and the South East. This would require investment in infrastructure in existing radiotherapy centres and in DGH and specialised chemotherapy centres as well as significant reconfiguration of a number of clinical pathways. It would result in dis-improvements to access for patients, with this large patient population being left with no specialist cancer centre.

6.2.1 Criteria for assessing the options

The table (6.4) overleaf shows the criteria for assessing options which were developed through extensive stakeholder input, and were agreed at the Strategic Review Programme Board on 4 July 2019. Appendix 9b documents the full information that was used by the programme board to agree these criteria and weightings at that time.

Table 6.4 Criteria for assessing options - Agreed at Programme Board on 4 July 2019

Stage 1 – Quality Criteria				
	Criteria	**Sub-criteria**	**Description**	**Weighting**

1	Quality of care	• Patient safety
		• Clinical effectiveness
		• Quality of patient environment
		• Continuity of Care
			• Safe pathways for patient care (including patient transfer, and shared pathways). Meet requirements for co-location of critical services, including specialist imaging
			• Meet required quality and regulatory standards, including compliance with:
			  ○ NICE guidelines.
			  ○ specialised commissioning national service specifications
			  ○ cancer waiting time standards
			  ○ recommended best practice cancer pathways
			• Aspire to "outstanding" CQC compliant services
			• Access to specialist equipment and fit for purpose estate
			• Pathways should deliver continuity of care for patients where possible.
				24%

2	Patient and carer experience (including access to services)	• Distance and time to access services • Patient and carer experience • Service availability	• Impact on population travel times, peak and off peak, non-emergency • Personalised care, patient choice in respect to treatment options. • Ensure patient involvement in decisions about their care and in improving services. • Operating hours of services, access to services out of hours, potential to increase access to 7 day services.	15%
3	Sustainable workforce	• Staff impact • Sustainability	• Impact of options on staff recruitment and retention. • Future sustainability of options for each sector of the workforce e.g. medical, nursing, AHP, support staff, also taking into account the impact on the wider workforce (in addition to MVCC staff)	17%
4	Training and education	• Impact on training and education	• Ability to meet training and education requirements, e.g. Royal Colleges • Impact on opportunities for career development.	10%
5	Research and innovation	• Impact on research and innovation	• Aspiration and ability to engage in research programmes, including broad range of research studies, and academic research. • Ensure consideration of potential joint working between centres on research studies providing better access to clinical trials for patients.	11%
6	Deliverability	• Timescale • Transition arrangements	• Timescale for implementation of changes, with assumptions to include assessment of likely availability of buildings/land. • Ensure effective mitigations in place to manage challenging timescales. • Ensure the ability to transition services to a new model whilst sustaining safe services compliant with constitutional standards.	13%

7	Strategic alignment	• Strategic alignment	• Alignment to STPs plans, Trust strategic plans, Cancer Alliances and NHS long-term plan • Impact on interdependencies, including partner organisations	10%
Stage 2 - Financial sustainability				
1	Financial and operational efficiency (including affordability)	• System revenue cost • System capital cost • Costs of change • Trust financial requirements	• Impact on revenue costs to provider and commissioner • Capital cost of change • Non-recurrent costs of (for example) relocation • Ability to meet Trust financial duties.	

6.2.2 Initial assessment of the options

For the Preliminary Reprovision Business Case, each of the three options described above was assessed at a high level against these agreed criteria. The narrative assessment is included in Table 6.4a and this is complemented by an assessment in Table 6.4b of the degree to which each option meets the criteria. These tables are on the following pages. A 'Do Nothing' option had been excluded by the Programme Board on the basis of the Independent Clinical Review which made it clear that doing nothing was not clinically safe or acceptable in the medium to longer term. For this reason, no scoring or assessment of Do Nothing had been included in the Preliminary Reprovision Business Case.

Further work was then undertaken to ensure a more detailed scoring against the weighted criteria, with full stakeholder engagement and support of this assessment. This is detailed in section 6.4.

From the initial assessment of options in Tables 6.4a&b, Option II was considered to be the only option which was:

- Clinically viable
- Sustainable
- Acceptable to patients & public
- Acceptable to wider stakeholders such as the ICSs.

As the other options did not meet the essential criteria, the only option which was described, worked up and costed in detail in the Preliminary Reprovision Business Case was Option II. This is described in detail in the following section, 6.3.

Table 6.4a - Narrative assessment of the three options against the agreed Programme Board criteria - 2021 (To note, this was as developed and approved by the Strategic Review Programme Board in 2021; given the time that has elapsed some of the information included is now out of date, however given that this was as used to inform decision making at that time it has been included without amendment)

Criteria and Weighting		**Options**		
Criteria	**Weighting**	**Option I: Do minimum**	**Option II: Re-provide the services on an acute site:**	**Option III: Dispersal of the services**
Quality of care	24%	• The services on the MVCC site would not be co-located with critical care and so would continue to depend on transferring critically unwell patients to local DGHs • Lack of clinical adjacencies would prevent delivery of more complex cancer therapies • High chance of further reduction in co-located services as Hillingdon moves services from the current MVCC site • Significant infrastructure changes and redevelopment would be necessary to address the issues raised in 2019 CQC report and achieve acceptable standard • Due to a number of services, including Brachytherapy and inpatient beds, being removed from site there would be limited continuity of care for these patients • Little flexibility to innovate and expand given restrictions on service	• Co-location with acute care services would allow for more complex treatments • Access to medical and surgical specialty support benefits the full range of cancer care and ensures patients are not disadvantaged based on where their care is delivered • More access to a multi-disciplinary workforce [both national service specifications for chemo and RT stress the importance of this] • The size of the new service will allow for the full range of very specialist multi-professional staff supporting complex cancer pathways • Preserve continuity of care (all treatment on same site) and continuity of staff (increased retention) • Consolidation of services on a site adjacent to and connected to acute hospital facilities gives the best opportunity to future proof the service	• Would result in the loss of expert oncology provision due to workforce demoralisation • Risk of significantly disrupted and reduced quality of care while pathways are being reconfigured • Risk of permanent reduction in quality and breadth of care due to delivering more care at non-specialist centres

Patient and carer experience (including access to services)	15%	• Retention of some services on MVCC site would provide familiarity to patients • No change in travel time for services remaining on current MVCC site • Increased risk of patient's care being significantly fragmented by transfer to DGH in the case of clinical deterioration • The range services which can be safely delivered on site will limit patient choice • Difficulties in supporting out of hours services due to the low volume of services on site.	• Increased patient confidence in a large single centre offering a more specialised service with access to a range of treatments and clinical trials • Patients would no longer have to attend multiple hospitals and could receive all treatment in one place • Radiotherapy delivered from the cancer centre (with potential for a 2 Linac satellite service in Luton or Stevenage) delivering a significant reduction in travel times to patients • Repatriation of work from other specialist centres, including from central London, would reduce the travel burden on patients • The reduced travel times would improve equality of access to services for deprived populations, particularly in the Luton and Watford areas. • Effective infrastructure will allow for digitally enabled services and minimise patient travel where possible • Improved estates infrastructure, such as waiting rooms and side rooms, will improve individual patient experience	• Patient access may be impacted with a proportion of existing patients having to travel further for a specialist centre – particularly those in the East of England that will need to travel to London or Cambridge • The loss of a long-established service, highly valued by patients, will impact on patient confidence in their cancer services • Likely to be unacceptable to patient and public groups • Loss of the "family" of staff which is often referenced as the most positive aspect of MVCC by patients

Sustainable workforce	17%	• Existing staff would be familiar with the site and needs of the local population • Only delivering relatively simplistic therapies would make jobs less attractive and therefore have a negative impact on recruitment and retention • Fewer services on site may provide insufficient patient flow to justify employing more niche or specialist staff • Deskilling of staff by limiting the range of care they can deliver	• A specialist workforce is more likely to want to work for a cancer centre that delivers specialist cancer care • Less competition with large tertiary providers in London if MVCC becomes a focal centre of specialist cancer care	• Specialist staff are more likely to go to another tertiary centre • Existing workforce fragmented • Difficulties of recruiting necessary specialist staff in roles in non-specialist centres
Training and education	10%	• Training opportunities limited by lack of complex care being delivered • Difficult to provide a dedicated education team when relatively few staff are on site	• Better opportunity for education and training with a specialist cancer hub adjacent to an acute hospital • Increased training experience for medical staff interacting with other medical specialties	• No central hub to provide focused training and support to surrounding DGHs delivering cancer therapies
Research and innovation	11%	• The lack of acute facilities would severely limit the potential to deliver new, more complex therapies • Patients may have to travel long distances to participate in clinical trials.	• Improved access to a wider range of treatments and research trials • Appropriate infrastructure to support innovation and development • Knowledge sharing with tertiary provider	• No protection of trials base • Spreading the current patient flow across multiple locations would potentially reduce access to clinical trials only suitable to be delivered in a specialist cancer centre
Delivera-bility	13%	• Dependent on certainty from other organisations – mainly Hillingdon on the future of the site. • Risk of wasted investment leading back to current situation and eventual dispersal	• Discussions with Watford indicate that if supported, a parallel build with the new Watford Hospital redevelopment (HIP1) could be deliverable, with building able to start in 2024.	• A vast amount of additional support and funding would have to be provided to surrounding centres and DGHs to increase the scale and breadth of their services

				to manage needs of dispersed patients • Reconfiguration of ingrained pathways would be extremely complex and time consuming • Difficulty in establishing the governance for the dispersal process
Strategic alignment	10%	• A mixed impact on care being delivered closer to home with more treatments being delivered in DGHs but more complex therapies requiring a significant journey to another tertiary cancer centre • Reduced access to a comprehensive cancer centre for a number of deprived populations, potentially exacerbating health inequalities	• A networked chemotherapy model will facilitate chemotherapy to be delivered in DGH services, closer to home. This aligns to the shared priorities of the referring ICSs. The option of a networked radiotherapy unit is also in line with this • Digital enablement will promote care closer to home	• Disruption of broader cancer system • Large impact on all partner organisations – commissioners, referring Trusts, academic partners etc. • Would require significant reconfiguration of a number of clinical pathways
Financial and operational efficiency (including afforda-bility)	N/A	• Significant backlog maintenance costs, estimated to be in the order of £14m in Year 1 for the buildings • Equipment replacement costs within 2 years are estimated at £12m • Digital transformation valued at £16.7m (Using EPIC transfer as the baseline).	• Significant investment is required; capital costs are detailed in Section 8. As yet, there is no clear route to capital for this development.	• Would require significant investment in infrastructure in existing radiotherapy centres and in DGH and specialised chemotherapy centres • High costs for DGHs to fund specialist staff to provide services previously provided by referral to MVCC

Table 6.4b RAG rating against options appraisal criteria - Ranking: Wholly met (Green), Partially Met (Amber), Not Met (Red) (2021)

Criteria (and Weighting)	Descriptor	Option I: Do Minimum	Option II: Full Replacement on Acute Site	Option III: Dispersal
Quality of care (24%)	Safe pathways for patient care including meeting requirements for co-location of critical services, including specialist imaging			
	Meet required quality and regulatory standards			
	Aspire to "outstanding" CQC compliant services			
	Access to specialist equipment and fit for purpose estate			
	Pathways should deliver continuity of care for patients where possible.			
Patient and carer experience (including access to services) (15%)	Impact on population travel times, peak and off peak, non-emergency			
	Personalised care, patient choice in respect to treatment options.			
	Ensure patient involvement in decisions about their care and in improving services.			
	Operating hours of services, access to services out of hours, potential to increase access to 7 day services.			
Sustainable workforce (17%)	Impact of options on staff recruitment and retention.			
	Future sustainability of options for each sector of the workforce (taking into account the impact on the wider workforce)			

Criteria (and Weighting)	Descriptor	Option I: Do Minimum	Option II: Full Replacement on Acute Site	Option III: Dispersal
Training and education (10%)	Ability to meet training and education requirements, e.g. Royal Colleges			
	Impact on opportunities for career development.			
Research and innovation (11%)	Aspiration and ability to engage in research programmes, including broad range of research studies, and academic research.			
	Ensure consideration of potential joint working between centres on research studies providing better access to clinical trials for patients.			
Deliverability (13%)	Timescale for implementation of changes, with assumptions to include assessment of likely availability of buildings/land.			
	Ensure effective mitigations in place to manage challenging timescales.			
	Ensure the ability to transition services to a new model whilst sustaining safe services compliant with constitutional standards.			
Strategic alignment (10%)	Alignment to STPs plans, Trust strategic plans, Cancer Alliances and NHS long-term plan			
	Impact on interdependencies, including partner organisations			
Financial Sustainability				
Financial and operational efficiency (including affordability) (Weighting-N/A)	Impact on revenue costs to provider and commissioner			
	Capital cost of change			
	Non-recurrent costs of (for example) relocation			
	Ability to meet Trust financial duties.			

6.3 Development of the preliminary reprovision option - 2021

Further work was completed to develop the Option II proposal and this is detailed here to explain fully the detailed work and what was proposed for the future re-provision of MVCC services in the Preliminary Reprovision Business Case. This has subsequently been revised, and section 6.4 describes this review work and the option – and its variants – that would be the subject of public consultation.

6.3.1. A new specialist Cancer Centre adjacent to Watford General Hospital

The aim of the new Cancer Centre development at Watford at its most basic level is to re-provide the services currently provided at MVCC on the Mount Vernon site at Northwood, to give them the benefit of clinical adjacency with an acute hospital site. As detailed earlier in this document however, the current MVCC buildings are not just old and in deteriorating condition, they were never designed specifically for the needs of cancer patients, let alone the needs of cancer patients being treated in the 21st century.

However, the proposal for a new Cancer Centre on the Watford General Hospital site is not a simple 'lift and shift', like for like replacement. As detailed in the case for change (section 4), there are opportunities to improve services over and above simply addressing the basic issues caused by the current site, and these were explored through development of the preliminary reprovision, and are described through this section. In developing the initial proposals, thought was given to the high level requirements of the design, the departmental requirements and adjacencies which do not necessarily reflect the current arrangements, the patient activity that would be expected to go through the new Cancer Centre, and the ways that patient feedback can influence even the earliest stages of the design process.

Development of the functional brief & schedule of accommodation

The Clinical Workstream of the MVCC review, which developed the clinical model for the future of MVCC, focussed during January-April 2021, on the development of a first draft of the functional brief for the new Cancer Centre.

The functional brief describes the departments within the new Cancer Centre as well as necessary departmental adjacencies and interdependencies. It details the kinds of patients that would be expected to be treated within each department, and the care they might receive there. These were compiled through a large number of user group meetings with clinical teams to identify the requirements and begin to compile a picture of the requirements of the design for the building. Feedback from the patient engagement (section 5) has also informed the development of this initial functional brief.

It is expected that as the design stages progress the first draft of the functional brief will be revised and updated to reflect further patient engagement that is planned, known changes in

clinical requirements, further opportunity for transformation and development of clinical service collaboration with the West Hertfordshire Teaching Hospital Trust (WHTH) teams at Watford.

A schedule of accommodation based on the current MVCC clinical service was developed in 2020, in support of preliminary discussions about site re-provision. This was revised in line with functional brief development and the activity planning process described below, to give an updated preliminary proposed schedule of accommodation, used to develop plans for the new MVCC. This schedule of accommodation has already undergone further refinement (see section 6.4) and will continue to do so as the design and business case planning process progresses (see section 6.5).

Development of an activity plan

Detailed work was undertaken through February-April 2021 under the governance of the MVCC Strategic Review Programme Information and Data Group to develop an activity plan for the future of MVCC services. The methodology and outputs were agreed by the Information and Data Group, which included representation from all of the six key ICSs in the MVCC catchment.

The starting point for this work was the 2019/20 HES dataset for inpatients and outpatients, along with Cancer Waiting Times pathway data from Infoflex. 2019/20 data was used to avoid the impact of Covid-19 on activity in 2020/21. Data was grouped by tumour site using first coded primary cancer diagnosis, activity allocated to the different points of delivery, and mapped to ICS using CCG information. This enabled a number of agreed planning scenarios and strategic changes to be applied to the activity to develop an activity plan for the future.

Table 6.5 - Agreed strategic changes to be applied in activity planning process - 2021

Description	Notes
% Remote consultations	50% of follow up OP moved to virtual
Chemo-radiotherapy regimens which switched from IP to DC during Covid-19 to remain permanent	Elective IP Chemo moved to DC Chemo
Phlebotomy brought in house	10,000 pts p.a. added - previously bled on the Mount Vernon site but by the Hillingdon Hospitals team through an SLA
Acute Oncology Service Patient Reviews	New service development since 2019/20 and so not included in baseline activity numbers. Used 20/21 Q3 audit to project numbers going forward.
Breast hypofractionation*	By 2021, 60% of patients on 15 fraction breast pathways will have just 5 fractions
Improvements in chemotherapy pathways	50% reduction in patients being cancelled on day

Reduction in inpatient activity	Pathway efficiency, affects LoS for bed planning not activity
Change in fractionation for prostate patients*	75% of patients on 19-20 fraction prostate pathways will have just 5 fractions by 2023
Impact of increase in immunotherapy	Skin immunotherapy close to NICE approval, with notable impact on inpatient activity. Other impacts from management of immunotherapy patients also included.
Reduction in Radiotherapy patients from NWL*	**Any NWL patients who have a shorter drivetime** and **40% of patients with a shorter public transport journey** to any of the NWL Radiotherapy sites will not be treated at Watford General Hospital. This equates to 6427 fractions of 2019 activity (NB the changes in fractionation described above will then apply to this activity).
Reduction in chemotherapy patients from NWL	IV Supportive Care & SACT major tumour site activity + 70% of associated f-up OP
Haematology - inpatient activity	UCLH non transplant/CAR-T activity from MVCC catchment to potentially move to Watford
Haematology - daycase activity including chemotherapy	UCLH activity from MVCC catchment to potentially move to Watford
Haematology - outpatient activity	UCLH activity from MVCC catchment to potentially move to Watford
Oncology - inpatient activity	Increase in non-elective admissions as a result of clinical support services being readily available on site (predominantly transfer from admissions to Watford)
Clinical Trials Activity	No activity yet agreed, but additional capacity to be included at this stage of design.
Haemato-Oncology - Watford	Transfer of WGH malignant haematology activity to new Cancer Centre, on the assumption that UCLH haematology activity also transfers.
Repatriation of palliative patients	Removed NWL pts with LoS > 11 (excluding Head & Neck). [NB This was an adjustment to the base data set to reflect a service change that took place in 2019; no changes to palliative patient flows are proposed.]
Phlebotomy closer to home	Anticipated that this will offset growth and keep demand constant at 10,000 pts p.a.
Increase in supportive services such as psychological therapies, specialist palliative care, physiotherapy	Updated to 20/21 psychology activity levels. Used UCLH ratios for support & information services applied to totals

* Radiotherapy related changes are included in the Edge modelling as described below.

Once all of the strategic changes had been applied to the 2019/20 activity data, this gave a 'true' baseline from which growth was applied. This was based on the cancer incidence growth rates by tumour site and sex which were developed by the East of England Cancer Alliance and an example of which is shown in figures 3.3 and 3.6 (section 3).

Over and above the detailed strategic changes where these are known and quantifiable (even if estimated), further changes were not included in the activity projections. It is fully expected that there will be some fundamental changes in the way that non-surgical cancer care is delivered by the time the new Cancer Centre opens, in specific patient cohorts, tumour types or for treatment modalities as a whole. However, no attempt has been made to model these where there is no clear basis for changes (changes in number of attendances, changes in Inpatient length of stay, conversion between Point of Delivery, changes in length of time to deliver a treatment (SACT or radiotherapy) or a means to quantify them.

The activity plan agreed in 2021 was used to develop an initial bed model for the new MVCC which fed into the schedule of accommodation used in the feasibility study and costing exercise. This is described below. This original activity plan has subsequently been tested as part of the development of this Pre-consultation Business Case (see section 6.4).

- Radiotherapy growth and changes

This was calculated separately and as part of modelling work for Networked Radiotherapy completed by Edge Health. The assumptions in this were in line with those used in the North and East London Radiotherapy Network (of which MVCC and UCLH are part) demand and capacity planning work, although the Radiotherapy Network had not yet finalised these assumptions at the time of completing this work for the Preliminary Reprovision Business Case in 2021.

Hypo-fractionation assumptions used in this modelling are described in Table 6.5 above. A less granular tumour specific approach to growth modelling was applied for radiotherapy, and an annual growth rate of fractions of 2% was agreed in 2021. This reflected expected changes in cancer incidence as well as scope to increase radiotherapy uptake. This approach and assumptions were discussed with and supported by the national lead for Radiotherapy at NHSE.

Feasibility assessment and development of an initial design

A multi-disciplinary design team at BDP were commissioned to develop a preliminary feasibility study of moving MVCC to the Watford site. BDP are the same design team as working on the scheme for the new Watford General Hospital and as such were well placed to very quickly and efficiently assess the feasibility of and options for the Cancer Centre scheme. This work took place during April-May 2021.

It is important to note that the level of detailed design work that was possible for the timelines of this project and appropriate to the stage of its development was not commensurate with the level of design work that would be seen at the Strategic Outline Case stage of a project such as this. More detailed design work would be needed at that future stage, if the decision is taken to proceed, and this would be increasingly detailed through each Business Case stage.

However, the work completed at this stage was sufficient to confirm that moving MVCC to the Watford site is feasible, and to produce high level costs for the proposal. Capital costs of the proposal were developed by Arcadis and are considered in section 7.

- Options for locating the Cancer Centre on the Watford site

In line with the essential need, detailed above, for the new MVCC to be co-located with an acute hospital and Watford selected as the only site which met the essential criteria, the options appraised necessarily had to be on the Watford General Hospital (WGH) site, given confirmed decision to redevelop WGH on its current site. Following options appraisal, a proposed plot was identified giving the best balance of the following:

- Site Area available and size required for clinical stacking
- Assumed acceptability for Watford City Council
- Date site available
- Links to main hospital
- Clinical Links
- Facilities Management & Engineering links
- Access (main entrance, ambulance drop off, access from current multi story car park).

The identified Plot 5 fits with the masterplan for the site and could be released by West Hertfordshire Hospitals Trust. It would be big enough for the Cancer Centre, and importantly could be linked by a bridge into the new Watford General Hospital development. This is particularly important to facilitate the transfer of patients from the Cancer Centre into the main hospital, for example when transfer to critical care is required. The identified plot is shown on figure 6.3. It is adjacent to Watford Football Club Stadium and could be released at any time, subject to temporary reprovision of some non-clinical buildings during the period while the new Watford General Hospital is under construction, enabling a new Cancer Centre to be built before, during or after the new WGH is built. Noise considerations from the football stadium on matchdays were noted but expected to be addressed through the design process.

Whilst the proposed development is on a plot on the Watford General Hospital site, the new MVCC facility is proposed to be built, owned and run by UCLH as specialist tertiary cancer service provider (subject to final agreement, see section 2.3.1), thus avoiding some of the challenges posed by the current landlord/ tenancy relationship which MVCC has with The Hillingdon Hospitals Trust who own its buildings.

Figure 6.2 - Design concept for the new Cancer Centre – BDP feasibility study 2021

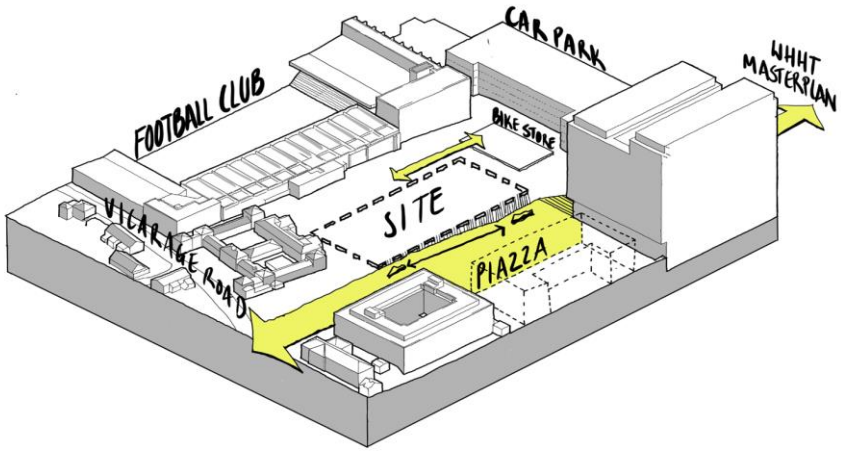
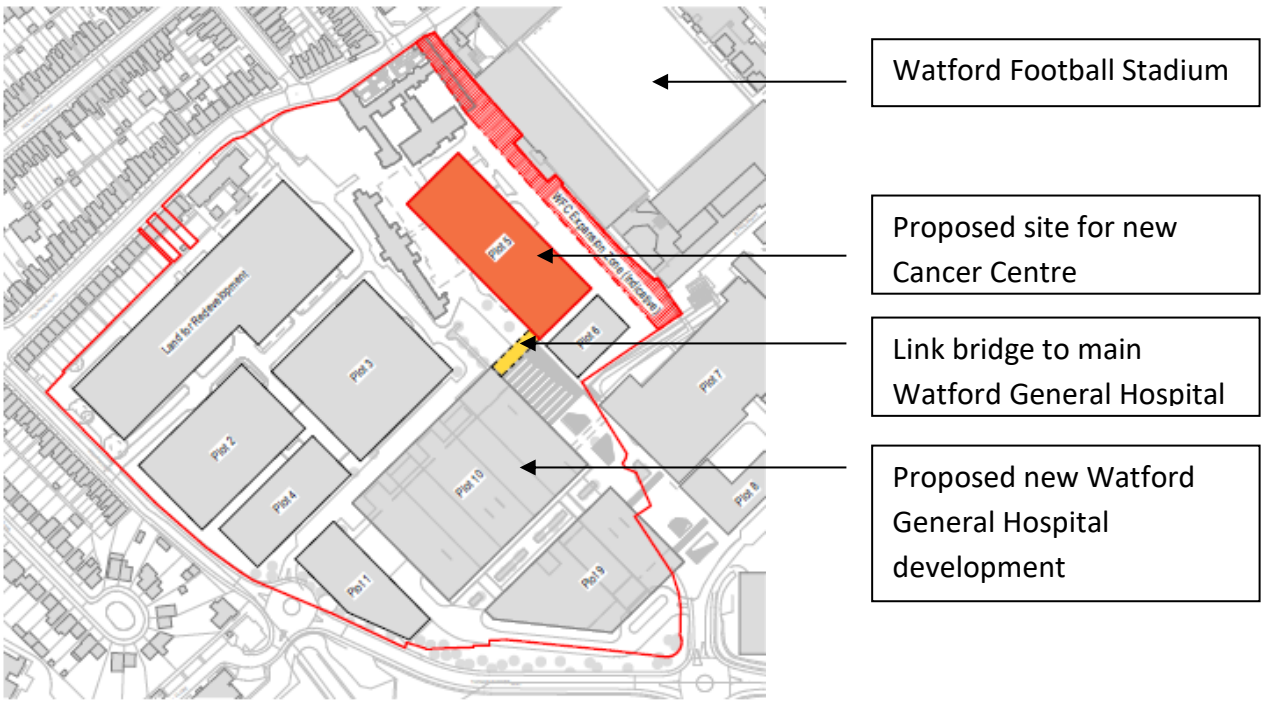


Figure 6.3 – Map of the Watford General Hospital site and site masterplan as at 2021, with plot 5 identified as suitable for the new MVCC (Note: a 2024 revised site plan is included in section 6.5).



- Departments in the new Cancer Centre – 2021 proposals

Based on the work to develop the functional brief and schedule of accommodation, activity planning work and discussions with Watford General Hospital teams, the departments listed in Table 6.6 were included in the preliminary design concept and costing for the new Cancer Centre in 2021.

Table 6.6 – Departments proposed in the preferred new Cancer Centre - 2021

Department Name	Current MVCC department or New
Support & Information Service	Current – Lynda Jackson Macmillan Centre
Outpatients Department	Current
Therapies	New – team/service currently in place but adequate space not provided at current MVCC
Pharmacy	Current – OP dispensary and IP pharmacy No aseptic pharmacy is included on the assumption that the Cancer Centre will work closely with the Watford General Hospital Team where needed.
Oncology inpatient beds	Current
Haematology inpatient beds	New
Acute Oncology and Supportive Care	Current (AOS & John Bush) reconfigured to one unit
Chemotherapy daycare and ambulatory care	Current – although some change in the way certain patients are managed in ambulatory care
Diagnostics	Current – Paul Strickland Scanner Centre
Nuclear Medicine (diagnostic, therapeutic and radiopharmacy)	Current
Interventional Suite	Partially current, partially new – includes brachytherapy suite which is provided at MVCC but with addition of theatre and interventional radiology capability not currently provided
Radiotherapy	Current
Private Patients	Current

To note some MDT and teaching space was included, but office accommodation above and beyond that needed in clinical areas for the support of direct clinical care is not expected to be provided within this clinical facility, rather in a dedicated non-clinical building. Staff facilities such as respite areas, changing rooms and lockers will be included.

This represented the preferred option for the new Cancer Centre. This was compared with a basic option (like for like services only, so excluding haematology, interventional suite and therapies space) and an Enhanced option (which included office accommodation and aseptic pharmacy production in addition to the departments above). The stakeholder scoring exercise (see section 6.4.1) included comparisons of these different permutations of the reprovision, to confirm if this preferred configuration should be supported.

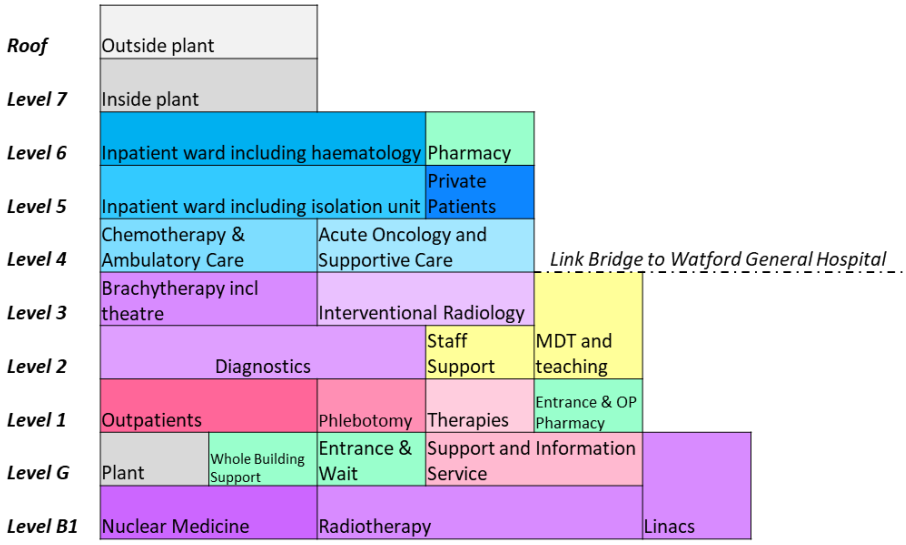


Figure 6.4 - Departmental breakdown of PRBC Reprovision – preferred option 2021

Figure 6.4 represents the proposed departmental makeup of the MVCC reprovision at Watford, as developed in 2021. Further detail is included below in relation to each department listed above, however it should be noted that review of the preferred option in 2022 resulted in some changes to this proposal (see Section 6.4.4):

Support and Information Service

This would be equivalent to the current Lynda Jackson Macmillan Centre, providing a full range of holistic support and information services. Patient engagement has confirmed how important this service is to patients. This is currently proposed to be located on the ground floor of the new Cancer Centre, to ensure this service is a fully integrated part of the cancer services provided to patients, visible and easily accessible to all patients.

Outpatients Department

Covid-19 has catalysed huge change in the way that Outpatient services are delivered in the NHS; the transformation process is not yet complete and particularly for an organisation such as MVCC which is not yet fully digitally enabled, the full potential of remote consultation has not yet been realised. In the preliminary plans, the space allocated to Outpatients in the new building accommodates 29 outpatient consultation/ examination rooms, the same as MVCC currently had at that time, along with 4 treatment/procedure rooms and 2 interview counselling rooms.

This number of rooms was proposed to be the same as current at that time in spite of the plans to bring haematology services into this new MVCC and the growth in activity expected, which would equate to significant increases in outpatient activity, but would be offset by ongoing hybrid delivery of face to face and remote consultations. This was noted as an area which will need detailed consideration in the future stages of design, if this proposal is

supported to proceed. Further work will be needed to think about the space allocated and how to design the space available, the long term need for space to deliver face to face outpatient services but also considerations about space for remote consultation and workforce implications of new models of outpatient care.

Therapies

These are support services critical to the care and management of cancer patients. Work to review the evidence for the importance of these services was included in the development of the clinical model and can be seen in Appendix 2. These services exist at MVCC but should be strengthened and provided with adequate space to optimise the potential therapeutic benefit to patients (which they did not have at the time of developing the preliminary proposals for reprovision, although now at the time of writing do have improved facilities including gym space). Current proposals include a small gym space and rooms for speech and language therapists, occupational therapy, physiotherapy and dietetics.

Pharmacy

Accommodation for an outpatient dispensary and inpatient pharmacy service was included at this stage. Given the volume and complexity of medications including clinical trials medications that are needed for specialist cancer care and the need to ensure easy access to outpatient dispensary it is not possible to combine these services with those within the new Watford General Hospital, although this was discussed and considered.

The majority of SACT delivered at MVCC is sourced from a commercial supplier and this or a similar arrangement is expected to continue at the point of the proposed move to Watford. Space is required to process and store these products so this has been included in preliminary designs. Some bespoke or short expiry products are also needed for patient care. MVCC already work with the WHTH team for supply of such products and initial discussions have suggested this would be supported to continue. For this reason an aseptic pharmacy has not been designed into the new MVCC facility, given the costs of duplicating such a facility on the Watford campus, with limited demand.

Inpatients

Currently 22 oncology inpatient beds are staffed at MVCC. Increases are expected in oncology inpatient activity over and above growth, as a result of changes in clinical practise such as new immunotherapy indications. In addition, it is expected that once the Cancer Centre has the appropriate clinical adjacencies, some patients who currently have to be transferred to a local acute hospital (often Watford General Hospital) will be able to be - and will be most appropriately - managed within MVCC and so 25 beds have been planned as a baseline for oncology in the new MVCC.

Further work will be needed to develop designs for the inpatient areas, however at this preliminary stage, the space is proposed to be a combination of predominantly single rooms but with some bays for shorter stay patients (for example those admitted for brachytherapy). Rooms appropriate for the care of patients undergoing radio-isotope therapies will be included as they are currently at MVCC. Additional beds have been incorporated for increased clinical trials activity (4), which will be feasible once there are the appropriate clinical adjacencies. 2 private patient inpatient rooms have also been included. Oncology bed changes as proposed in 2021 are summarised in Table 6.7.

As outlined previously, due to the deterioration in supporting clinical services on the Mount Vernon site, there are now no haematology inpatients cared for at MVCC. Haematology care should be an integral part of a specialist non-surgical cancer service and the proposal is that malignant haematology services should be strengthened in the new MVCC to ensure the appropriate provision of care closer to home, particularly for Hertfordshire and Bedfordshire patients. Activity was modelled on the basis of repatriating work which currently has to come into UCLH in central London given the lack of service in the MVCC catchment. The most specialist work (Bone Marrow Transplant and Car-T therapy) would remain centralised at UCLH.

Preliminary discussions with haematology clinical teams at Watford General Hospital are very supportive of these proposals and of further consolidation, with a proposal that the malignant haematology service currently delivered at WGH also transfer into the new Cancer Centre. This is obviously subject to further discussion, consultation and approval, however, to ensure a building capable of including this activity, it was included in space planning considerations when the preliminary proposals were developed in 2021, with 19 beds for haematology.

The additional benefit of providing consolidated inpatient services for oncology and haematology patients at the new MVCC is the scale of specialist non-surgical oncology inpatient care within the Centre. There will be a number of service benefits in a larger Inpatient unit (50 beds in total) and more work will be done to consider how to fully realise these benefits and the most appropriate configuration of inpatient services for this.

Daycare Services

At this preliminary stage, the aim has been to design two key daycare treatment services – Acute Oncology and Supportive care and the Chemotherapy day and ambulatory care unit – adjacent to one another to support optimisation of the utilisation of space and specialist workforce.

Activity planning in 2021 outlined expected changes in attendances for each of these daycare areas. What is much harder to model is the changes in treatment duration in the future. This has been modelled on the basis of current throughput through different types of daycare treatment chairs, in the knowledge that some treatments will become quicker to deliver, but others may be replaced by newer, longer duration treatments.

The expected split of this chair requirement between the two services as modelled in 2021 is detailed in Table 6.9. In addition, 4 clinical trials chairs have been added to support delivery of research within the new facility.

Further work will be needed on the design of this space, but at present treatment spaces are predominantly treatment chairs, with some beds, isolation rooms and assessment cubicles.

Table 6.7 - Inpatient bed breakdown – 2021 reprovision planning. All numbers calculated from activity based on 90% occupancy

	Baseline bed requirement	Growth	Total 2030/31 requirement
ONCOLOGY			
Oncology 2019/20 baseline	16.2		
Oncology known clinical changes from baseline (IP to DC, LOS efficiencies, AOS IP care increase, immunotherapy complications increase)	1.7		
Oncology increase as a result of clinical support services being available on site (i.e. patients no longer need to be transferred to Watford or other DGHs for care)	5		
Oncology (palliative care) repatriation to NWL	-1.3		
Oncology total	**21.6**	**3.8**	**25.4**
HAEMATOLOGY			
Haem-oncology transfer from UCLH	10.7		
Haem-oncology transfer from Watford	4.1		
Ambulatory Care bed (supports transfer to ambulatory management, predominantly in haematology. Not changed by this level of growth)	1		
Haematology total	**15.8**	**2.6**	**18.4**
OTHER – not affected by growth			
Clinical trials bay	4		4
Private Patient Side Rooms	2		2
TOTAL requirement	**43.4**	**6.4**	**49.8**

Table 6.8 - Daycare treatment space breakdown- 2021 reprovision planning

		Chair Requirement	Activity
2019/20 baseline		**22**	**14,784**
Chemo-radiotherapy regimens which switched from IP to DC during Covid-19 to remain permanent	Elective IP Chemo moved to DC Chemo	0.5	341
Acute Oncology Service Patient Reviews	New service development since 2019/20 and so not included in baseline activity numbers. Used 20/21 Q3 audit to project numbers going forward.	3.8	1,948
Improvements in chemotherapy pathways	50% reduction in pts being cancelled on day	-0.5	-259
Reduction in chemotherapy patients from NWL (see section 6.3.2)	IV Supportive Care & SACT major tumour site activity	-4.3	-3,063
Haematology - daycase activity including chemotherapy	UCLH activity from MVCC catchment to potentially move to Watford	3.8	2,315
Haemato-Oncology - Watford	Transfer of WGH malignant haematology activity to new Cancer Centre, on the assumption that UCLH haematology activity also transfers.	3.2	2,045
Adjusted baseline		**28.4**	**18,111**
Total Chairs Required 2030/31 based on activity plan		**33.2**	**21,190**

Table 6.9 - Departmental split of daycare treatment space – 2021 reprovision planning

	Baseline requirement	2030/31 requirement
Chemotherapy/ Ambulatory Care Chairs	15.4	18
Dedicated Clinical Trials treatment chairs	4	4
AOS & Supportive Care Chairs	13	15.2*
TOTAL	**32.4**	**37.2***

* For space planning purposes, treatment spaces were reduced to 15 and 37 respectively. Two isolation rooms were added to the design to support appropriate management of patients, resulting in a total of 39 treatment spaces.

Diagnostics

Specialist Cancer diagnostics are currently delivered at MVCC by the Paul Strickland Scanner Centre (PSSC). This provides high quality care delivered through a specialist workforce, with excellent patient feedback. The intention is to maintain this in the new facility. Agreement has been reached with PSSC Board that services should be transferred to the NHS although discussions are ongoing between UCLH and PSSC around their organisational relationship. This will be monitored through the business case process and added to the programme risk register if appropriate. The department as scoped in these preliminary plans is currently planned to deliver CT and MR.

Nuclear Medicine (diagnostic, therapeutic and radiopharmacy)

MVCC nuclear medicine department currently offers a range of therapeutic interventions for patients which are delivered in the outpatient and inpatient setting. The preliminary design for the new MVCC enables delivery of these same services. Radio-isotope rooms have been included in the design of the inpatient space and appropriate outpatient treatment facilities are planned within the nuclear medicine department. In addition, the nuclear medicine diagnostics which are currently provided by MVCC nuclear medicine department and PSSC are assumed to be consolidated within the new department, to optimise efficiency and enable sharing of expertise, space and resource. As above, discussions are ongoing between UCLH and PSSC around their organisational relationship should the transfer of management of MVCC services go ahead, and so design of this space will need to reflect this. PET CT is currently included within this space.

In addition to the patient facing elements of the nuclear medicine department, a radiopharmacy production unit was incorporated in the preliminary proposal in 2021. This is a current service at MVCC which supports not only the service at MVCC but at a number of other NHS and non-NHS organisations.

Interventional Suite (to include brachytherapy)

MVCC has a busy brachytherapy service delivering both High and Low Dose Rate (HDR & LDR) brachytherapy. The patient pathway includes a complex journey through inpatients, theatres, MRI and CT and the brachytherapy delivery suite, with lots of movement and waiting in between the different stages of the pathway. At present MVCC does not have its own theatre facilities and relies on neighbouring healthcare organisations for access to theatre space. Current challenges highlight the difficulty of reliance on other organisations for the theatre capacity which is so crucial for this service; given the fact that their operational priorities do not necessarily align with the needs of MVCC. Transfer to and from theatres presents inefficiencies within the pathway as well as a poorer patient experience.

The preliminary proposal was to develop an integrated brachytherapy suite within the new MVCC which provides a theatre, imaging, brachytherapy delivery suite and recovery space to

improve the patient pathway and efficiency of the service. This is as seen at other leading Cancer Centres such as Clatterbridge Cancer Centre which opened in 2020. This also presented further opportunity to utilise the space and facilities in the provision of interventional radiology.

At present the facilities at MVCC are such that it is not possible to deliver any Interventional Radiology within the Cancer Centre and a very limited service is provided through an SLA with Hillingdon Hospitals Trust within the Mount Vernon Hospital (for example central line insertions). This is in spite of the fact that Interventional Radiology is integral to the whole spectrum of modern cancer care, from image guided biopsy through to acute management of the complications of cancer and its treatments (ascites, hydronephrosis, superior vena cava obstruction for example). Access to onsite interventional radiology would have substantial advantages in avoiding delays in the pathway, minimising the need for inpatient transfers and thereby reducing inpatient stays whilst enhancing the patient experience. MVCC oncologists and PSSC radiologists supported the need to develop this service within the specialist cancer service facilities.

The opportunity for close working with the WGH team in interventional radiology was recognised, and preliminary clinical discussions showed that there would be an opportunity for collaboration if MVCC is adjacent to WGH. However, given the requirement to improve the brachytherapy pathway and the opportunity this brings, combined with the IR potential in a specialist cancer centre, this proposal for an interventional suite was considered the most appropriate way forward at the preliminary stage in 2021 (see section 6.4.4 to describe later impact of review on this proposal).

Radiotherapy

MVCC has a busy radiotherapy department and at the time of this preliminary planning had 6 Linacs, which delivered 52,000 fractions of radiotherapy in 2019 (activity data used for preliminary planning purposes), and a Cyberknife. Changes in fractionation, along with proposals that some NWL patients would receive their radiotherapy at a NWL radiotherapy provider once the service moved to Watford meant that activity was not expected to increase in the short term. The preliminary proposal was therefore for 6 Linacs within the new facility, dependent on proposals for Networked Radiotherapy. Further work to model the requirements of the service in the future was undertaken as part of developing plans for Networked Radiotherapy which is explored further in section 6.4.2. Activity assumptions were then further tested and refined as part of the development of this PCBC in 2024.

Private Patients

MVCC currently operates a small private practice which generates significant income which is reinvested in MVCC services. The preliminary proposal was to replicate this service provision within the new facility, but with a small increase in the number of daycare treatment chairs,

and 2 dedicated inpatient beds. In totality the current space allocation for PP activity in the 2021 proposals was as follows:

Table 6.10 – PP treatment facilities proposed in the new MVCC

PP treatment facilities	Preliminary design allocation
Inpatient side rooms	2
Daycare Treatment chairs	4
Outpatient consultation rooms	4
Separate sub-wait for radiotherapy *(NB no dedicated PP RT equipment)*	1

The inclusion of private patients will be evaluated further through future stages of the business case planning process.

- Digital strategy for the proposed new MVCC

At the time of development of the Preliminary Reprovision Business Case in 2021, a detailed digital strategy was not documented, however the following principles were proposed:

- Proposed as part of UCLH, the new MVCC would run using the same comprehensive Electronic Health Record System (EHRS) as the rest of the organisation, ensuring an integrated clinical record and digital patient access to their record and clinical information.
- With clinical pathways and other interdependencies with the new Watford General Hospital, the new MVCC would need digital interoperability and/or interface with WHTH digital systems to ensure a seamless flow of clinical information and safe, high quality patient care.
- As part of a wider network of oncological care delivered in other hospitals and healthcare settings, digital information flows must be in place to underpin safe and high quality patient care and efficient clinical pathways.
- Timely and high quality digital information must be available to primary care in support of the holistic management of patients treated at MVCC.

These principles will be used to underpin the development of a detailed digital strategy and implementation plan during the future stages of design and business case development, should this proposal be supported. This will be developed in close collaboration with the WHTH team and in line with NHP digital planning principles, to maximise the use of digital technology in support of clinical care delivery across the new Cancer Centre. More detail on the capital estimates for digital (ICT) is included in section 7.2.3; these have been developed in line with NHP digital costing principles to ensure adequate allowance.

6.3.2. Care closer to Home for North West London patients

In support of providing choice for patients to receive their care closer to home where appropriate, the North West London (NWL) ICS Partnership Board agreed proposals for the following services within NWL in line with their cancer strategy:

- Development of a solid tumour chemotherapy service alongside the haemato-oncology chemotherapy service at Hillingdon Hospital. More complex chemotherapy delivery, for rarer tumour types and services for those patients who live closer to Watford would be delivered within the new MVCC in Watford. Capacity is now planned within the Hillingdon Hospital redevelopment to accommodate the less complex chemotherapy activity transferring from MVCC.
- Extend the chemotherapy service at Northwick Park Hospital to ensure all treatment that can be delivered locally is delivered locally. As for Hillingdon, the more specialist activity and services for those patients who live closer to Watford would be delivered within the new MVCC in Watford. Northwick Park had a requirement to extend their current day unit facilities for this and this investment has already been secured from NWL ICS.
- Develop radiotherapy services to ensure NWL patients are given choice to receive their radiotherapy closer to home, at one of the NWL sites, instead of at the new MVCC at Watford. The majority of activity that would transfer is expected to flow into Imperial College Healthcare NHS Trust, who at that time already had plans to progress Linac replacement within their current estate. This has subsequently been completed to provide additional capacity and ensure patients are offered the choice of where to receive their care.

Full details of these proposals as developed by the NWL ICB are included in the NWL Partnership Board paper at Appendix 7.

6.3.3 Networked Radiotherapy – preliminary planning

At the time of the Preliminary Reprovision Business Case, a feasibility study equivalent to that carried out for the MVCC reprovision on the Watford General Hospital site had not yet been carried out for a Networked Radiotherapy Unit, given the progress through the assessment and decision-making process for this.

The clinical team did however complete work to develop a proposed schedule of accommodation for the various different configuration options for a Networked Unit (summarised in Table 6.11) and these were used to give a Rough Order of Magnitude (ROM) cost of developing a secondary radiotherapy unit on another site. These costs were not specific to the two different site options but at that stage simply indicated the likely additional capital costs of developing a second site. If a Networked Radiotherapy Unit was developed, then there would be an associated reduction in the number of Linacs within the Watford redevelopment.

The MVCC Strategic Review Programme Board supported the approach of only pursuing a 2 Linac Networked unit option, at its meeting in May 2021, and ruling out a 1 Linac Networked Radiotherapy Unit. This was largely because of

- the risk of a single Linac site in terms of resilience and operational efficiency challenges
- the modelled numbers of patients that could benefit from accessing a Networked Radiotherapy unit in the north of the catchment; a single site unit was not expected to enable as many patients to benefit from this as could.

This was then reflected in the cost modelling for the Preliminary Reprovision Business Case.

Table 6.11 – preliminary space requirements for Networked Radiotherapy- February 2021

All areas m^2	SOA v1.0 February 21				
	Dept. Net Area	Circulation etc allowance	Dept. Gross Area	Comms & Plant	Gross Internal Area (GIA)
				25%	
1 Linac unit	508.5	201.6	710.1	177.5	887.7
2 Linac	714.0	283.1	997.1	249.3	1246.4
2 Linac plus CT Planning	831.5	329.7	1161.2	290.3	1451.5
2 Linac, plus CT Planning and spare bunker	998.5	395.9	1394.4	348.6	1743.0

Early assessment indicated the additional revenue costs associated with running a secondary site, which would need to be developed and fully considered. The options and proposals for Networked Radiotherapy are considered in more detail in section 6.4.2.

6.3.4 Equality and Health Inequalities Impact Assessment (EHIA)

By the time of completing the Preliminary Reprovision Business Case (May 2021), an Equality and Health Inequalities Impact Assessment (EHIA) was underway, led by PHE, assessing the impact of a potential relocation of the MVCC to the proposed Watford site on health inequalities. Summary feedback was included for the PRBC and then a final report was published in July 2021 (to note this was reviewed in 2024).

The EHIA reported a mixed impact for 3 of the Protected Characteristic groups (age, disability, race and ethnicity), a 'likely positive impact' on pregnancy and maternity due to the proximity to obstetrics and gynaecology services on the new site, and 'likely no impact or a positive impact on sex, sexual orientation, religion and belief, and gender reassignment, and 'likely no impact' on marriage and civil partnership (although there was insufficient information to be certain). In addition to the Protected Characteristics groups, the Equality Health Impact Assessment considered other health inclusion factors, including carers, homeless people, low-income families, people with poor literacy or health literacy, people in deprived or remote areas, refugees, sex workers and Gypsy, Roma and Travelers, amongst other groups.

There is significant overlap between the specific issues discussed across different groups who may face health inequalities. The EHIA key findings can be summarised as:

1. Access to the Watford site
2. Access around the Watford site and the building and service design
3. Communication and patient information
4. Interoperability between the cancer services and other services, e.g. local district general hospitals, chemotherapy units and any future networked radiotherapy sites.

Access to the Watford site includes both the travel time and the travel method. This has been a key theme throughout engagement events and within the EHIA. Travel analysis modelling has indicated that the proposed service move will have a beneficial impact for service users in specific populations, with reduced travel times, but that other populations will face increased travel times, for example service users from Frimley. The costs of travel will also vary across areas, with some populations having reduced travel expenses and others potentially having increased travel costs. Overall, the proposed service change reduces the range in travel times between areas and also reduces the travel time for Luton which has poorer cancer outcomes and currently faces one of the longest travel times.

The EHIA noted key points that will need to be considered at design stage, including: access to disabled car parking; distances travelling around the Watford site to the cancer services; main building and car parks; availability of transport around the hospital site; disabled access to and within buildings; access to chaplaincy services and prayer rooms; access to both gender-neutral and unisex accommodation; changing and toilet facilities; access to toilets, particularly for patients undergoing treatment for prostate cancer; privacy and dignity including the proximity of changing facilities to treatment areas; safety for pregnant staff, patients, carers, visitors in relation to rooms where radiotherapy is being delivered.

Communication with patient groups could improve or decrease as part of the relocation of services, and the EHIA concluded there was an opportunity to improve the content, style and format of information during the redesign to reduce inequalities for patients with poor literacy or health literacy, those with special educational needs and those who do not speak English as a first language. These recommendations have shaped the range of communications materials and methods being prepared for consultation and will feed into the ongoing design and implementation work.

The existing transfer of patient information between MVCC and other treating services was highlighted as challenging by the EHIA. The assessment concluded that an integrated electronic record as proposed in the redevelopment could improve communication for patients and their carers. It stated this would increase timely transfer of information, reducing the number of times they have to repeat their story which has a potential to reduce inequalities in access and health outcomes. Additionally, it could lead to improvements in the

recording of information and help ensure staff are aware of the needs of their patients and allow for greater monitoring to assess for inequalities in health.

Other key themes include considering the configuration of buildings to ensure they are dementia friendly, improved ability to meet cultural needs, and including dietary requirements and end of life practices for different religions and ethnicities.

Given that the core proposal is to relocate the service, access emerges as the most substantial factor in determining whether the impact of the proposals is positive or negative for people, and the most frequently raised topic in pre-consultation engagement across all demographics and health inclusion groups. Those in rural communities, on low incomes or zero hour contracts, in areas of deprivation with low car ownership, homeless people and sex workers are among those who are more likely to suffer inequalities on the basis of access. However, the EHIA also makes it clear that the proposals present an opportunity to make significant improvements in other areas in addition to access.

Following the EHIA, the travel and access group has commissioned a piece of work in the pre-consultation period to better understand the barriers to accessing current services. This will inform consultation discussions on potential improvements the proposals could help facilitate and mitigations that could be made for those whose access remains challenging. Other feedback on travel and access and themes emerging from the EHIA and any new themes, will be a key outcome of the public consultation. At this stage the EHIA will be revisited and updated, to ensure current, relevant and accurate data is supporting decision making following consultation.

Findings are summarised and included in full in Appendix 14A.

6.3.5 Conclusion and costs of preliminary reprovision work

The detail including capital costs of this initial proposal were included in the Preliminary Reprovision Business published in May 2021. Table 6.12 summarises the costs, including VAT, reflected in this initial case.

In each of the reprovision scenarios, a further £8m was needed to deliver the North West London changes (to be funded through their ICS capital).

An Expression of Interest to become one of 8 expected additional schemes on the New Hospital Programme was submitted in September 2021.

Table 6.12 - Net cost of capital (excluding life cycle) – as included in PRBC May 2021

Options	Secondary option	Net Cost (£m)
Option I - Do minimum	N/A	£38.2
Option II - Re-provide on acute site	Enhanced*	£287.2
	Medium/Preferred	£272.0
	Basic	£260.5
Option III - Dispersal	N/A	N/A

** sub-options described in section 6.3.1 (Departments in the new Cancer Centre – 2021 proposals) and table 6.13*

The following section (6.4) describes how this proposed option was subsequently reviewed and refined, resulting in a revised proposal which is the subject of this consultation and capital costs as outlined in Section 7.

6.4 Review and refinement of the options

Following the extensive work to develop the Preliminary Reprovision Business Case which described the preferred option in May 2021, no immediate route to the capital required to deliver this preliminary preferred option was found. It was clear that given the capital constraints within the NHS, further work was necessary to consider whether there were alternative, ideally less capital intensive, options for addressing the issues as outlined in the case for change for MVCC (as described in section 4). This section details the work completed in review of the options, to reach a recommended preferred option which is the subject of this public consultation.

6.4.1 Stakeholder review of the options - 2021

Stakeholder scoring against the quality criteria

Section 6.2.2 described the preliminary scoring and comparison of options that was undertaken to inform the preferred option as described in the Preliminary Reprovision Business Case. This was based on the criteria agreed by the Programme Board in 2019 at the start of the Strategic Review process (summarised in table 6.4).

Following completion of the Preliminary Reprovision Business Case, a more comprehensive process for stakeholder assessment and scoring of the options against the agreed criteria was undertaken. The process involved a series of briefing workshops to ensure stakeholder organisations understood the options to be scored and the criteria. Stakeholders then also came together to review scoring and confirm consistent interpretation had been applied.
15 stakeholder organisations took part in this process:

- NHSE (combined score for East of England and London)
- Six key referring ICS's (Herts & West Essex, BLMK, NWL, BOB, Frimley Health, NCL)
- East of England cancer alliance
- ENHT/ MVCC
- UCLH
- Hillingdon Hospitals Trust
- Paul Strickland Scanner Centre
- Healthwatch Hillingdon and Healthwatch Hertfordshire
- Patient Reference Group *(please note the patient reference group only considered the options against two of the criteria, Quality of care and Patient and carer experience).*

The options scored built upon the options in the Preliminary Reprovision Business Case (May 2021) and were as follows in table 6.13; this included consideration of the different versions of reprovision (Basic, Preferred and Enhanced) as well as also scoring the Do Nothing option, even though this had previously been ruled out by the Programme Board.

Full details of all scoring is included in the report prepared for the November 2021 Programme Board, at Appendix 15, but the aggregated, weighted scores resulting in a ranking for the options are as follows in table 6.14. This process clearly supported that the preferred configuration option of full reprovision on the Watford site was the preferred option as assessed by all stakeholders against the Programme Board quality indicators (84%), with the more costly enhanced configuration option close behind (83%). Scores for the other options were significantly behind, including the basic configuration of the preferred option which was assessed by stakeholders as failing to capitalise on the opportunities afforded by reprovision to offer greater benefit across all domains.

This initial scoring did not consider the impact of Networked Radiotherapy being included or not, rather all reprovision options that were scored assumed Networked Radiotherapy is included. Development of the proposals for Networked Radiotherapy are reviewed in the next section, 6.4.2.

Clinical Senate review of reprovision proposals

In June 2021, the preferred option reprovision proposals as had been detailed in the Preliminary Reprovision Business Case were reviewed by an East of England Clinical Senate. The Clinical Senate panel were very supportive of the proposed clinical model and the extensive work already undertaken. They felt the rationale for the proposal was clear and well documented and noted strong staff, patient and public engagement, as well as 'amazing teamwork' from the Programme team who represented a number of different organisations.

The Panel were of the view that the clinical model proposed should be of great benefit to the patients if implemented successfully, and flagged a number of recommendations in support of this successful implementation, including a focus on IT, transport and access, collaborative working with WHTH, and work to address social and health inequalities, all of which have and will continue to be considered through ongoing development of these proposals. Their report is included in full at Appendix 16.

6.4.2 Detailed review of Networked Radiotherapy

Building upon the work detailed in section 6.1.4, more focussed work to assess the feasibility and cost of Networked Radiotherapy was undertaken in 2021, following completion of the Preliminary Reprovision Business Case. The case for Networked Radiotherapy has also then subsequently been re-assessed, with planning assumptions re-tested, Clinical Senate review and development of criteria for site selection.

Table 6.13 - Options for stakeholder review and scoring, 2021

Option	Option overview
0. Do Nothing	No change to current service, site or facilities. Limited ongoing investment, no change to clinical support services, workforce challenges all leading to sustainability concerns.
I. Do minimum	Capital investment required to bring the current MVCC site to NHS standard and fit to deliver an adequate service (including digital enabling). Plan needed for inpatient beds and brachytherapy (as a minimum) to re-locate onto an acute hospital site
II a. Watford – basic	Like for like reprovision, but assumes NWL redirection of some patients into London services, and delivery of networked radiotherapy (4 Linacs at Watford, 2 at Luton or Stevenage)
II b. Watford – preferred	As above, but also includes malignant haematology capacity, interventional suite and therapy space. (Haematology patients from EoE currently travel to UCLH)
II c. Watford – enhanced	As the preferred option, but also includes aseptic pharmacy and office accommodation within the cancer centre, rather than off site
III. Dispersal	Dispersal of MVCC services

Table 6.14: Options ranked on the basis of aggregated, weighted stakeholder scoring, November 2021

Ranking	1	2	3	4	5	6
Organisation	**Option II.b - Reprovision (Preferred)**	**Option II.c - Reprovision (Enhanced)**	**Option II.a - Reprovision (Basic)**	**Option III - Dispersal**	**Option I - Do Minimum**	**Option 0 - Do Nothing**
Quality of Care (24%)	22%	22%	15%	10%	8%	6%
Patient & Carer Experience (15%)	12%	12%	8%	5%	6%	5%
Sustainable Workforce (17%)	14%	14%	10%	6%	6%	5%
Training & Education (10%)	9%	9%	6%	4%	3%	3%
Research & Innovation (11%)	10%	10%	7%	3%	4%	3%
Deliverability (13%)	9%	8%	8%	4%	5%	5%
Strategic Alignment (10%)	8%	8%	5%	3%	3%	2%
Total Weighted %	**84%**	**83%**	**59%**	**34%**	**34%**	**29%**

Networked Radiotherapy feasibility - 2021

The same design team as had completed the feasibility study of a new MVCC on the Watford site, completed detailed work to assess the feasibility of Networked Radiotherapy on either East and North Hertfordshire Trust's Lister Hospital site at Stevenage, or Bedfordshire Hospitals Trust's Luton and Dunstable Hospital site in Luton, working with Trust teams to identify a preferred location on each of the sites (see figure 6.5). A schedule of accommodation was developed to inform a consistent design for both of the sites (see figure 6.6). Building upon previous preference from the Programme Board to focus on a 2 Linac option (section 6.3.3), more detailed work was completed to consider the potential configuration of the Networked unit for example the impact of including a planning CT or not and other associated facilities required.

Figure 6.5 – preferred site locations on Luton and Lister sites

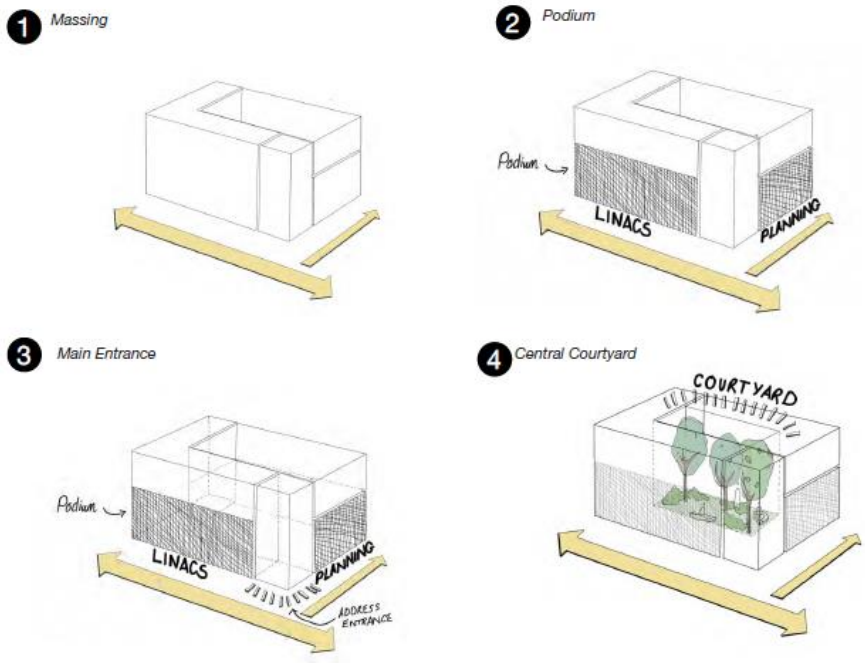
As well as the feasibility study, detailed capital costs were developed by the Arcadis team, reflecting different options in terms of the potential configurations of the Networked Radiotherapy Unit. These also considered in more detail the impact of reducing the

radiotherapy capacity in MVCC at Watford if Networked Radiotherapy were delivered. An assessment of the revenue impacts of running radiotherapy on two sites rather than one was also completed.

This work was completed in November 2021 and was presented to the Programme Board for review (Appendix 17) confirming that it was feasible to deliver Networked Radiotherapy on either site but highlighting the additional capital and revenue costs of including Networked Radiotherapy in the re-provision proposals.

The Programme Board concluded that delivering Networked Radiotherapy should continue to be considered as part of the preferred option in spite of the additional capital and revenue costs of doing so, given the important access benefits that this would bring in improvements for patients travelling from the north of the catchment. However, in recognition of these additional costs, the Programme Board proposed that a preferred option including Networked Radiotherapy should be considered alongside the option of not delivering Networked Radiotherapy and consolidating radiotherapy in one location, in the proposed new MVCC at Watford. The need to include a Networked Radiotherapy unit in proposals was supported by the Patient Reference Group in January 2022.

Figure 6.6 – Template diagram for Networked Radiotherapy



Networked Radiotherapy planning principles

As part of the process of review and refinement of options in 2022, optimal planning principles and configuration for the Networked Radiotherapy option as a component of the overall re-provision proposals were considered. Final review of a series of detailed work took place at the December 2022 Programme Board and is included in full at Appendix 18. Two key areas were considered:

- Total radiotherapy capacity required

The Preliminary Reprovision Business Case included a total of 6 Linacs to deliver radiotherapy for the MVCC population, taking into account expected changes in demand for radiotherapy as well as the change in patient flows in North West London in line with optimising access for patients following the proposed service move to Watford (see section 6.3.2).

Activity data review highlighted that after the sharp drop in radiotherapy fractions delivered in 2020 as a result of breast hypofractionation and some short run Covid related impacts, radiotherapy activity at MVCC has grown again sharply. Modelling in 2022 suggested that by 2028 (which at that stage might have been when the reprovision opened) there would already be a requirement for more than 6 Linacs to accommodate MVCC activity (in spite of NWL patient flows changing), and not accounting for further growth. The Programme Board supported an increase in the proposal as a whole to include 7 Linacs.

- Review of the Networked Radiotherapy Unit configuration

The Programme Board also reviewed data and supported the need for spare bunkers at both the main site and Networked Radiotherapy site, to ensure resilience most especially during a period of Linear Accelerator replacement.

The need for a planning CT in the proposed footprint for the Networked Radiotherapy unit was also supported, given the fact that without this the majority of patients would still need to travel long distances for these scans, and it would limit the patients that were eligible for treatment at the Networked Unit (for example single fraction palliative patients who are usually scanned on the same day would not be able to have this close to home if there were no planning CT at the Networked unit).

Stakeholder scoring – proposals without Networked Radiotherapy

Scoring was undertaken to highlight the benefit of including Networked Radiotherapy in proposals when assessed and scored against the quality criteria. The benefit was not seen for the basic option but for both preferred and enhanced options score notably higher when Networked Radiotherapy is included (see table 6.15).

Table 6.15 – Stakeholder scoring to reflect quality impact of reprovision without Networked Radiotherapy – as at 31st March 2022

Weighting Summary (%) - NB no Networked Radiotherapy (no NR) scores reflect only 10 responses						
Organisation	Option IIa Reprovision (Basic)	Option IIa Reprovision (Basic) **no NR**	Option IIb Reprovision (Preferred)	Option IIb Reprovision (Preferred) **no NR**	Option IIc Reprovision (Enhanced)	Option IIc Reprovision (Enhanced) **no NR**
Quality of Care (24%)	**15%**	**15%**	**22%**	**19%**	**22%**	**20%**
Patient & Carer Experience (15%)	**8%**	**8%**	**12%**	**9%**	**13%**	**10%**
Sustainable Workforce (17%)	**10%**	**11%**	**14%**	**13%**	**14%**	**14%**
Training & Education (10%)	**6%**	**6%**	**9%**	**8%**	**9%**	**9%**
Research & Innovation (11%)	**7%**	**7%**	**10%**	**9%**	**10%**	**10%**
Deliverability (13%)	**8%**	**9%**	**9%**	**9%**	**8%**	**9%**
Strategic Alignment (10%)	**5%**	**5%**	**8%**	**6%**	**8%**	**6%**
Total Weighted %	**60%**	**62%**	**85%**	**74%**	**83%**	**77%**

Criteria for site selection for Networked Radiotherapy

The next stage of option development focussed on development of a robust mechanism to decide on the best location for Networked Radiotherapy, given both sites were feasible. The Programme Board agreed to engage a wide range of stakeholders in a process to develop clear criteria for making this decision, which started in 2022.

Through a series of workshops, stakeholders discussed and agreed on the criteria for assessing the two possible sites. The relevant weighting of the criteria were also discussed and the outputs of that work were subject to an independent review by the Eastern Academic Health Science Network (now Health Innovation East) in June 2023. The review highlighted the complexity of decision-making when balancing the needs of those who are most disadvantaged versus meeting the needs of the majority. It also highlighted the diligent work undertaken to date and the strength of feeling that the decision should be made in a transparent, defensible manner that takes this opportunity to advocate for those who currently experience the poorest outcomes in cancer care.

Their recommendations on the criteria and weightings were reviewed by the MVCC Strategic Review Programme Board in July 2024 and supported by all stakeholders on the Programme Board at that time. These are summarised in table 6.16 below and outlined in detail in Appendix 19 (see Appendix D of that document).

Table 6.16 - Summary of agreed criteria to determine optimal location of networked radiotherapy unit.

Section A – Pass/Fail criteria		
Area of focus	**Rationale**	**Compliance required**
Clinical quality	Clinical services are high quality and meet required standards	Site meets core standards & requirements of the national service specification for radiotherapy (adults)
Clinical quality	The service is able to meet the additional requirements of networked radiotherapy services.	Site meets network-specific requirements of the national service specification for radiotherapy (adults)
Integration with host Trust	Effective service integration will improve patient pathways and service delivery	Proposed site will ensure effective integration between the networked radiotherapy site and the host acute Trust.
Workforce	Workforce recruitment and retention are key to service delivery and patient outcomes.	The proposed site will make a positive contribution to staff wellbeing and experience
Section B – weighted criteria		
Area of focus	**Rationale**	**Criteria (& weighting)**
Demand for services	Any new facility must be able to provide sustainable capacity, integrated with required co-located services	The proposed site can meet the required and anticipated demand for integrated co-located services (20/85)
Patient access to radiotherapy	Requirement to reduce patient travel times for radiotherapy	Patients experience improved access because of the location of the networked service (20/85)
Reducing health inequalities	Improving access for disadvantaged groups will reduce health inequalities and improve outcomes.	Proposed site will improve access for service users in deprived areas, those in areas of low radiotherapy uptake and poor outcomes (30/85)
Patient experience	Investment should optimise patient experience	Proposed site will support improvements in additional patient experience factors as identified through patient and public engagement (15/85)

Clinical Senate review of Radiotherapy proposals

In parallel, the proposals for radiotherapy were also presented to a joint London and East of England Clinical Senate in April 2022 which supported the radiotherapy proposals that formed part of the overall re-provision proposal, notably confirming that they believed a Networked radiotherapy unit at Luton or Stevenage could support achieving the best models and outcomes. One of its core recommendations supported the proposal to include CT planning at the Networked site, in order to maximise the number and types of patients able to receive care closer to home:

> *The Joint Clinical Senate "endorse the proposal that the networked site should provide the most comprehensive service possible across its geography in order to improve access and to ensure sustainable services through a secure workforce."*

The Joint Clinical Senate also supported the benefit of additional capacity at Imperial to enable London patients to be given choice about where to receive radiotherapy in future. The Joint Clinical Senate also supported the proposed criteria although at that time the work described in the previous section to consider weightings and final definition of these criteria was ongoing. Their full report and recommendations can be found in Appendix 20 but an extract from their review of the criteria is included here:

Extract from Clinical Senate review of networked radiotherapy criteria (para 5.5)

The Panel concluded that that the criteria were appropriate and covered all key aspects. They propose that a robust local process should be developed to determine the weighting of the criteria. The overarching comments from the Panel related to this were that:

- Improved health outcomes for all and a reduction in health inequalities should be elevated above all.
- Sub criteria should be further worked up, both for clarity and to enable a robust numerical assessment against each component.
- It may be possible to combine some of the overarching criteria.

Networked Radiotherapy summary

Further work detailed in this section has confirmed that:

- Both Luton and Stevenage offer feasible site options for Networked Radiotherapy
- There are additional capital and revenue costs of delivering Networked Radiotherapy
- A Networked Radiotherapy unit in the north of the catchment will improve access for patients
- There is strong patient support for a Networked Radiotherapy Unit (see Appendix 18, Appendix A)
- Stakeholder scoring confirms that Networked Radiotherapy improves the preferred reprovision option scoring against the quality criteria
- The Joint Clinical senate is supportive of proposals for radiotherapy and their recommendations will be reflected through ongoing development of proposals.

A decision on the best site on which to locate a Networked Radiotherapy Unit for the MVCC population will not be taken until after public consultation, and only if it is decided that a Networked Radiotherapy unit should be included in plans for the future of the service, such that the full range of stakeholder feedback can inform this decision. At that time, the most up to date population data would be used to inform assessment against the relevant criteria to enable a decision on the preferred site location, Luton or Stevenage.

6.4.3 Consideration of closure of Mount Vernon Cancer Centre services

In a context where the capital required for reprovision was not available, it was recognised by the NHSE national Director of Finance that closure of services without reprovision needed

to be explored and better understood. This was approached with sensitivity given workforce concerns around the long term future of the service, and the potential precipitous impact of a number of staff choosing to leave if they felt that closure was a likelihood. The risk of raising public concern around closure was also noted; in any eventuality should closure be pursued it would have to be the subject of public consultation and scrutiny.

For these reasons, the exercise carried out in late 2021 to detail the financial and quality impacts of dispersing the service to other providers without reprovision was completed as a table-top exercise, with full detail included in Appendix 21. This modelled two scenarios.

- Dispersal Option 1: Closure and full dispersal of clinical activity to existing providers, with patients dispersed to their nearest existing provider for each service. In the East of England the lack of radiotherapy providers in the Bedfordshire and Hertfordshire areas would necessitate dispersal to London, Northampton and Cambridge primarily.
- Dispersal Option 2: Partial dispersal of clinical activity to existing providers in London and the South East. In the East of England it was proposed that a smaller reprovision would be required due to the challenges of the geography and consequent impact on patient travel times. At this stage, location at Luton or Watford were modelled for illustrative purposes, but with a view that if this option were to be pursued a full options appraisal of alternatives would be completed.

The additional capital costs to create capacity for the large volume of patients currently treated at MVCC were calculated and compared with the costs at that time for the reprovision options as described above.

Table 6.17 – Options with capital costs and quality scores – October 2021

Options	Secondary Option	Net cost (£m)	Quality score
Do minimum	N/A	36.5	34%
Re-provide on acute site	Enhanced	274.2	81%
	Medium/preferred	259.7	84%
	Basic	248.7	64%
Dispersal	Full dispersal	250.2	34%
Notes 1 and 2	Partial dispersal	237-248m	New option - not yet scored

Notes to Table 6.17

Note 1: Quality scoring and ranking by stakeholders not carried out for the partial dispersal option at this stage as this has been developed subsequent to the principal options development process and stakeholder assessment of these options. Quality scoring and ranking of the Do minimum option agreed that this option would result in dispersal of the service within the medium term.

Note 2: The capital cost of the dispersal options is preliminary and high level and would require further detailed review of the integrity of dispersed clinical pathways, schedule of accommodation, inter-relationships with services at host Trust sites and feasibility.

Note 3: Capital costs above have been revised from the PRBC to meet the requirements of the EoI process. All capital costs include VAT. Dispersal costs (full and partial) assume planning contingency of 7.5% and optimism bias of 26.18%, reprovision at this time assumed optimism bias of 15.12% (subsequently revised to 19.5%)

High level financial assessment identified that either partial or full dispersal would result in a modest capital cost saving when compared to the Watford preferred reprovision option, and

required a similar amount of capital to the Watford basic option. The high costs and relatively low level of capital cost savings is largely attributable to diseconomies of scale and the lack of excess capacity identified elsewhere in the system at that time– although where excess capacity was identified this was included (for example productivity gains in Linac throughput were assumed).

The impact assessment of each option highlighted the challenge of providing high quality clinical services with reasonable patient travel times. Existing providers were assumed to meet NHSE quality requirements, however the lack of current provision in the East of England indicated that under the full dispersal option travel times would lengthen significantly. An initial EHIA was undertaken as part of the review, which suggested that the impact of a full dispersal would fall disproportionately on some groups of patients who are already disadvantaged, including the elderly, people with a physical or learning disability, and patients in disadvantaged communities. The Strategic Review Programme Board therefore recognised that this option would therefore rightly be open to challenge, and likely to meet with strong objections from stakeholders if it were to be put forward at consultation. NHSE East of England were unable to support this option.

The alternative, partial dispersal option was developed in response to this, proposing a smaller reprovision in the East of England, combined with dispersal to existing providers for patients in London and the South East. Although this was estimated to be the cheapest of the options considered (excluding do minimum), significant concerns were highlighted in this option regarding the financial and clinical sustainability of such a small cancer centre, and whether it would in fact be able to deliver the specialist services required (not least due to challenges in retaining the expert workforce). This option would still be reliant on support from a tertiary cancer provider to provide effective leadership and clinical governance. Initial indications from UCLH as the preferred tertiary provider (transfer still subject to final agreement), were that the Trust would be unlikely to proceed on this basis, due to anticipated sustainability concerns, and the fact that this model would likely see a large proportion of patients having to travel to other specialist cancer centres for elements of their care. In this eventuality, an alternative tertiary provider may need to be identified, and the Programme Board agreed that this option may not therefore be deliverable.

This review demonstrated that closure of Mount Vernon Cancer Centre was a difficult option to pursue. It disproved the expectation that this would offer an easily affordable solution in a capital constrained environment; the capital costs of dispersal that were worked up were high level but significant, driven by the scale of capacity required for such a large population, the lack of excess capacity in existing providers, and the number of capital schemes that would be required to deliver the required capacity. The expected negative impacts on patients were also significant and while reduced in the partial dispersal option, there were significant concerns around feasibility and deliverability of this option.

Following discussion at the Strategic Review Programme Board in November 2021, the East of England regional team confirmed that closure and full dispersal should be excluded from the options still under consideration.

6.4.4 Further development and review of potential options

Work continued to review and refine the options in 2022, with further review and costings for the three core remaining options:

I. Do Minimum
II. Full reprovision at Watford, +/- Networked Radiotherapy
III. Partial dispersal following closure of the current service, which became known as the regional reprovision option

Do Minimum Review

The MVCC team led the review of the Do Minimum option for the future of the service with other colleagues from East and North Hertfordshire NHS Trust. This described the risks on the current site, mitigations for these risks and the minimum investments required to sustain services in the immediate term.

Through this review, 20 risks were identified across clinical, equipment, estates workforce and digital themes, 17 of which were rated as red risks. Clinical teams confirmed that the highest risk for the site remained the lack of acute adjacencies and impact that this had on their ability to care for acutely unwell patients with comorbidities and resultant:

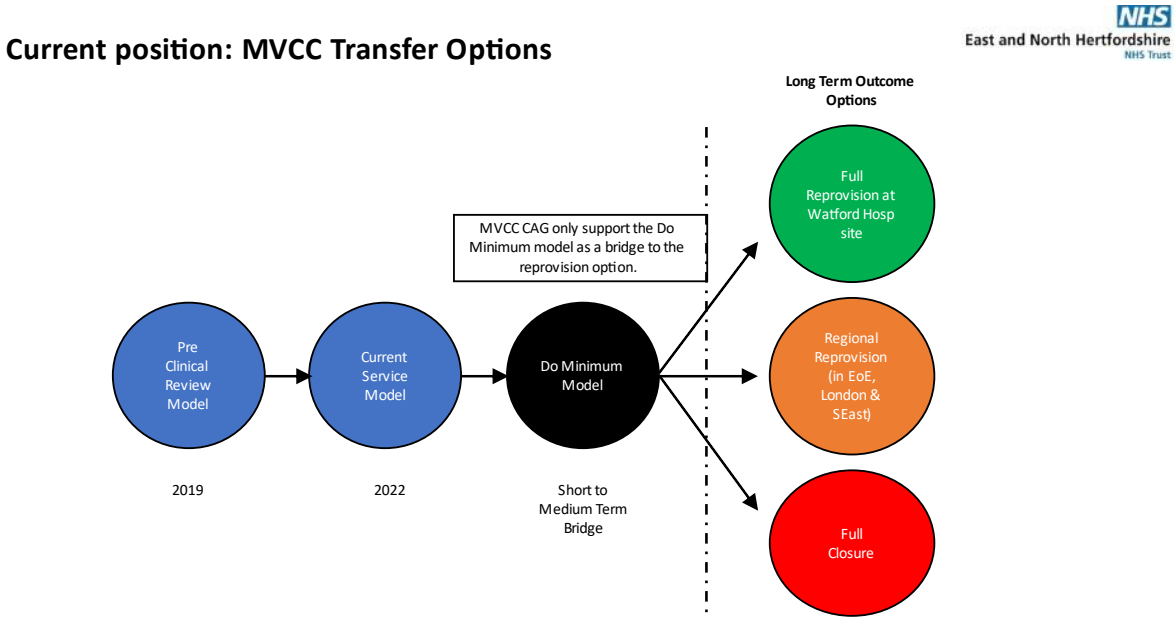
- Requirement to transfer patients who became more acutely unwell
- Inability to offer all specialist cancer treatments on the MVCC site to all patients
- Fragmentation of pathways, with potential for negative impact on patient experience and outcomes.

Clinical teams, led by the Clinical Advisory Group (CAG) reviewed and confirmed that there was no way to mitigate this risk other than through a transfer of the service onto a site with appropriate acute infrastructure, and therefore that the Do Minimum option could only be supported as a bridge to a long term solution for the service, as depicted in figure 6.7.

The review concluded that even to maintain services for another 3 years on the site would require £28m of capital investment in the estate, equipment and digital, with additional annual revenue costs of ~£8m a year.

The Programme Board agreed that this was not on its own a viable option to secure the future of MVCC services.

Figure 6.7 – Options for the future of MVCC as assessed by the MVCC team, July 2022



Refinements to the reprovision of MVCC at Watford- 2022

The previously preferred option for re-provision at Watford was reviewed to re-assess and re-evaluate whether:

i. There could be different ways to deliver the same proposal
ii. There were modifications to the proposal that should be considered.

As a starting point the preferred option as it had been presented in the Preliminary Reprovision Business Case was re-costed to take into account the impact of inflation over the previous year, and the impact of a change in location factor for Watford. This gave the following expected capital costs for the reprovision as previously described (Table 6.18):

MVCC @ Watford (£m) Element	Jul 22- standalone	Jul 22 + Networked R/T
Build	144.2	140.1
Networked radiotherapy (2 bunker facility)*	0.0	25.5
Equipment & IT	40.0	35.8
Contingency	3.7	3.6
Optimism Bias	23.7	23.0
VAT	53.1	55.6
Other costs	8.2	8.2
Total excluding inflation	**273.0**	**292.0**
Inflation	64.2	61.3
Total capital estimate (£m)	**337.2**	**353.4**

Table 6.18 – Capital Estimates for proposed new MVCC, with and without Networked Radiotherapy, as at July 2022

** To note the line describing Networked Radiotherapy includes all costs for this scheme, including the optimism bias, equipment, IT, contingency and VAT.*

A number of pieces of work were then undertaken involving key stakeholders:

- Comparison of the basic vs preferred options outlined in the PRBC

Figure 6.4 depicts the departmental breakdown of the preferred version of the Reprovision as had been detailed in the Preliminary Reprovision Business Case. This includes the addition of a small number of departments over and above a strict 'like for like' basic reprovision of current MVCC services. This review compared costs and implications of the reprovision as proposed, vs a 'like for like' replacement.

This included a detailed review of the proposals to build capacity for haematology. Excluding haematology would generate a capital saving but in this eventuality, WHTH would need to re-provide capacity for their malignant haematology service (not currently factored into their new hospital build proposals). This could delay their programme and require additional capital to deliver, making the net expected capital saving only £5.8m. It was noted that the haematology component represented 4-5% of the total capital cost (as part of with or without Networked Radiotherapy options) but was expected to generate 18% of the clinical income (excluding pass through drugs) in the revenue model for the reprovision. Patient feedback strongly supports the need to repatriate activity closer to home from central London and this is also supported by BLMK and H&WE ICSs strategy. Finally the significant specialist workforce benefits of having haematology were noted including greater opportunity for developing skills and experience with resultant recruitment and retention benefit, and an increased volume of the overall service allowing for more specialist supporting staff across oncology and haematology. For all of these reasons the Programme Board were supportive of maintaining haematology within the proposals.

Specialist therapies were recognised to be integral to specialist service provision and by that time proposals were in motion to create dedicated therapy review rooms and a rehabilitation gym at the current MVCC site (at the time of writing this is now in place, thereby transferring this requirement to a 'like for like' replacement model).

- Opportunities to collaborate more closely with WHTH

As part of this review, further discussions were held with WHTH around clinical service collaboration, which identified that Interventional Radiology requirements should be able to be met within the WGH new development. Given the ability to transfer patients across the proposed link bridge this could ensure access for inpatients as well as outpatients. It was agreed that duplicating two interventional radiology facilities in adjacent buildings was not a good use of resource, and it was therefore agreed to remove this requirement from the preferred option with a £17.7m saving.

Further collaborative approaches were also explored with the aim of generating efficiencies and capital cost savings. Initial high-level review indicated that there would *not* be significant

cost savings by creating a single building, given disruption to clinical configuration and adjacencies in the new proposed WGH, challenge to net zero carbon solution with increased height of building, significant redesign requirement estimated to delay earliest start date of construction by a minimum of 6 months (with resultant inflationary impact).

The programme already assumes some limited shared infrastructure such as the VIE and mortuary. Potential opportunities to save on other shared infrastructure were difficult to explore at this stage given the differences and uncertainties on timelines of the two programmes, and the potential detriment to the WGH programme and inflationary impact netting off any potential benefit. With clarity on timelines, further discussion would be warranted and WHTH were happy to engage at that stage (for example energy centre, shared project office; benefits *could* be up to 5% of the MVCC scheme)

- Opportunities to deliver components of the service in a different way

The Do Minimum review had identified challenges for radiopharmacy within its current facilities at MVCC which needed resolution prior to a new MVCC being available – even if the go ahead for this had been at that time in 2022. Radiopharmacy does not have to be co-located in Cancer Centre clinical facility and removing this from the preferred reprovision option resulted in a capital saving of a further £5m (to note an alternative plan for radiopharmacy provision which can deliver in shorter timescales is under development)

Interventional Radiology and brachytherapy were proposed to share theatre support services and so with the removal of Interventional Radiology from the proposals, it was appropriate to consider if the theatre for brachytherapy should also be removed, with MVCC relying on access to WGH theatres; removing this from the proposal would reduce the capital cost by £8.6m. Theatre access for brachytherapy is currently provided on the Mount Vernon site through an SLA with a private provider. Clinical concerns were raised around the inherent risk in relying on another service provider with competing priorities, and the resultant risk to stable service provision. WHTH were not able to comprehensively commit to the allocation of sufficient capacity for the brachytherapy patients, particularly the guarantee of morning theatre lists for the High Dose Rate brachytherapy patients. There were also concerns around the inefficiencies and patient experience impacts of moving patients significant distances between buildings. These negative impacts and risks to this regional specialist service were agreed by the Programme Board to outweigh the modest reduction in capital cost of the proposed scheme (~3%).

- Consider whether there is a way to phase the delivery of the preferred option over time to reduce costs

The project team reconsidered the potential timeline for the proposed reprovision to consider if there was any opportunity to phase the development and therefore spread capital costs of redevelopment over a longer period of time.

Multi-disciplinary clinical leads considered two phasing scenarios - addressing the highest clinical risk area by moving inpatient services from the current MV site to the new MVCC first, or moving radiotherapy as the basement department first with phased completion of other clinical service moves following that.

UCLH's recent experience of trying to manage a part service/ part building site facility had been very challenging, and this approach was expected to increase overall cost, not least due to elongation of the programme and inflationary impact of this. Clinical adjacency requirements were identified and workforce impact assessed. Additional spend requirement was identified but not quantified and patient impact reviewed. This was not felt to offer any benefit, other than potentially in the delivery of Networked Radiotherapy which may offer efficiency in capital replacement (by avoiding replacement on the current MVCC site) but this would be dependent on certainty over timelines.

- Revised capital costs for reprovision

As detailed above a number of modifications were made removing elements:

- Which can be delivered by another organisation without introducing service delivery risk to MVCC
- Do not result in increased capital costs in another area
- Do not compromise delivery of patient care, including care closer to home.

This resulted in the following reduced costs in July 2022 (table 6.19).

Table 6.19 – Comparison of capital costs for new MVCC – January 2022 & following review in July 2022

New MVCC @ Watford	All radiotherapy at Watford		With Networked Radiotherapy	
	Jan 2022: All Departments	Jul 2022: Remove IR & Radiopharmacy	Jan 2022: All Departments	Jul 2022: Remove IR & Radiopharmacy
Total capital estimate (£m)	**342.3**	**314.3**	**358.5**	**331.7**
Cost reduction (£m)		**-28.0**		**-26.8**

Certainty on timelines was needed to realise any further opportunity with WHTH. Key opportunity in phasing capital spend is in radiotherapy – needs clarity on funding and timeline for further evaluation.

Development of the Regional Reprovision option

This work was led by each of the three regions with notable numbers of patients at MVCC, South East, London and East of England.

- Repatriation of patients to London and South East in the event of closure

London and the South East both considered the costs, quality implications and feasibility of repatriating all of their own patients currently treated at MVCC into existing providers in their regions.

Both regions noted the significant amount of activity that would need to be accommodated and expressed concerns around the feasibility of increasing capacity to do so, across both the diagnostic and treatment parts of the pathway.

South East confirmed that an expected £30m capital would be needed along with an increase in staffing, with associated cost but also risk given the nature of staffing required in hard to recruit groups. They expressed significant concerns around the ability to take back their activity which represented about 10% of MVCC activity.

London confirmed that additional chemotherapy, radiotherapy and diagnostic capacity would need to be created, with associated capital and revenue implications (over and above the capacity they planned to offer to give patients choice in any proposed move to Watford). The additional capital required was £21million.

- East of England Reprovision

A more detailed piece of work was undertaken to develop a proposal for this element of the partial dispersal option. This followed the same process as the development of the feasibility study for the proposed reprovision at Watford, utilising shared methodology and assumptions where appropriate:

- The development of an activity plan
- Shortlisting the site options
- The development of the schedule of accommodation
- Feasibility assessment and development of initial design for regional reprovision.

East of England activity plan

The same baseline data (2019/20) as used for the reprovision activity model described in section 6.3.1 was used as the starting point for this work. Activity from East of England providers was separated and expected changes and growth applied in line with the central model for the reprovision. The small amount of activity from regions other than London and South East was also included, on the basis that this was expected to reflect super-specialist activity specifically referred from other regions, for example for Brachytherapy.

East of England site options

The essential criteria for site selection were unchanged from those for the proposed reprovision of MVCC, and as described in detail in section 6.1.2:

- Critical care provision
- Clinical Adjacencies
- Geographical Accessibility, identifying a site central to the catchment area as reflected in figure 6.8.

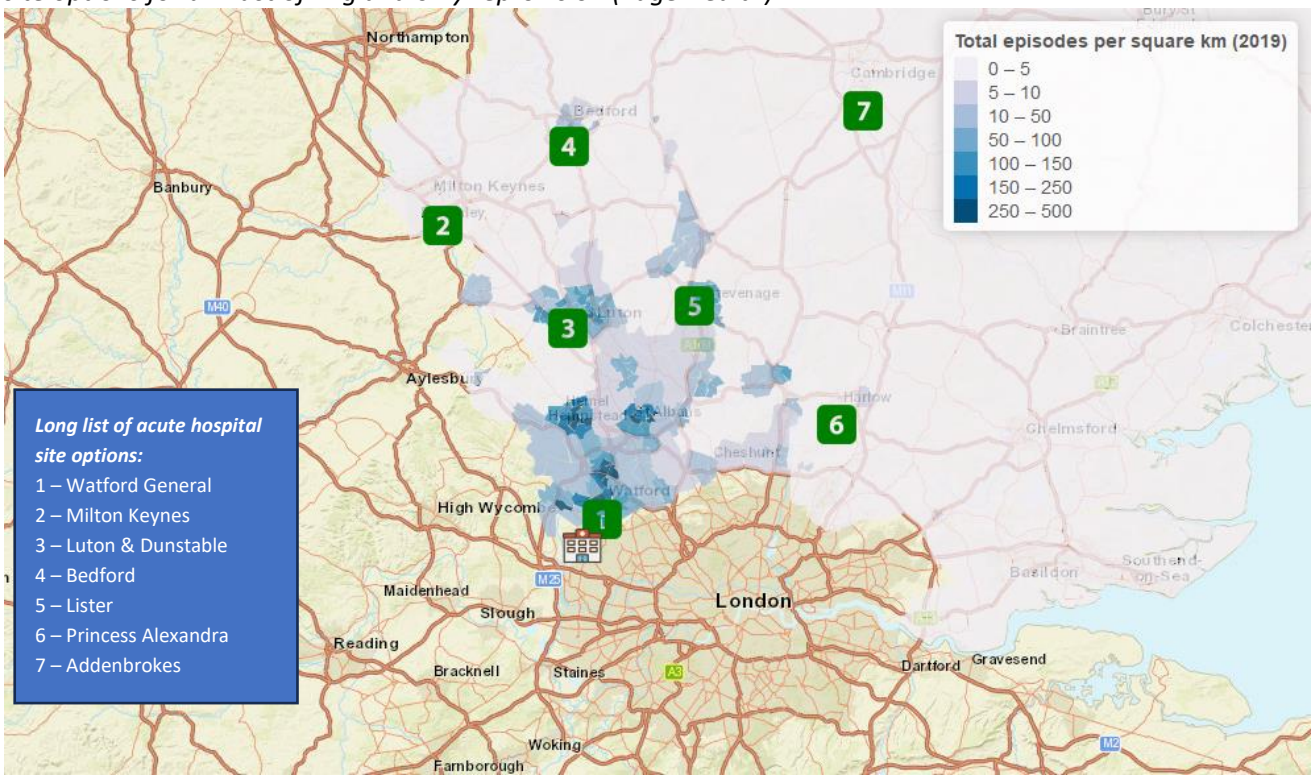
Each of the acute hospital sites in the East of England catchment area were assessed against the essential criteria, in exactly the same way as sites had been assessed for the development of the full reprovision option, but for the travel and access criteria, these were only measured for the East of England cohort.

Average travel times were acceptable in Luton, Stevenage and Watford (no material deterioration from current). There was no significant increase (5 percentage points) in the proportion of patients with long (30 minutes or more) travel time to Luton or Watford. Only Watford showed an improvement in public transport times. As a result further analysis focussed on the Luton, Stevenage and Watford sites.

Table 6.20 – Potential East of England reprovision sites – assessment against key criteria

Acute site	Critical Care	Co-located services	Average travel time	Improvement in long (30 min) drive times	Public transport
Addenbrookes (CUH)	✓	✓			
Bedford (BFT)	✓	✓			
Harlow (PAH)	✓	✓			
Luton (BFT)	✓	✓	✓	✓	
Milton Keynes (MKUH)	✓	✓			
Stevenage (ENHT)	✓	✓	✓		
Watford (WHTH)	✓	✓	✓	✓	✓

Figure 6.8 – Catchment map of East of England activity delivered at MVCC and long list of potential site options for an East of England only reprovision (Edge Health)



Development of schedule of accommodation

A schedule of accommodation was developed from the activity model for the East of England patient flows to provide capacity for two different scenarios:

Option A: Core provision

- Radiotherapy (5 Linacs, 6 Bunkers)
- Brachytherapy (theatre and brachytherapy suite)
- Chemotherapy (circa 17 chemotherapy chairs) and Acute Oncology Service
- Inpatient beds (15 beds)
- Diagnostics
- Therapies and supportive care
- Outpatients
- Nuclear medicine, aseptic radiopharmacy
- Research capability
- Supporting infrastructure

Option B: Core provision plus haematology

- Core provision as detailed above, plus
- Additional 13 inpatient beds for haematology
- Additional 4 chemotherapy daycare chairs for haematology

Concept design and feasibility study

BDP were commissioned to look at the feasibility of an East of England only reprovision on each of the Luton, Stevenage or Watford sites. Using the same design team as for the preliminary reprovision work meant that the same approach and assumptions could be used (where appropriate), and allowed a quicker and more efficient approach to this piece of work. They assessed the feasibility of each option and developed a concept design and costing for each, taking into account any opportunities identified with the host trust to use existing capacity or shared infrastructure.

For Watford, given the work on the full reprovision the design proposal was a modification of the full reprovision, with assumptions about the same site being used. Use of existing capacity was expected to be limited (potential for theatre capacity and critical care only), but some shared infrastructure was felt to be feasible. The main concern regarding this option was the difficulty in making this an 'East of England only' facility given Watford is the local DGH for a proportion of the NWL population. This could quickly result in the facility not having adequate capacity to treat all patients. Capital costs were expected in the range of £206-£216m (costed in July 2022).

Luton identified a number of potential areas for shared infrastructure capacity, including theatre provision, inpatients, critical care, some diagnostics and some office accommodation thus reducing the footprint of the required East of England cancer facility. The Trust recognised the opportunity to bring together existing Trust cancer services within a new cancer centre. A feasible option on their site was identified (see figure 6.9) with capital costs estimated in July 2022 in the range of £192- £212m).

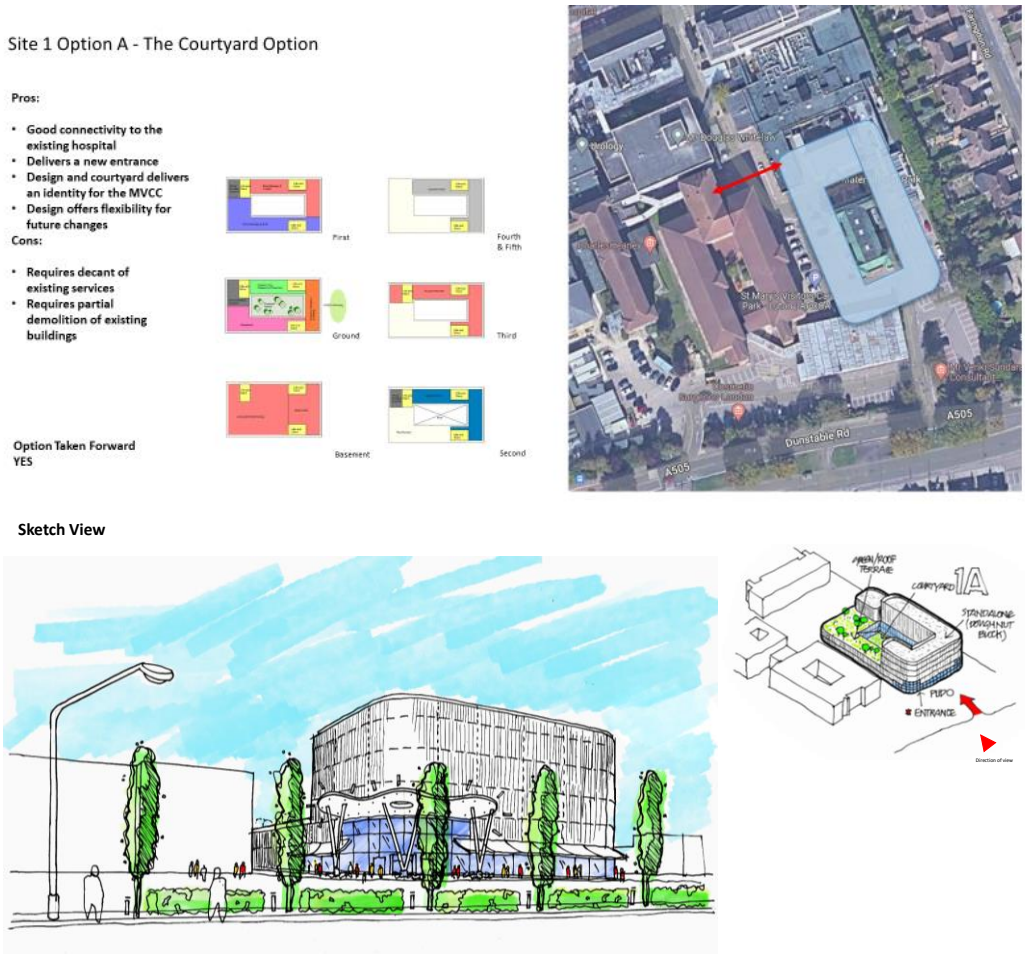


Figure 6.9 – East of England reprovision at Luton – excerpts from feasibility study – BDP July 2022

East and North Hertfordshire Trust were also supportive of identification of a location on their Lister Hospital site for this specialist cancer reprovision. They expected to retain management and operation of the non-tertiary services on their site, for example chemotherapy. There were potential synergies with theatre provision, critical care and office accommodation. A feasible estate option was identified which was estimated to cost in the range of £194-217m (see figure 6.10 for detail).

Patient engagement on the East of England reprovision proposal

During this review period the Patient Reference Group reviewed the potential for an East of England only reprovision. They were clear that capacity must be developed within the Hertfordshire/ Bedfordshire footprint and identified Luton, Stevenage and Watford sites as the most appropriate to consider. They identified critical factors informing this option:

- Cancer outcomes
- Consideration of neighbouring patient flows
- Complexity and length of patient journeys including public transport factors
- Equity of access to services
- Important of the networked clinical model in all potential scenarios.

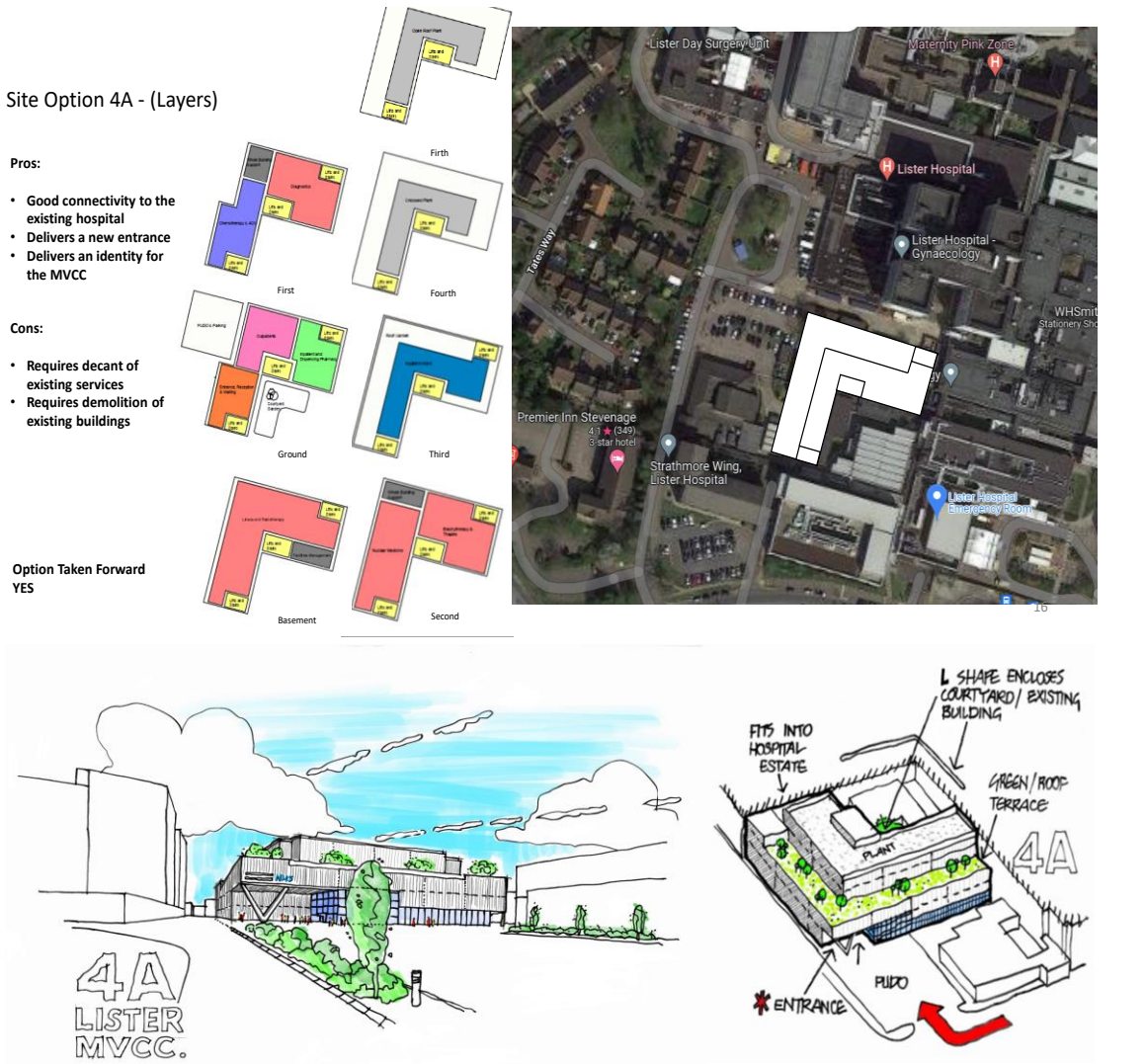


Figure 6.10 – East of England reprovision at Lister hospital, Stevenage – excerpts from feasibility study – BDP July 2022

Equality & Health Inequalities Impact Analysis – East of England reprovision

An initial, high level Impact Analysis was undertaken to begin to explore the key impacts of an East of England reprovision. Each of the three options were believed to improve the equality impact as compared to the current services, although each had different degrees of impact on different groups. Table 6.21 summarises the relative ranking of each site option for each population. It was noted that more detailed work would be needed, especially once 2021 census data was fully available, to understand the differential impact of the three proposed options, if the regional reprovision were to be pursued.

Table 6.21 – Extract from East of England initial Impact Analysis (Appendix 22) – July 2022

Most positive impact (ranking 1 = most positive)	Populations closest to Watford	Populations closest to Luton	Populations closest to Stevenage
Watford	1	2	3
Luton	2	1	2
Stevenage	3	3	1

Key risks in the East of England Reprovision

The main concern raised by clinical teams in development of this proposal was the sustainability of a specialist cancer centre of this size. This ranged from basic concerns around how to safely staff a completely standalone 15-bedded inpatient unit with specialist cancer staff, to whether there would be the critical mass of patients to ensure staff had the level of competence and expertise to deliver the full range of complex specialist oncological treatments or whether some of the more specialist work would necessarily be done at larger cancer centres, thereby rendering this East of England only reprovision effectively the spoke of another specialist cancer centre, with resultant recruitment and retention and patient access challenges.

UCLH as preferred tertiary provider of these services expressed serious concerns around the sustainability and potential negative patient impact of a Cancer Centre that could not deliver the full range of complex care to patients. It was not supportive of this option, such that if this option were to be pursued an alternative tertiary provider may need to be found.

Conclusion of the East of England Reprovision development review

This work had identified that there were 3 feasible estates options to deliver a specialist cancer centre catering only for patients in the current MVCC catchment who were from the East of England region. Capital costs for these options ranged from £192-£217m, with no material difference between the options. Sustainability concerns were raised regarding this option.

- Regional Reprovision Summary

Detailed work to consider what a regional reprovision for MVCC might look like highlighted the pressure that this option would place on existing providers in London and the South East, and the challenges of a safe and sustainable East of England only reprovision.

All regions noted their significant concerns about workforce sustainability within this model, additional revenue costs, inefficiencies and deliverability.

Conclusion of the Options Review July 2022

The Programme Board reviewed the detailed work that been undertaken to agree its recommendation.

Do minimum was excluded as an option in its own right, because it was recognised that it only provided a bridge to another longer term solution for the service, and not a long term solution in its own right.

The Programme Board then compared the capital costings for the full reprovision and regional reprovision, noting that there was not a significant difference in capital costs of the two options, much the same as the previous year's table top review of closure and dispersal costs. All options were noted to have a significant capital requirement as reflected in figure 6.11

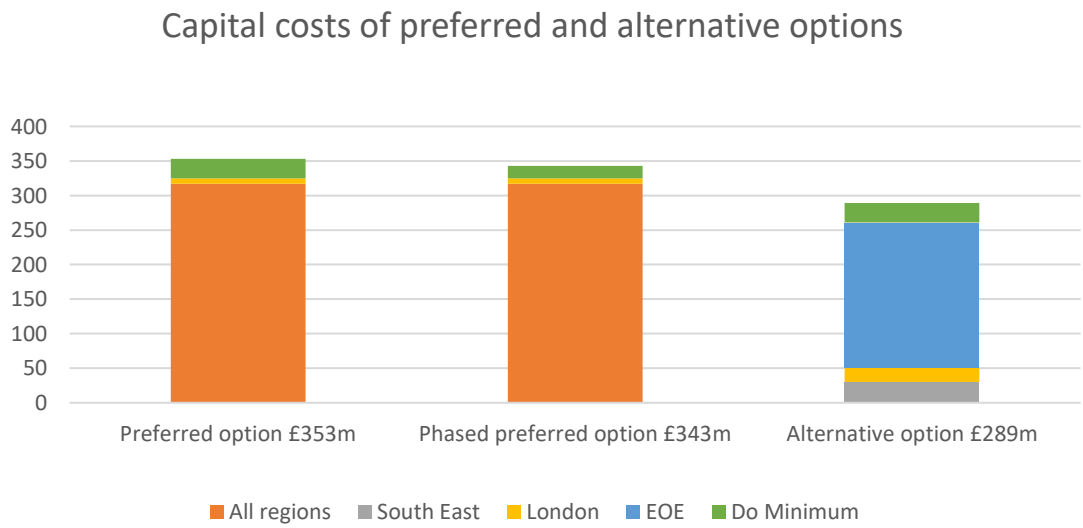


Figure 6.11 – Capital costs of reprovision options - as priced at July 2022

Notes:

(a) *Full Reprovision – revised preferred configuration option: £317m plus £28m Do Minimum, £8m London – Total of £353m*

(b) *Phased full reprovision: £317m plus £18 Do Minimum (due to avoidance of abortive Linac replacement costs, £8m London – Total of £343m*

(c) *Regional reprovision: £200m East of England (based on average) plus £10m Haematology adjustment, London £21m, South East £30m, Do Minimum £28m – Total of £289m.*

The concerns around clinical viability and deliverability of the regional reprovision option (from all three regions) were noted, and it was not supported that this option should continue to be considered as a result. The Programme Board agreed that the proposal for Full Reprovision on the Watford site should be put forward as the preferred and only option considered to be viable. This was presented to the NHSE Director of Finance and national team who supported the conclusions of this options review and recommendation of the Programme Board.

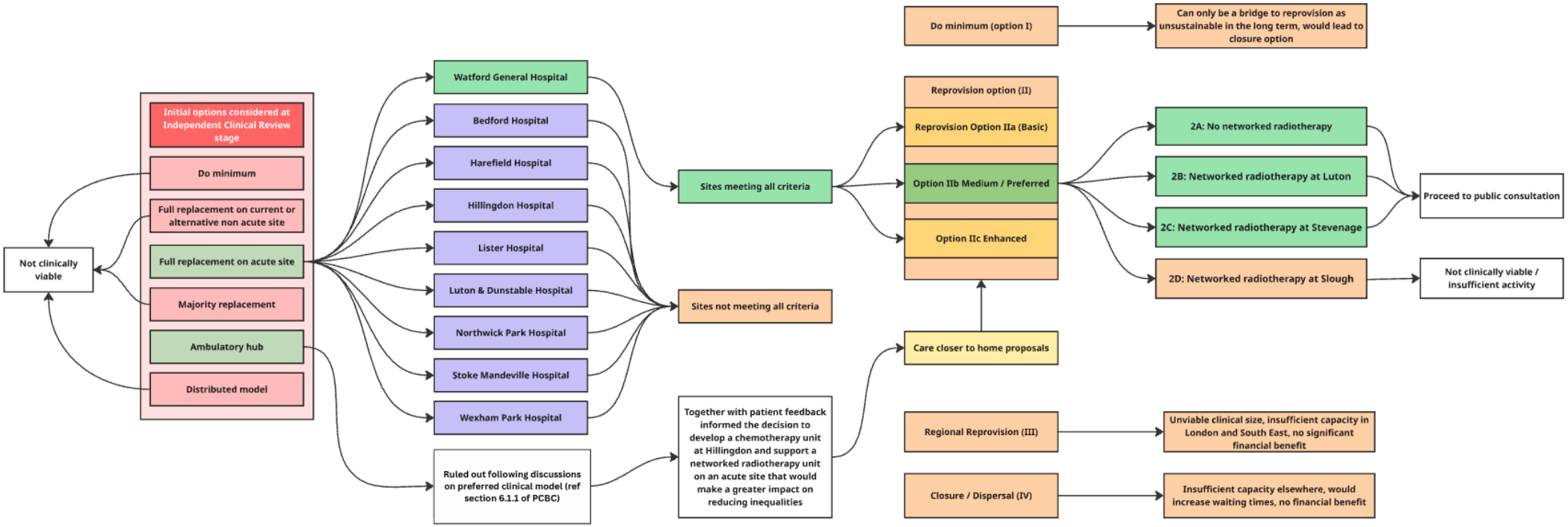


Figure 6.12 Diagrammatic representation of the Options Development process as described through Section 6

6.5 Preferred Option Refresh – 2024-25

In preparation for public consultation and in light of the time elapsed since initial development of the preferred option, the reprovision proposals were reviewed again in 2024. The options development process is summarised in figure 6.12.

The MVCC Strategic Review Programme Board recognised in September 2024 the fact that Mount Vernon Cancer Centre is an anomaly, as the only specialist cancer centre remaining nationally that is isolated on a single specialty site without the necessary surgical and medical support such as critical care. In spite of recent investment in the fabric of the estate to remedy some of the most critical backlog maintenance issues, the Programme Board recognised that the core findings of the Independent Clinical Review (2019) remain relevant. Review of the Do Minimum risks by the MVCC team (June 2024, review of work described in section 6.4.4, see figure 6.13) also highlighted that in spite of some improvements to mitigate risks on the site, a number of critical (red) risks remained, which could only be mitigated through re-provision of the service on an acute hospital site.

Figure 6.13 Changing Risk profile: MVCC

	Risk Theme	Total no. of risks	Red RAG	Amber RAG	Yellow RAG	Green RAG	Closed risk
1	Clinical	8	8	0	0	0	0
2	Equipment	3	1	2	0	0	0
3	Estates	18	17	1	0	0	0
4	Workforce	5	5	0	0	0	0
5	Digital	7	7	0	0	0	0
	Total	**41**	**38**	**3**	**0**	**0**	**0**
	% Profile		**93%**	**7%**	**0%**	**0%**	**0%**

July 2022

	Risk Theme	Total no. of risks	Red RAG	Amber RAG	Yellow RAG	Green RAG	Closed risk
1	Clinical	8	2	6	0	0	0
2	Equipment	3	0	2	0	0	1
3	Estates	18	6	6	4	1	1
4	Workforce	5	0	2	2	0	1
5	Digital	7	4	0	1	2	0
	Total	**41**	**12**	**16**	**7**	**3**	**3**
	% Profile		**29%**	**39%**	**17%**	**7%**	**7%**

June 2024

On review, the Programme Board maintained support for these proposals which are summarised as follows (with high level pathway impacts illustrated in figure 6.14):

- ***Full reprovision*** of all current MVCC services, relocating them from the current site in Northwood onto the Watford General Hospital site, and creating a new comprehensive tertiary cancer centre run by UCLH at the heart of a network of oncological care. Adjacency with an acute hospital and a link bridge to connect the new Cancer Centre to this hospital ensures required access to supporting clinical services and the ability to transfer patients quickly and safely where required, for example to critical care. Co-location also allows some key supporting services to be delivered by WHTH to avoid duplication on the site:
    - Aseptic pharmacy
    - Interventional radiology
- Repatriation of specialist ***haemato-oncology*** services for Hertfordshire and Bedfordshire patients from UCLH in central London where these patients are currently receiving treatment. Consolidation of malignant haematology services currently delivered by WHTH in Watford General Hospital into the new Cancer Centre such that there is one specialist service provided on the Watford site.
- Improved access to ***radiotherapy*** through:
    - A Networked Radiotherapy Unit in the north of the catchment at either Luton or Stevenage
    - Increased radiotherapy capacity at Imperial Healthcare Trust to ensure patients in North West London have the choice of receiving their care closer to home
- Improved access to ***chemotherapy*** for patients in North West London through:
    - Expansion of the chemotherapy service at London North West hospitals (Northwick Park)
    - A new chemotherapy service for patients with solid tumours within the new Hillingdon Hospital currently under development.

No further changes were made to the proposed content of the reprovision, which is summarised in the tables 6.22 (a&b). The regional reprovision option which was explored (and detailed in section 6.4.4) was still not considered to offer a viable alternative proposal.

Table 6.22a – Departments proposed in the preferred new Cancer Centre, with agreed assumptions around support to be provided from within Watford General Hospital - 2024

Department Name	Current MVCC department or New
Support & Information Service	Current – Lynda Jackson Macmillan Centre
Outpatients Department	Current
Therapies	Current, although reprovision offers further enhancement to facilities available
Pharmacy	Current – OP dispensary and IP pharmacy [No aseptic pharmacy is included in the Cancer Centre footprint on the assumption that the Cancer Centre will work closely with the Watford General Hospital Team where needed.]

Oncology inpatient beds	Current. (This includes some specialist palliative care inpatient admissions for symptom control. Teams work in conjunction with community and hospice care providers but these services are not provided at or by MVCC and so are not in the scope of this service proposal and consultation)
Haematology inpatient beds	New – repatriation of activity from UCLH and transfer of WHTH service
Acute Oncology and Supportive Care	Current (AOS & John Bush) reconfigured to one unit [A&E at Watford General Hospital will still provide the front door for some emergency admissions but Acute Oncology pathways will be agreed across MVCC and WGH]
Chemotherapy daycare and ambulatory care	Current – with improvements in ambulatory care
Diagnostics	Current – Paul Strickland Scanner Centre service [NB Interventional radiology provision in new WGH development]
Nuclear Medicine (diagnostic, & therapeutic)	Current [NB – separate project to re-provide MVCC radiopharmacy which provides a regional service is already underway]
Brachytherapy Suite	Partially current, partially new – brachytherapy is provided at MVCC but no theatre capacity currently
Radiotherapy	Current. 7 Linacs proposed in total.
Private Patients	Current

Table 6.22b – Other key assumptions regarding support services from Watford General Hospital as agreed, and reflected in reprovision proposals as they currently stand. To note these will be re-tested should the preferred option proposals be supported and progressed following consultation, and in light of any relevant feedback received through the consultation period.

Key clinical assumptions (not reflected in table 22a)	
Critical Care	MVCC patients will be transferred via link bridge to WGH Critical Care as required. An estimate of 1 additional CC bed was proposed for increase in haematology activity on the site. Critical care outreach for review of deteriorating patients prior to transfer to be established via SLA
Other medical and surgical support	SLA(s) to be in place to ensure MVCC clinicians have adequate support from WHHT specialists In some specialities this may be limited to telephone advice, in others, team may review patient prior to any transfer, or provide routine input to patients on MVCC wards
Pathology & Blood transfusion	Some Point of Care testing will be available in MVCC but most pathology will need to be provided externally. Some blood transfusion support may be required

Infection Prevention and Control	This support may best be provided via SLA from WGH rather than from UCLH and will be subject to further discussion
Assumptions around support services	
Waste Management	MVCC to have a small central hold for the swapping of full and empty waste bins but main hold between deliveries to be centralised with the acute hospital Waste from nuclear medicine will need to be considered
Mortuary	MVCC will not have its own mortuary and would need an SLA with WHTH to utilise their mortuary services and any associated bereavement services.
Sterile Services	Limited support will be needed for sterile instruments used in brachytherapy theatre
Hard and Soft Facilities Management	For efficiency and economies of scale these may be best provided within contracts supporting the WGH site. Catering (steamplicity or regen only), cleaning and security facilities have been included in preliminary MVCC designs.
Central Deliveries	The MVCC will have deliveries from the same suppliers as the acute hospital that may be more efficient to have delivered to the main hospital delivery bay then transported to MVCC. Pharmacy deliveries may need to come direct to MVCC
Multi-faith facilities	A multi-faith room has been included in the preliminary MVCC reprovision plans but capacity may be limited and Cancer Centre patients and staff may access WGH facilities
Restaurant facilities	New MVCC will have café facilities but not full restaurant and therefore staff and patients may choose to use facilities in WGH
Office accommodation	Limited hot desking and MDT workspaces are included in the design for the new MVCC. Full office accommodation for all staff is not included in this clinical building, and an alternative location will be needed to complement the MVCC space. Preliminary discussions about opportunities on WGH site but no confirmed plans.
Parking	Parking for staff, patients, carers and other visitors will be needed. Nominal cost is included in project capital estimate. This should be planned as part of the overall site strategy for travel, transport and parking at WGH. Cancer centre ambulance drop off and some disabled parking has been designed adjacent to the new MVCC

In addition, review of the up to date proposals for the new Watford General Hospital confirmed that the same location for the Cancer Centre on the Watford site was still preferred. This is shown in figure 6.15 overleaf. BDP and Arcadis who completed the original feasibility studies have been involved to confirm no material changes to the feasibility of delivering the proposals but have revised capital costs as detailed in section 7.

The Clinical Senate for East of England, London and the South East have also re-confirmed their support for the reprovision proposals including radiotherapy in November 2024 (as previously reviewed in 2021, and 2022 respectively, see sections 6.4.1 and 6.4.2 and

Appendices 16, 20 and 23). All three Clinical Senates will be involved in reviewing the Decision Making Business Case in due course.

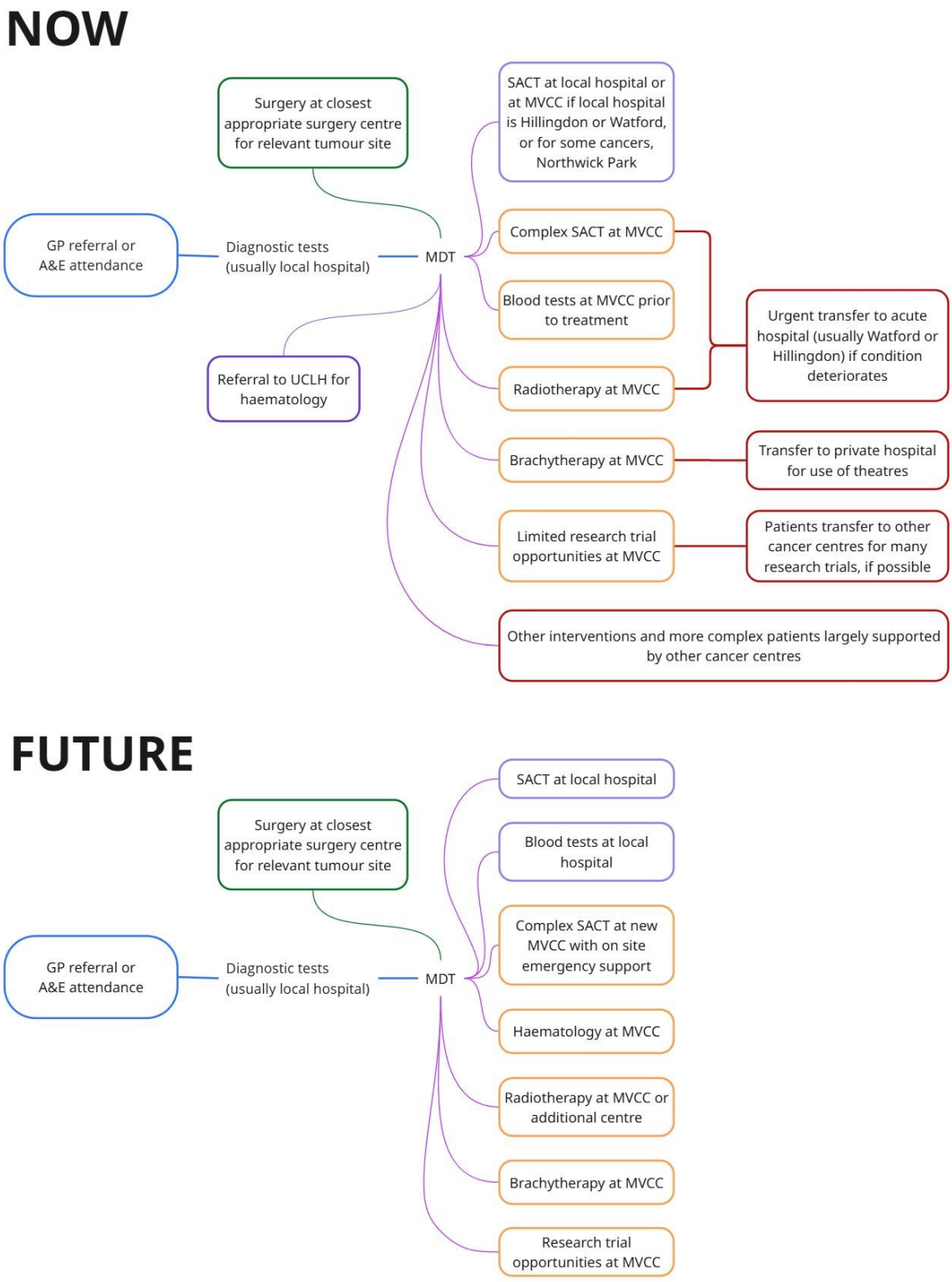


Figure 6.14a: This high level pathway illustrates the key changes for patients that will be delivered through the proposed clinical model and reprovision of MVCC. Overleaf a more detailed pathway (figure 14.b) shows an example of the change that a haematology patient would see if these proposals were supported at consultation.

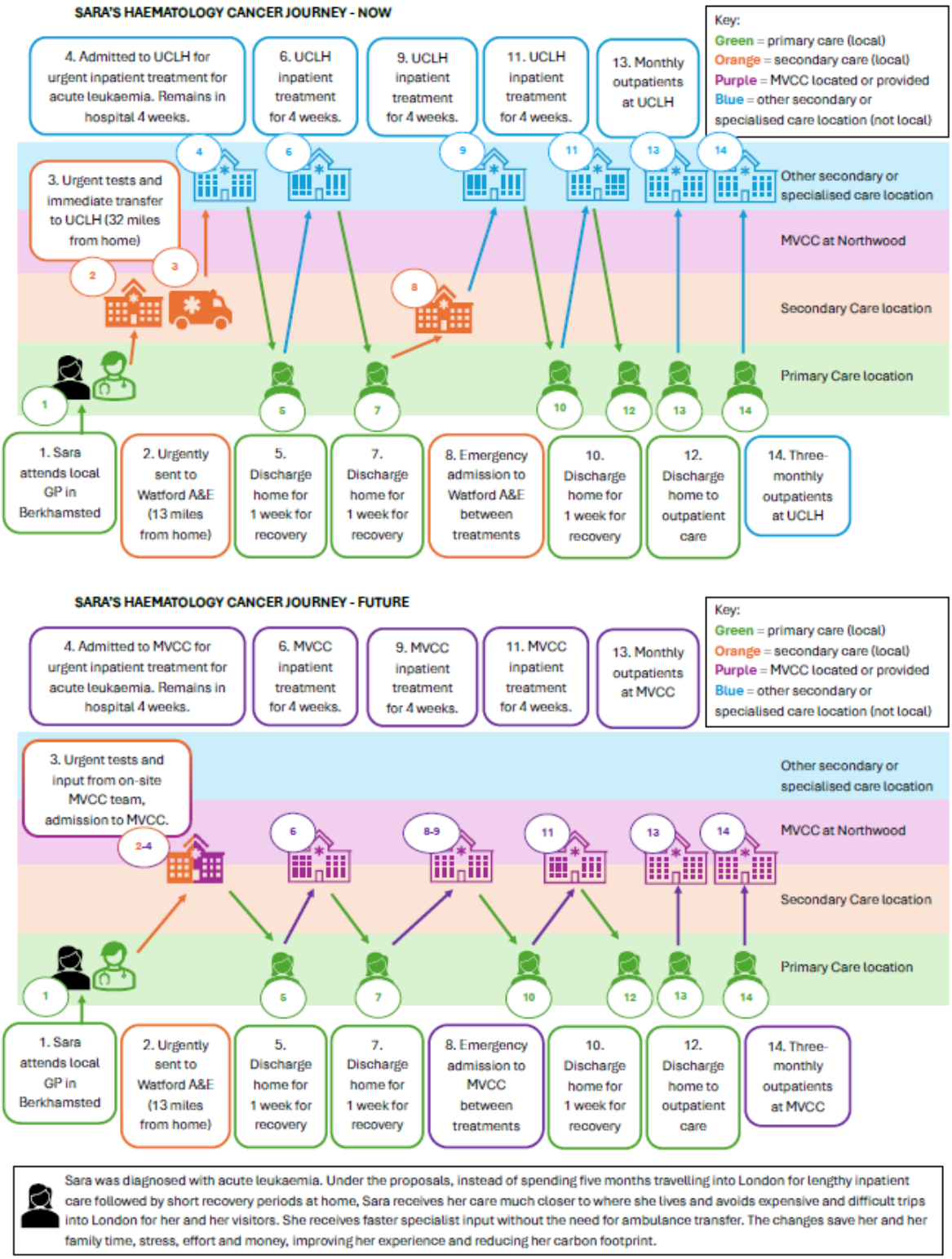


Figure 14b. A diagrammatic illustration of an example patient pathway currently and in the future, should the proposals for the new Cancer Centre at Watford be supported. This illustration focuses on a patient with leukaemia, which currently cannot be treated at MVCC due to the limited acute clinical infrastructure on the site as detailed in the case for change (section 4).

6.5.1 Re-testing the activity model and proposed capacity

Given the time elapsed since development of the activity model for the reprovision (as described in section 6.3.1) and a number of known changes, for example the development of chemotherapy at home, and a large number of new chemotherapy treatments as a result of NICE Technology appraisals, the activity model on which the original reprovision proposals were first tested at high level. These showed some variations from the expected trajectory of activity growth which were not believed to be material to the reprovision proposals at this stage of the design process.

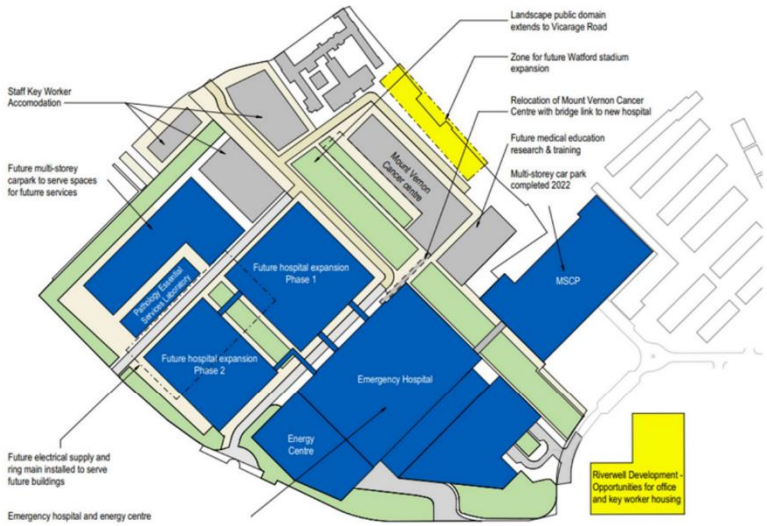


Figure 6.15 2024 site plan for the Watford General Hospital development showing new MVCC in preferred location; please note that Watford General Hospital planning work is ongoing so there may be further changes to this plan (source: WHTH)

However, the original growth forecast had only focused 10 years into the future (to 2030/31) and it was recognised that an updated forecast for 10 years from the current was needed to underpin the reprovision proposal. This is particularly important to inform the potential commissioner costs of the reprovision (detailed in section 7.2.2) as well as to test capacity currently planned within the reprovision proposal. An exercise to repeat the initial activity modelling was undertaken, with 2023/24 actual data as the starting point and forecasting to 2035/36. This used a similar methodology to the initial activity model but with some modifications to the strategic changes manually applied to reflect where predicted changes had now taken place and were reflected in the baseline.

The detailed process for this was as follows:

- Activity data for 2023/24 used to create the baseline (the same East and North Herts dataset as used in 2021 was pulled for 2023/24)

- An activity model reflecting strategic changes (see table 6.21), for example the shift of malignant haematology activity from WHTH and UCLH, and transfer of radiotherapy to North West London providers was developed to give a 'modified' 2023/24 baseline value.
- Expected growth and changes in cancer incidence were then applied to this modified 2023/24 baseline to calculate expected activity at the time of opening as well as in its 5th year of operation (2035/36).
- Growth rates for most activity followed the incidence projections as modelled by the East of England Cancer Alliance (by tumour site and sex), based on published methodology (figure 3.4) [32]
- Growth rates for radiotherapy were applied at 2% increase in fractions per year. This is the upper bound used in national radiotherapy modelling scenarios.
- Growth rates for chemotherapy were applied at 7% increase per year, in line with the Royal College of Radiologists forecast, and currently ongoing East of England aseptic pharmacy review. These are higher than the cancer incidence growth itself due to the volume of new chemotherapy treatments becoming available and the increased survival (and associated lines of treatment for patients)[33].

Table 6.23 Revised strategic changes applied to the 2023/24 baseline – September 2024 (see comparator table 6.5 for 2021 list)

Description	Notes
Included in model	
% Remote consultations	50% of follow up OP moved to virtual
Impact of increase in immunotherapy	Skin immunotherapy NICE approval, with notable impact on inpatient activity, once new MVCC able to accommodate these complex patients. Other impacts from management of immunotherapy patients also included.
Reduction in chemotherapy patients from NWL	IV Supportive Care & SACT major tumour site activity + 70% of associated f-up OP
Haematology - inpatient activity	UCLH non transplant/CAR-T activity from MVCC catchment to potentially move to Watford
Haematology - daycase activity including chemotherapy	UCLH activity from MVCC catchment to potentially move to Watford
Haematology - outpatient activity	UCLH activity from MVCC catchment to potentially move to Watford
Oncology - inpatient activity	Increase in non-elective admissions as a result of clinical support services being readily available on site (predominantly transfer from admissions to Watford)

[32] Cancer Incidence and mortality projections in the UK until 2035 – Smittenaar et al – British Journal of Cancer (2016) 115, 1147-1155
[33] Addressing the capacity crisis in oncology – Roque/ Royal College of Radiologists 2024 Addressing the capacity crisis in oncology, progress and ongoing concerns | The Royal College of Radiologists (rcr.ac.uk)

Clinical Trials Activity	No activity yet agreed, but additional capacity to be included at this stage of design.
Haemato-Oncology - Watford	Transfer of WGH malignant haematology activity to new Cancer Centre, on the assumption that UCLH haematology activity also transfers.
Phlebotomy closer to home	Phlebotomy growth held at overall incidence growth level rather than chemo growth level to reflect shift of activity closer to home
Increase in supportive services such as psychological therapies, specialist palliative care, physiotherapy	Used UCLH ratios for support & information services applied to totals
Excluded since initial activity modelling	
Chemo-radiotherapy regimens which switched from IP to DC during Covid-19 to remain permanent	Excluded as modelled change already taken place
Phlebotomy brought in house	Excluded as modelled change already taken place
Acute Oncology Service Patient Reviews	Excluded as modelled change already taken place
Improvements in chemotherapy pathways	Excluded as modelled change already taken place
Reduction in inpatient activity	Excluded as modelled change already taken place
Repatriation of palliative patients	Excluded as modelled change already taken place
Breast hypofractionation	Excluded as modelled change already taken place, and should be reflected in 2023/24 activity data
Radiotherapy; included in Edge modelling	
Change in fractionation for prostate patients	40% of patients on 19-20 fraction prostate pathways will reduce to 5 fractions (this is modified from the original expectation of 75% of patients)
Reduction in Radiotherapy patients from NWL	Any NWL patients who have a shorter drivetime and 40% of patients with a shorter public transport journey to any of the NWL Radiotherapy sites will not be treated at Watford General Hospital. This equates to a shift of 5233 fractions of 2023/24 activity (NB the changes in fractionation described above will then apply to this activity).

Radiotherapy

This modelling showed that by 2035, it was expected that 56,123 fractions of radiotherapy would be delivered at MVCC. There are significant challenges of modelling demand and capacity this far into the future given likely changes in both radiotherapy technology and clinical practise and the opportunity to impact capacity through modified working hours. However on the basis of the core assumption of 8050 fractions per Linac per year, used throughout this programme of work, this supports the capacity planning as described in

section 6.4.2 for 7 Linacs in total with spare bunker(s – depending on a 1 site or 2 site option) to facilitate potential growth over and above 7 which could be at capacity by 2036.

Inpatients

The original modelling for inpatient beds was shown in Table 6.7. The same methodology was applied to utilise activity and length of stay information to calculate the bed numbers required at 90% occupancy. The findings of the remodelling are summarised in the table below.

Table 6.24: Inpatient bed breakdown – 2024 review against 2021 reprovision modelling. All numbers calculated from activity based on 90% occupancy

	2021 reprovision modelling – 2030/31 requirement	2023/24 bed days with scenarios applied	2024 modelling 2031/32 requirement	2024 modelling 2035/36 requirement
Inpatient beds required based on activity modelling				
Combined Haematology and oncology activity	**42.8**	**35.4**	**40.9**	**44.0**
OTHER – not affected by growth				
Dedicated ambulatory care bed	1	1	1	1
Clinical trials bay	4	4	4	4
Private Patient Side Rooms	2	2	2	2
TOTAL requirement	**49.8**	**42.4**	**47.9**	**51.0**

This indicates a very similar bed requirement to the 50 beds planned within the reprovision proposals in 2021, and so at this stage no changes have been made to the proposals. However, it should be noted that the MVCC activity and bed day baseline has reduced which is believed to be the result of increasing restrictions on the patients that can safely be admitted to MVCC, and those that require transfer to another provider, due to the lack of clinical adjacencies on the site as detailed in the case for change (section 4). Further work will be needed with WHTH and other providers to confirm that there is not a larger cohort than modelled which would transfer into MVCC once all of the appropriate acute adjacencies are in place. A joint project between the WHTH and MVCC team is ongoing to strengthen acute oncology services at Watford General, and as part of this more robust data capture on the numbers of patients will be undertaken.

Daycase and Outpatient capacity

39 daycare treatment spaces were included in the 2021 reprovision planning proposals, based on forecast to 2030/31 (see tables 6.8 and 6.9). With increased growth rates predicted for chemotherapy daycases specifically, the activity levels for 2035/36 are significantly higher than were previously modelled to 2030/31 (46,138 vs 21,190). Further consideration of whether this 7% per annum growth rate will be sustained over the next 10 years will be needed.

Planning daycare chair space requirements can be difficult as different types of chemotherapy regimen and supportive treatments can take very different amounts of time to administer, and these can be different for different patients as well. 'Minutes in chair' time data is not collected and therefore available to support this modelling. In addition the changing nature and composition of systemic anti-cancer and supportive therapies is ever evolving making forecasting similarly challenging. Applying the same chair planning methodology has suggested that by 2035/36 additional daycare treatment chairs could be needed. However, given the uncertainty in both activity projections and chair time modelling – as well as the minimal impact on overall planned cancer centre capacity and capital costs of additional daycare chairs – this has not been changed at present and instead further work will be done to review this, and consider the appropriate impacts.

A similar approach has been taken to planned outpatient capacity in the proposed cancer centre. It is known that there is further opportunity to modernise if the appropriate facilities and especially digital infrastructure were provided and there are ongoing opportunities for remote monitoring, care closer to (or at) home. Ongoing patient engagement is expected to inform the way in which outpatient services are provided and ultimately designed. No changes to the originally modelled space for outpatients is current incorporated in the proposals or reflected in the capital allowance.

Future activity and capacity review

It is acknowledged that as well as taking feedback from the consultation process, should these proposals be supported following consultation, then further review of changes will be needed to develop and refine the activity and capacity modelling through each of the business case stages. Most importantly, ongoing work to adopt the activity modelling and design principles of the NHP will be crucial at each stage.

6.5.2 Benefits Realisation

Throughout the review of options, and as described at length in this section, the benefits of each relative option have been considered and compared by the full range of stakeholders. In preparation for consultation more detailed work was carried out to consider the potential benefits of the preferred option, which is outlined in this document and subject to public consultation, and consider how these should be developed and measured through the business case and planning stages, to determine the success of the programme as it matures. The approach to identify, prioritise, realise and monitor will be applied through the lifecycle of the programme – pre-consultation, at decision making, and into the implementation phase to ensure the direct and indirect benefits of the proposed reprovision of Mount Vernon Cancer Centre are documented and evaluated.

In preparation for consultation, the expected benefits of the proposed reprovision by theme were reviewed and summarised as follows in table 6.25, grouping benefits to patients, the workforce and commissioners.

Feedback from consultation will continue to inform and shape the benefits realisation framework which is further detailed in Appendix 24.

Table 6.25: Expected benefit themes of the proposed reprovision of Mount Vernon Cancer Centre

Benefits for patients	Benefits for the workforce	Benefits for commissioners
Improved Outcomes	Increased research, innovation and education opportunities	Cancer services that are fit for the future
Care closer to home	Improved working environment	Reduced healthcare inequalities
Availability of new treatments	Improved digital infrastructure	Efficient and productive services
Modernised facilities	Leadership by a specialist tertiary cancer centre	
Improved inpatient care and acute pathways	Optimisation of workforce models	
Improved access to clinical trials	Improved recruitment and retention	
Reduced carbon footprint through reduced burden of travel	Strengthened network of care including stronger collaboration between tertiary and referring trusts	

Patient benefit – improved outcomes

At this formative stage of proposal development, a comprehensive health economic analysis of the reprovision has not been completed, given the need to optimise the use of NHS resources. However we do know:

- some patients currently have less good outcomes as a result of the clinical model; these cases are reviewed though current internal governance processes.
- failure to reprovide on an acute site will result in the closure of MVCC completely. There is no spare capacity in other cancer centres to take these patients and therefore extended waiting times would be expected. It is known that waiting longer for cancer treatment impacts on outcomes.[34]
- patient engagement, data on radiotherapy uptake and wider research clearly demonstrates that patients do sometimes decline treatment due to the distance to travel which could impact their outcome.

[34] Mortality due to cancer treatment delay: systematic review and meta-analysis, BMJ, Hanna et al, published Nov 2020

The improvement in outcomes will be delivered in part by the reprovision of services onto an acute site, however the material improvements in patient outcomes will be delivered by transformational improvement across the whole pathway from prevention and primary care through secondary and tertiary services.

Mount Vernon provides the tertiary elements of these pathways, therefore the focus to date is on the following factors which we know will contribute to improved outcomes:

(a) Better geographical access to services, particularly for deprived populations, will improve radiotherapy uptake in particular

(b) Comprehensive range of treatment options. Some options not currently available at MVCC

(c) Clear focus on research and innovation

(d) Faster treatment (although noting that the existing service waiting times are best in class currently)

(e) A collaborative programme with ICBs to work with communities to promote prevention and uptake e.g. screening (partially in place e.g. Luton Outcomes Project)

(f) Reprovision will drive improved staff recruitment and retention

The WHTH/UCLH collaboration (see section 6.5.3) has already agreed that improved population outcomes are the key objective of its shared programme. Modelling the impact of these changes will be carried out following public consultation as part of the wider benefits realisation programme.

At this stage we would also expect to have further discussions about the collaboration opportunities with Cambridge Cancer Research Hospital, with a particular focus on mutual support for research trials. Discussions with Cambridge University Hospital have already taken place with the programme in such areas as radiotherapy and benefits realisation, but the confirmation of support post consultation will bring concrete opportunities to agree and implement joint initiatives.

Workforce

A number of the identified benefits of these proposals impact the specialist cancer workforce. Appendix 8 details in full the current challenges and detailed work that has been done to plan for the future, should these reprovision proposals be supported following public consultation. Staff have been engaged in development of the proposals and have confirmed the clear message that new facilities which enable them to deliver a credible specialist tertiary cancer centre model, research and innovation due to co-location with an acute hospital are critical to their ongoing commitment to the service.

More detailed work will be completed to inform the workforce elements of the Decision Making Business Case, considering transformation and new models of care, and how benefits for the specialist workforce can best be delivered. It will also consider in more detail mitigations for some of the workforce development risks.

6.5.3 Clarity on partnership approach to reprovision on the Watford site

The process of preparation for public consultation, within a fast changing NHS landscape with extensive financial challenges, has required ongoing review to validate the proposals and preferred option outlined in this Pre-Consultation Business Case. In 2025, prior to final review by the assurance team and submission to the NHSE Executive Investment Group for approval to proceed to consultation, the partnership approach proposed for the redevelopment of MVCC by UCLH and Watford General Hospital (WGH) by West Hertfordshire Teaching Hospital Trust (WHTH) on the Watford site was reviewed. The benefits of working in a more closely integrated scheme were noted and subsequently explored and then costed for presentation to the national finance team. Opportunities for working more closely with WHTH had previously been considered (see for example section 6.4.4 describing the extensive options review carried out in July 2022) however the revised New Hospital Programme timeline for Watford General Hospital redevelopment afforded a new chance to consider the collective approach to redevelopment of the Watford site.

Review in summer 2025 was managed by the newly initiated Mount Vernon Cancer Centre Joint Development Board involving key partner organisations, particularly the key provider organisations (ENHT, WHTH and UCLH). This Board has a draft Terms of Reference (Appendix 28) and will continue its programme of work in parallel with consultation to ensure the decision-making process is informed. The figure below (6.16) shows how its governance fits with the wider programme.

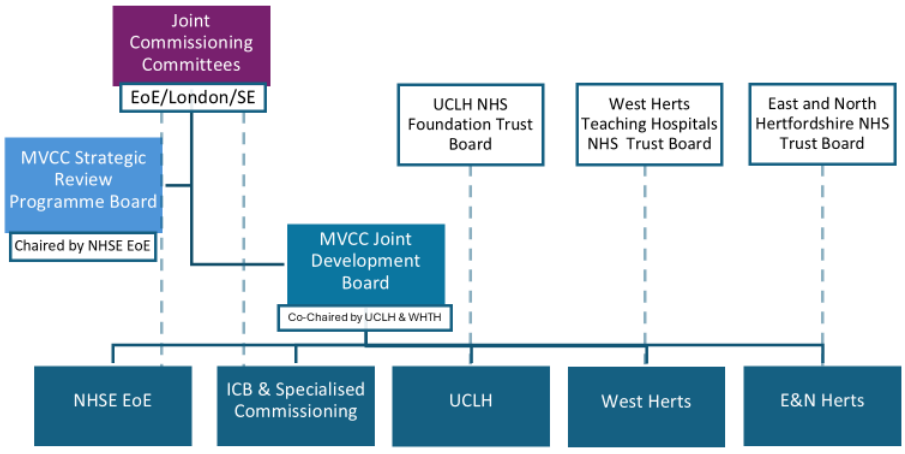


Figure 6.16: MVCC Joint Development Board in the context of the MVCC Strategic Review Programme Governance and wider Trust Board structure

This review considered the potential benefits of delivering the two schemes in a more closely integrated way, as part of the New Hospital Programme. A Special Purpose Vehicle (SPV) or Joint Venture (JV) were agreed to be the optimal organisational form to deliver this scheme for the wider population, delivering significant opportunities for operational and clinical collaboration, with the objective of improving population health outcomes.

In addition, the review compared the original proposal of building MVCC and WGH as two separate buildings connected by a link bridge, with two alternative options:

- Combining the two schemes into one building (an option that had been previously discounted due to the impact on the WGH programme and cost)
- Splitting the two schemes into 4 separate buildings to be delivered consecutively.

Table 6.26 summarises the outcome of this review. This confirmed that the original approach of delivering two interconnected buildings was the most efficient way of delivering the two schemes (in terms of time and cost), and thereby addressing the fundamental issues with the MVCC clinical model as detailed extensively throughout this document. The MVCC Strategic Review Programme Board reviewed and ratified this approach at their July and August 2025 meetings.

Table 6.26 – July 2025 review and comparison of options to deliver WGH and MVCC in a more integrated way. NB further review of the preferred option costings in light of working assumptions around the integrated programme was carried out in September 2025 to develop the proposed capital sum in section 7.

Option	Description	Construction years	Gross costs (£m)	VAT (£m)	Net cost excl. VAT (£M)
1	Single phased scheme - MVCC plus 3 WGH build elements	16	3,213	389	2,824
2	Single Building (MVCC embedded within WGH)	8	2,127	258	1,869
3	Single scheme, MVCC and WGH in separate buildings with a link bridge	6	2,042	248	1,794

The national finance team have supported the proposal to deliver the two schemes in a more integrated way, given the clear benefits of integration to both schemes (see Appendix 26). This support extends to agreement for work in parallel to the consultation to consider the business case and implementation programme, should the proposals be supported following consultation. This work can then be incorporated into the Decision Making Business Case and enable an informed decision by commissioners regarding the future for MVCC. .

Section 7: Indicative Financial Case

7.1 Introduction

The Financial Case is required to describe that the indicative financial implications of the preferred option are affordable from both a capital and revenue perspective. The working assumption is that – subject to the outcome of consultation – this scheme would be combined with the Watford General Hospital redevelopment programme and the £326.9m capital cost of delivering MVCC would be funded as part of the overall New Hospital Programme envelope for redevelopment on the Watford site.

7.2 Preferred Option

7.2.1 Capital Affordability

The indicative capital requirements of the preferred option of a proposed reprovision of MVCC on the Watford site plus a Networked Radiotherapy unit in the north of the catchment, if delivered as part of the NHP, are as follows:

Estimated capital Cost	Net £m	VAT £m	Gross £m
Departmental cost	134.5	26.9	161.4
Site specific costs	14.1	2.8	16.9
On costs	42.4	8.5	50.9
Works cost sub total	**191.0**	**38.2**	**229.2**
Fees (9%)	17.2	2.3	19.5
Non Works	1.9	0.4	2.3
Equipment	30.4	6.1	36.5
IT	17.8	3.6	21.4
Planning contingency (10%)	25.8	5.2	31.0
Total	**284.1**	**55.8**	**339.9**
Optimism Bias (0%)	0.0	0.0	0.0
Inflation (10.9%)	31.0	6.2	37.2
Subtotal	**315.1**	**62.0**	**377.1**
Hire of displaced space	4.4	0.9	5.3
Networked R/T site	27.4	5.5	32.9
Office space	2.5	0.5	3.0
Sub total	**349.4**	**68.9**	**418.3**
NHP efficiency (5%)	(17.5)	(3.4)	(20.9)
WGH project efficiency (5.3%)	(17.5)	(3.5)	(21.0)
VAT recovery for JV	0.0	(49.5)	(49.5)
Total capital cost	**314.4**	**12.5**	**326.9**

Table 7.1 - Estimated capital costs of preferred reprovision option as at September 2025 *Note – Costing for Networked Radiotherapy has been carried out to reflect NHP assumptions around midpoint of construction and therefore inflation, however other elements of the costing do not assume that this component of our proposals will be delivered as part of the NHP scheme.*

The above capital estimate was prepared in September 2025 using New Hospital Programme costing guidance (please see key assumptions section for more detail). Capital costs include an allowance for the latest net zero guidance, Modern Methods of Construction and recent changes in building safety regulations. They reflect NHP guidance on timelines, expected project fees, the handling of optimism bias and construction efficiencies through delivery as part of the programme. They also include an allowance for 'Non-Works - Moves and migrations' in support of the anticipated transition costs[35]. These capital costs are based on a main build start date at the end of 2027/28 for initial planning purposes, although noted that at present there is not agreement to this schedule. The inflationary impact of a longer timeline is understood, and for this reason it has been agreed that detailed work to develop a realistic and agreed schedule with NHP colleagues should be carried out in parallel to the consultation. If proposals are supported at consultation, this will then allow a fully informed decision to be made by commissioners through the Decision Making Business Case, with a clear implementation plan.

Since the initial capital cost cited in the Preliminary Reprovision Business Case in May 2021 (see section 6.3.5), a number of different cost estimates for this reprovision have been generated and are referenced throughout this document where they have been used to inform decisions in relation to the options for the service. Some changes in cost estimates have been the result of modifications to the scope of the proposals, some the result of more detailed planning and better understanding, some due to other more technical changes such as to the location factor. The majority of change in these capital costs since 2021 is however the result of the high rate of inflation, which will continue to affect the expected costs of delivering this project if timelines are elongated.

The above capital cost includes allowances as per NHP guidance as follows:

Provision	Allowance Assumption
Fees	9%
Planning contingency	10%
Optimism Bias	n/a
Inflation	10.9%
NHP efficiency factor	5%
WGH efficiency factor	5.3%
VAT recovery for JV	80%

Table 7.2 - Allowances used in the September 2025 capital costing exercise

[35] As well as the capital value of 'moves and migrations', transition of the service to the new build may incur some limited double running costs. Given the nature of the services being transferred (predominantly outpatient services) this is expected to be very limited and as described in section 9.3 this will be one piece of planning work that the joint clinical and operational workstream will undertake during the implementation phase (should proposals be supported at consultation). A final view of the transition costs (capital and revenue) will be included in the Full Business Case.

Sensitivity analysis was completed in December 2025 to understand the impact of NHP approach to Optimism Bias and contingency. This confirmed that the integrated scheme could still be delivered within the NHP envelope even if Optimism Bias were included at 20%.

Support has now been given to proceed to consultation on the basis of a combined Watford General Hospital and Mount Vernon Cancer Centre scheme funded through the New Hospital Programme (see Appendix 26). Further work will be completed to clarify integrated costs of this scheme on the Watford site, in light of potential programme timelines to be agreed with NHP in parallel to the consultation. If the proposals outlined in this PCBC are supported following consultation, then this detailed work will form the basis of the financial case in the Decision Making Business Case.

7.2.2 Revenue Affordability

The revenue affordability of the case would typically be demonstrated with an incremental Statement of Comprehensive Income (SOCI) associated with the Preferred Way Forwards (PWF). Currently the Programme have not completed a detailed operational SOCI analysis for the PWF. Should these proposals be supported following public consultation, and be agreed through the Decision Making Business Case, this detailed work would be done as part of the development of the Strategic Outline Case.

Revenue consequences of capital

It is recognised that the capital cost of the new facility will generate an increase in both annual depreciation and capital charges. Assuming a capital cost of £326.9m, the annual revenue consequences of this capital sum (depreciation and capital charges) have been estimated as £21.5m p.a. as in table 7.3.

Given the total capital costs of £326.9m have been estimated including NHP efficiency (5%), WGH efficiency (5.3%) and VAT recovery (80%) it has been assumed there will be a 10% building impairment arising on day one. The associated impairment charge is estimated as £26.4m which will be recognised in the Programme SOCI.

It is noted that impairments do not form part of the surplus/(deficit) for control total purposes and as such, the impairment will be added back to identify an appropriately adjusted surplus/(deficit) to allow for a consistent comparison to business as usual.

Element	Capital Estimate £m	Impairment @ 10%	EUL years	Depreciation £m	PDC £m	Total £m
Building	239.7	24.0	60	3.6	7.5	11.1
Trust fees	0.0	0.0		0.0	0.0	0.0
Hire of displaced space	4.1	0.4	60	0.1	0.1	0.2
Subtotal build (#1)	243.8	24.4		0.0	0.0	0.0
Equipment	34.7	0.0	9	3.9	1.2	5.0
IT	20.3	0.0	8	2.5	0.7	3.2
Networked R/T – build (#1)	20.5	2.1	60	0.3	0.7	1.0
Networked R/T - equip	5.1	0.0	8	0.6	0.2	0.8
Office space	2.3	0.0	20	0.1	0.1	0.2
Total	**326.9**	**26.4**		**11.1**	**10.4**	**21.5**

Table 7.3 Revenue consequences of the capital sums as detailed in table 7.1

#1 The above estimate of depreciation and PDC capital charges has been prepared assuming a 10% day 1 impairment on the building cost and networked radiotherapy (R/T) build cost.

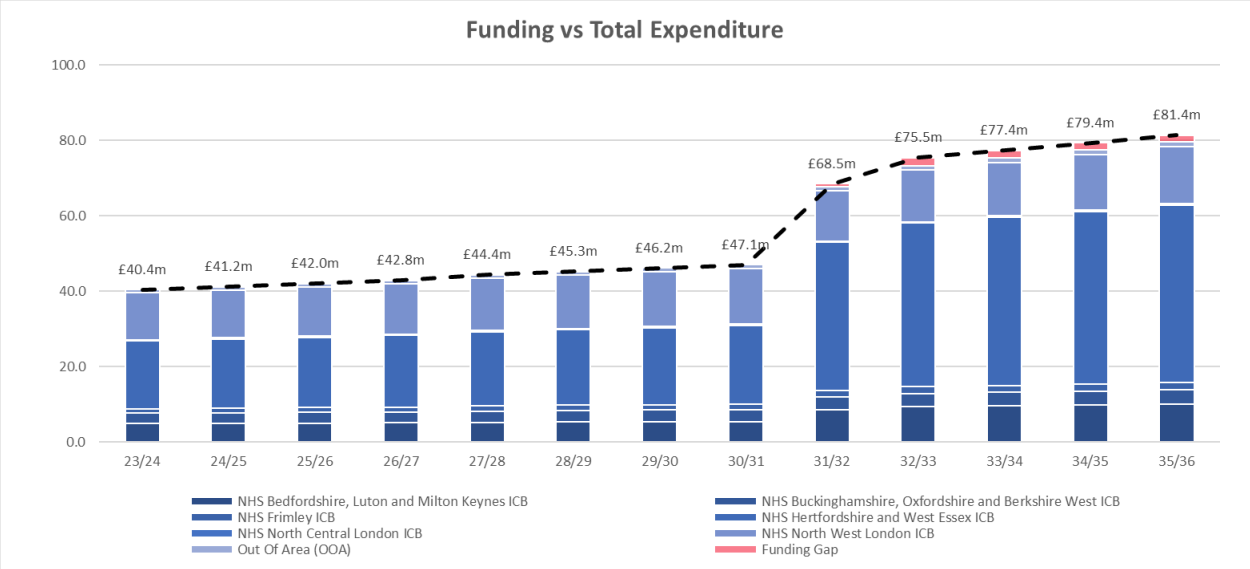
The Programme recognise the requirement to demonstrate that the incremental impact of the PWF is affordable by showing that the project delivers an appropriate surplus at an incremental level, in the Financial Case. The financial modelling which has been carried out to date using forecast activity levels against projected resource allocation shows a small annual deficit of £1m-£2million. The assumptions and affordability tables for each ICB are at Appendix 25. The overall affordability is shown in Table 7.4 and Figure 7.1. If PDC costs of £10.4m were to be funded nationally, the scheme would therefore be in overall revenue surplus.

Table 7.4 Revenue affordability by ICB to 2035/36

	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34	34/35	35/36
ICB Total	**0.0**	**0.0**	**0.1**	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**0.7**	**2.1**	**2.0**	**1.9**	**1.8**
NHS Bedfordshire, Luton and Milton Keynes ICB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NHS Buckinghamshire, Oxfordshire and Berkshire West ICB	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.3	0.5	0.5	0.5	0.6
NHS Frimley ICB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
NHS Hertfordshire and West Essex ICB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NHS North Central London ICB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
NHS North West London ICB	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.3	1.2	1.1	1.0
Out Of Area (OOA)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1

As part of developing a Decision Making and then Strategic Outline Case, the Programme will continue to work with commissioners of the services to refine these assumptions and identify appropriate recurring revenue funding to support an affordable financial position for the PWF. NHSE regional and national leads have also recognised this issue and confirmed their support in developing sustainable options for this service reprovision (see letters of support in Appendix 26).

Figure 7.1 – MVCC Funding compared to expenditure by ICB to 2035/36



Revenue impact – cost to commissioners

At this stage of development of the proposals, indicative revenue impacts have been outlined for commissioners. These compare the current commissioning costs of MVCC services (assuming these transfer under UCLH management) with the future commissioning costs of the service. Necessarily there are a number of key assumptions that have been made to generate these costs. The following outlines the process of calculation:

- MVCC activity data for 2023/24 has been used to create the baseline
- UCLH prices including UCLH MFF (Market Forces Factor) values were applied to this activity, in line with national guidelines regarding commissioned activity being paid at the MFF of the host Trust. It has been agreed (between UCLH and commissioners) that MFF should not create a cost pressure for ICBs and further guidance from the national team has confirmed that it would be appropriate to model this on the basis of the WHTH MFF, given the proposed location of the reprovision. A further adjustment may also be made to ICB allocations. Costing has therefore been updated using WHTH MFF, as is summarised in tables 7.5 and 7.6 below.
- The 2023/24 activity model was then adjusted to reflect proposed activity transfers and transformational changes, including the shift of haematology activity from WHTH and UCLH, and transfer of radiotherapy to North West London providers, to give a 'modified' 2023/24 baseline value. The majority of this modified baseline represents the transfer of *existing* activity, and does not therefore represent additional costs to commissioners.
- The next stages of modelling reflect the extent to which additional activity is expected, driven by demographic changes in the population, and changes to the incidence of cancer.

- The activity model at section 6.5 shows how expected growth and changes in cancer incidence were then applied to this modified 2023/24 baseline to calculate expected activity at the time of opening (2031/32) as well as at 4 years post opening (2035/36).
- Assuming current contract and pricing methodology, at UCLH values adjusted to WHTH MFF, this activity model has been used to estimate a potential future cost to commissioners of the MVCC services once re-located. Costs are included at the 2023/24 price base, and are based on current contracting and payment mechanisms. It should be noted that reviews of funding arrangements for brachytherapy and radiotherapy are expected; when any changes are known, they will be applied to future business cases.
- The application of growth factors has been based on national assumptions where available, supported by local analysis. These include:
    - Radiotherapy growth of 2%, as advised by the national commissioner for radiotherapy, which takes account of population growth, with hypofractionation and productivity requirements applied.
    - Chemotherapy growth of 7%, as forecast by the Royal College of Radiologists and described in section 6.5
    - Population forecasts based on 2021 census data, and ICB population needs assessments. This work is ongoing as ICBs develop their population strategies, including aligned cancer strategies.
    - Cancer incidence, by tumour site, based on expert intelligence from the Cancer Alliance.
- Further sensitivity analysis will be undertaken at SOC, OBC and FBC to reduce the level of uncertainty inherent in long term forecasting of activity levels, and to ensure that capacity is futureproofed. Work to refine the commissioning costs will take place in line with this.

Table 7.5 below brings together these costs and illustrates that:

- At 23/24 activity levels and UCLH price base modified to reflect the WHTH MFF, the cost to commissioners of current activity which would take place in the proposed reprovision of MVCC is £41.1m (of which £0.4m is the WHTH MFF).
- Forecasting of activity increases to 2031/32, when the new MVCC would open, shows an increase of some 19%, or around 2.7% increase per annum in total. This growth trend continues more steeply between 2031 and 2036 with an average increase of around 2.9% each year. This increased growth rate is due to the impact of increasing chemotherapy as a proportion of overall activity, driven by the haematology transfers to the new MVCC.
- While future income growth assumptions for ICBs are not yet known, of the 6 ICBs with patient flows into Mount Vernon, 4 have previously been below target (specialised services allocation), including those ICBs with the greatest patient flows.

Following conversations with national finance colleagues, a 10 year pathway on Distance from Target to +/- 2.5% has been assumed for modelling purposes.

- These activity and associated financial assumptions are considered both reasonable and affordable to commissioners. It has been confirmed that incremental depreciation would be funded nationally. The small current gap on affordability therefore relates to a proportion of the PDC additional cost.

Commissioners have reviewed the modelling assumptions and are comfortable with the proposed approach. They are supportive of the consultation proceeding and have agreed to prioritise cancer spending, whilst noting important caveats and uncertainties around future income and some of the assumptions being made. Letters of support are attached in Appendix 26.

UCLH support the redevelopment of MVCC and continue to work with NHSE and ICB commissioners to consider how a financial solution to the redevelopment of MVCC might be delivered. Part of this will be to ensure that the commitments and requirements that UCLH set out in its Expression of Interest to be the preferred future provider of these services can be delivered. Subject to consultation, the DMBC will confirm the financial model for the new service.

One element of this will be to identify any contribution to the revenue costs of capital arising from the tariffs that will be used to fund the service, after other costs are covered. At this stage of the project there is significant uncertainty in relation to radiotherapy tariffs and how these will change in the coming years. Should this analysis identify a contribution that would no longer be needed for the current MVCC asset base, UCLH can commit to this being a source of funding for the new MVCC service.

Table 7.5 Modelled activity costs – MVCC

	ENHT pricing (£m)	WHTH pricing (£m)			
	2023/24 MVCC activity cost (£m)	2023/24 activity at UCLH pricing adjusted for WHTH MFF	2023/24 activity adjusted for activity transfers & transformational changes	2031/32 modelled activity (2023/24 prices)	2035/36 modelled activity (2023/24 prices)
Admitted activity (inpatients & daycases)	8.8	9.1	21.0	27.3	31.5
Non-admitted (outpatients)	14.3	14.5	16.3	19.0	20.6
Radiotherapy (including brachytherapy)	17.3	17.4	16.1	18.5	20.4
Total *	**40.4**	41.1	53.4	64.8	72.6

** note drugs are excluded from these commissioning costs, as is unbundled imaging and patient transport*

Table 7.6 Modelled activity costs and revenue cost of capital split by ICB

	ENHT pricing (£m)	WHTH pricing (£m)				
Core MVCC ICBs	**2023/24 MVCC activity cost (£m)**	**2023/24 activity at UCLH pricing adjusted for WHTH MFF**	**2023/24 activity adjusted for activity transfers and transformational changes**	**2031/32 modelled activity (2023/24 prices)**	**2035/36 modelled activity (2023/24 prices)**	**Proportional share of Capital charges and depreciation Total £21.5 (£m)**
BLMK ICB	4.8	4.9	6.6	8.0	8.9	2.6
BOB ICB	2.7	2.8	2.9	3.5	3.9	1.2
Frimley Health ICB	1.3	1.3	1.4	1.6	1.8	0.5
Herts & W Essex ICB	18.0	18.3	30.5	37.4	42.0	12.5
NC London	0.3	0.3	0.3	0.4	0.4	0.1
NW London	12.5	12.7	10.8	12.9	14.3	4.2
Other ICB	0.8	0.9	0.9	1.1	1.3	0.4

** note drugs are excluded from these commissioning costs, as is unbundled imaging and patient transport*

7.2.3 Key assumptions – Preferred option

Land

The land value has been excluded for all options. Whilst the land will attract a PDC dividend cost and may come with a purchase cost, it is already within the NHS estate (part of the WHTH Watford General Hospital site) and therefore is not considered to represent an incremental cost. An agreement around this may also form part of the terms of any Special Purpose Vehicle or Joint Venture agreed between UCLH and WHTH.

Existing site

At present Mount Vernon Cancer Centre pays an annual lease cost to Hillingdon Hospitals NHS Trust for use of its buildings/ site. This is currently £1.365m per annum (and expected to rise annually) and this annual expenditure would cease should the reprovision be delivered.

The impact of MVCC exiting the existing Mount Vernon site has been excluded from the analysis. It should be noted that the existing MVCC facility is not owned by East and North Herts Trust who run MVCC, but by The Hillingdon Hospitals Trust. They will need to develop a future strategy for the site, should the proposals to reprovide MVCC services at Watford be supported through consultation, and once timelines for implementation are understood. This strategy needs to be developed before assessing any financial impact it will have. The site strategy will have an impact on:

- Potential gain or loss on disposal
- Impact on Capital Department Expenditure Limits (CDEL) at a sector level
- Impact on ITDA.

Furthermore, the opportunity cost of the Watford site being used to house the MVCC has not been included into the analysis.

Buildings and Impairment

It is assumed there will be an impairment of 10%[36], equating to £26.4m, once the building is ready for use, given the capital cost estimate of £326.9m includes NHP efficiency (£20.9m), WGH efficiency (£20.9m) and VAT recovery for a JV (£49.5m). which results in a revenue saving for depreciation and PDC charges of c£1.36m p.a. This does not impact the capital outlay required for the relocation and is a high level indicative estimate only.

Equipment

The gross equipping costs are £36.5m for the main site and £6.5m for networked radiotherapy equipment, based on indicative estimates. These are represented in the analysis based on the cost of purchasing new equipment at the time of relocation. After NHP and WGH efficiency savings and 80% VAT recovery the net equipment costs are estimated (as reflected in the £326.9m) as £34.7m for main hospital equipment and £5.1m for networked radiotherapy equipment. To note, these equipping cost estimates have been developed through detailed work on the expected schedule of accommodation, not using standard NHP equipment costing principles. When NHP values were calculated this clearly fell short of the cost of equipping a specialist cancer centre, with a significant number of high value pieces of equipment such as Linear Accelerators in radiotherapy. Further work will be needed to refine these numbers through subsequent business cases.

It should also be noted that dependent on agreed timelines, there may be a transfer of existing equipment to the new Watford and/or satellite sites, which would reduce the capital outlay required.

Furthermore, it should be noted the equipment replacement costs are not directly associated with the re-provision of services at Watford. The existing equipment would naturally require replacement as it comes to the end of its useful life (and incur capital cost), irrespective of the service continuing as it is or relocating to another site. The aim would be to manage equipment purchases to maximise the benefit of this in the reprovision costs.

ICT

The ICT spend within the Watford re-provision option is an estimate at this stage based on NHP costing principles and represents an incremental cost, in addition to ICT spend required on the current site (note the assumption that MVCC would already have transitioned onto UCLH's Electronic Health Record System (EHRS) on the current site and in advance of the

[36] ***Impairment:*** *This value has been used in order to provide a prudent estimate of a potential valuation on the Modern Equivalent Asset basis. Given the way that NHP centrally provide for OB, contingencies and efficiencies, use of 30% would result in a valuation at 88% of the Works Cost alone. This would potentially underestimate the revenue consequences of capital. We expect the projected impairment value, along with the capital sum itself, to be refined in tandem through the business case process*

proposed move to Watford). ICT spend for the current site and transition to UCLH EHRS has not been included in the modeling for the preferred option as it is not a consequence of moving to the Watford site.

Useful lives on average have been modelled over 8 years. Some elements such as end user devices may need to be replaced earlier. The interoperability landscape is fast changing with wider programmes underway, and so significant costs have not been included in the overall cost estimates at this stage, but this will need to be addressed as part of the scheme, and in line with the digital principles outlined in section 6.3.1. NHP costings are noted to be higher than previously modelled digital costs, reflecting the expectations in terms of digital enablement that would be delivered within the new facility. With greater clarity on timescales, more detailed work will need to be completed to understand the systems under consideration, the interoperability landscape and work required to ensure appropriate flow of information, between MVCC and the other oncology providers with which it works, as well as clearly with Watford General Hospital.

Office Space

An indicative capital value has been included for office space, as the proposal will not include significant office space in the clinical building, given the m^2 costs of space within that facility. However, office space will be needed in close proximity to the building and a clear plan will need to be developed as part of the detailed design and business case development. Capital costs of £2.3m have been included for office space – see Table 7.3

Charitable funding / donation

It is expected that it will be possible to raise some charitable funding to contribute towards the capital cost of the service re-provision; however the challenge of fundraising for an NHS facility should not be underestimated, particularly in the current climate, and no charitable income has been assumed in the capital breakdown and calculations above. It should be noted that it is usually only possible to raise charitable funding for elements of the building or equipment that are considered to be above standard NHS specification. The potential for charitable fundraising is estimated at £8.0m plus full VAT recovery of a further £2.0m. If plans and costs are further defined and developed, a robust fundraising strategy and target should be agreed.

Further Work

Further work is continuing between UCLH and WHTH to identify additional capital and revenue efficiencies that could be achieved, and to test and revise the assumptions currently applied to the financial modelling. This work will continue to be overseen by the Mount Vernon Cancer Centre Joint Development Board (see section 9.3) and will include more detailed consideration of a formal Joint Venture between the two organisations. The outcome of this work will be reflected in the Decision-Making Business Case. Letters of support from UCLH and WHTH are included at Appendix 26.

Section 8: Five Tests of Service Change

8.1 The Department of Health and Social Care Four Tests

The Department of Health and Social Care (DHSC) defines four tests which must be met throughout the pre-consultation phase of any service change in an NHS organisation.[37]

The four DHSC tests are listed below:

1. Strong public and patient engagement - evaluates how service users and the public are involved in the development of the proposals to relocate MVCC to a new site.
2. Consistency with current and prospective need for patient choice - illustrates whether any proposed relocation would maintain the availability of service user choice.
3. Clear, clinical evidence base - demonstrates sufficient clinical evidence and clarity on the case for change.
4. Support for proposals from clinical commissioners – provides assurance that the proposals have the approval of local commissioners.

Table 8.1 details how the MVCC review programme has and continues to meet the DHSC tests.

8.2 5th Test: NHS England

A fifth test was added by NHS England in 2017 to focus on the impact of service change on bed numbers.[38] If any service change reduces the numbers of beds available one of the following criteria must be met:

I. Demonstrate that sufficient alternative provision, such as increased GP or community services, is being put in place alongside or ahead of bed closures, and that the new workforce will be there to deliver it
II. Show that specific new treatments or therapies, such as new anti-coagulation drugs used to treat strokes, will reduce specific categories of admissions
III. Where a hospital has been using beds less efficiently than the national average, that it has a credible plan to improve performance without affecting patient care.

Based on the proposed service re-provision model, the number of overall beds in the MVCC would increase following redevelopment. The increase in number of beds would support changes in the oncology service as well as the strengthened malignant haematology provision at the new MVCC as detailed in the activity plan (see Section 6.3.1). Haematology changes include the proposed transfer of malignant haematology work currently delivered at WGH into the new Cancer Centre and repatriation of work which currently has to come into UCLH

[37] http://www.eoesenate.nhs.uk/files/9314/0862/2233/Effective_service_change_toolkit_FINAL.pdf
[38] https://www.england.nhs.uk/wp-content/uploads/2018/03/planning-assuring-delivering-service-change-v6-1.pdf

in central London. Therefore, the option of redevelopment of the MVCC at Watford, has met this test.

The closure and dispersal options (full or partial, as detailed in Section 6.4.3) would result in a loss of the inpatient bed capacity on the existing MVCC site (22 beds), and this would not be offset by planned additional inpatient capacity in either the full or partial scenario. As this service change is also not in response to reduced requirement for number of beds, due to innovation or other improvement, neither option would meet NHS England's 5th test of service change.

Table 8.1: DHSC Tests of Service Change and evidence that they have been met by MVCC review

Test	Evidence
Strong public and patient engagement	• The formal patient and public engagement began in July 2019 with patient events, focus groups and patient survey between July and September 2019 (Phase I)An independent report was commissioned to present the outcomes of this work (Appendix 10)Phase II in 2020/21 (Appendix 11) continued the patient engagement work with focused sessions on topics identified in Phase 1, for example, the clinical model, estates, radiotherapy, cancer pathways. • The Public and patient engagement strategies, communications and outcomes are described in Section 5 and Appendices 10 & 11, and were presented to the Clinical Senate as part of their review
Consistency with current and prospective need for patient choice.	• Cancer services and pathways subject to Urgent Suspected Cancer and FDS referrals are excluded from patient choice arrangements due to urgency of treatment. • The proposals however offer improved geographical access for patients (see population and travel time modelling in Section 6 and Appendices 3a and 3b) and a greater choice of treatment options. A full range of treatment options, and research availability, will be possible due to co-location on an acute hospital site and provision of necessary facilities to deliver a full range of cutting edge treatment (e.g. some immunotherapies) which is limited in the current service. Therefore patient choice will increase. • Additional services in London provided by NWL and Hillingdon will further extend options for patients.

Clear, clinical evidence base	• The independent clinical advisory panel highlighted the absolute requirement for improved clinical adjacencies to facilitate the delivery of the most up to date treatment. Their report is at Appendix 1. • The clinical model was developed with input from a diverse multi-professional team, and meets the NHSE Service Specifications for these services (in particular Adult Chemotherapy and Adult Radiotherapy). The Clinical Model is included in Appendix 2. • Clinical senate review of proposals including those for radiotherapy has taken place with support for the proposals (Appendices 16, 20 & 23). All three Clinical Senates (London, East of England and South East) will be involved in reviewing the DMBC in due course.
Support for proposals from clinical commissioners.	• Review is led and endorsed by NHSE on behalf of regional NHSE and ICB specialised commissioning. A redeveloped MVCC at the centre of a networked cancer service addresses a number of the key priorities shared by the main 6 referring ICSs. This is shown in section 4. • The Letters of support in Appendix 26 evidence the view of ICBs that the services from the current site will be unsustainable in the short/medium term, and therefore they are supportive of the proposals to relocate the majority of services onto the Watford General Hospital site in order to deliver an effective clinical model and high quality services for patients requiring non-surgical cancer care.

Table 8.2- Review of three proposed Options against the 5 Tests

Test	Option I Do minimal	Option II Full replacement on an acute site	Option III Dispersal of services
Strong public and patient engagement	✗	✓	✗
Consistency with current and prospective need for patient choice.	✗	✓	✗
Clear, clinical evidence base	✗	✓	✗
Support for proposals from clinical commissioners.	✗	✓	✗
NHS England's 5th Test (Bed capacity)	✗	✓	✗

8.3 Mayor of London's tests

The Mayor's tests were developed in response to the Mayor of London seeking assurance from the NHS regarding changes to services that are subject to public consultation. The tests were designed to ensure that service quality, equity and sustainability were maintained through any major service change in London. The Mayor's tests are applied to major service reconfigurations alongside the statutory consultation process which accompany large scale change.

Given the impact for North West and North Central London ICBs on Mount Vernon Cancer Centre patient flows, the Mayor's Tests will be applied to the programme, through an independent review process which runs in parallel to the public consultation, as per normal practice. This is to ensure that the impact of the proposed service change for London and Londoners is understood. The current framework for the Mayor's tests for major health service changes includes the following tests:

- Health and health care inequalities
- Hospital beds
- Social care impact
- Patient and public engagement

The decision to remove the Clinical support and Financial investment and savings tests from the Mayor's tests for major health service changes was taken at the end of 2024.

It is envisaged that this update will enable the Mayoral reviews to focus on the areas in which he can use his unique position as Mayor to ensure that all Londoners have access to the high-quality care that they need and, in line with his statutory health inequalities responsibilities, to support the NHS to capitalise on its opportunities to reduce health inequalities.

The Mayor's office has begun the process of commissioning a review to take place alongside the public consultation and development of the DMBC. The output of this work will be an important consideration for the DMBC, but there are currently no obvious areas of identified risk.

Section 9: Recommendation and Timelines

This section details the recommendation of this Pre-Consultation Business Case and the timeline for public consultation.

9.1 Recommendation

It is the recommendation of this PCBC to proceed to public consultation on the future of MVCC, with three variations on the option of re-provision of the MVCC services on an acute site through the development of a new specialist Cancer Centre adjacent to Watford General Hospital. These three options (which will be known as A, B and C at consultation) are the only ones supported by the MVCC Strategic Review Programme Board, commissioners and UCLH as the future provider of the services (subject to agreement on transfer). Letters of support are included in Appendix 26.

Of all the models and locations considered, Watford re-location (and the two variations) is the only one which is considered to be:

- Clinically viable
- Sustainable
- Acceptable to patients & public
- Acceptable to wider stakeholders such as the ICSs.

This option has been worked up in detail and the proposed clinical model would see:

- A specialist cancer centre adjacent to Watford General Hospital, run by UCLH and able to deliver complex cancer care, trials and innovation to the MVCC catchment, thanks to the supporting acute clinical infrastructure and UCLH's track record in research and innovation. This would also enable repatriation of some work currently delivered at other specialist centres.
- A networked chemotherapy model, with complex chemotherapy delivered from the cancer centre, and remaining chemotherapy in District General Hospital services, closer to home, specifically increasing services at Hillingdon and Northwick Park Hospitals.
- Radiotherapy delivered from the cancer centre (with potential for a Networked Unit in Luton or Stevenage and choice for North West London patients of radiotherapy closer to home) delivering a significant reduction in travel times to patients. The reduced travel times would improve equality of access to services for deprived populations, particularly in the Luton and Watford areas.

The working assumption is that delivery of this option would be through integration with the programme for Watford General Hospital redevelopment as part of the New Hospital Programme, which has been supported, allowing these proposals to proceed to public consultation.

Public consultation will take place to fully understand the impact of proposals on patients and the public, ensure alternatives have been adequately considered, and select the right location for a potential additional radiotherapy unit. Three options will be consulted on:

Option A

- A new, purpose built Mount Vernon Cancer Centre on the Watford General Hospital site delivered as an integrated redevelopment scheme for the site. The new MVCC will include diagnostics, SACT (Systemic Anti-Cancer Treatment such as chemotherapy and immunotherapy), radiotherapy, inpatient, outpatient and daycase treatments and supportive services. MVCC services would be run by UCLH, with acute supporting services provided by Watford General Hospital (for example A&E, critical care, supporting clinical specialties). Watford General Hospital is the closest acute hospital site to the current MVCC site, and the only acute hospital that can provide all of the required supporting clinical services as well as meet the travel and access criteria.
- Continuation and strengthening of MVCC's network of oncological care, with increased care closer to home through
    - repatriation of haemato-oncology services for Hertfordshire and Bedfordshire patients previously provided at MVCC, but now provided at UCLH in central London, to the new Cancer Centre on the Watford site
    - a new chemotherapy service in the new Hillingdon Hospital and enhanced chemotherapy at Northwick Park hospital
    - increased radiotherapy capacity at Imperial for patients from North West London for whom this would provide better access
    - a commitment to appropriate diagnostics (especially blood tests) and other simple interventions provided closer to home, by local hospitals or in primary care where possible.
    - more opportunity for virtual appointments and chemotherapy at home.

Option B

This is the same as option A but with the addition of a networked radiotherapy unit (run as a satellite by the MVCC team) in the north of the catchment, at Lister Hospital in Stevenage to improve access

Option C

This is the same as option A but with the addition of a networked radiotherapy unit (run by the MVCC team) in the north of the catchment, at Luton and Dunstable Hospital in Luton to improve access.

The MVCC Strategic Review Programme Board has a preference for options B or C but wants to hear from people at consultation before making a decision between all three. The

consultation document and plan is attached at Appendix 27, and more detail about the process and plans are described in section 5.4.2. The timelines for consultation are shown in section 9.2.

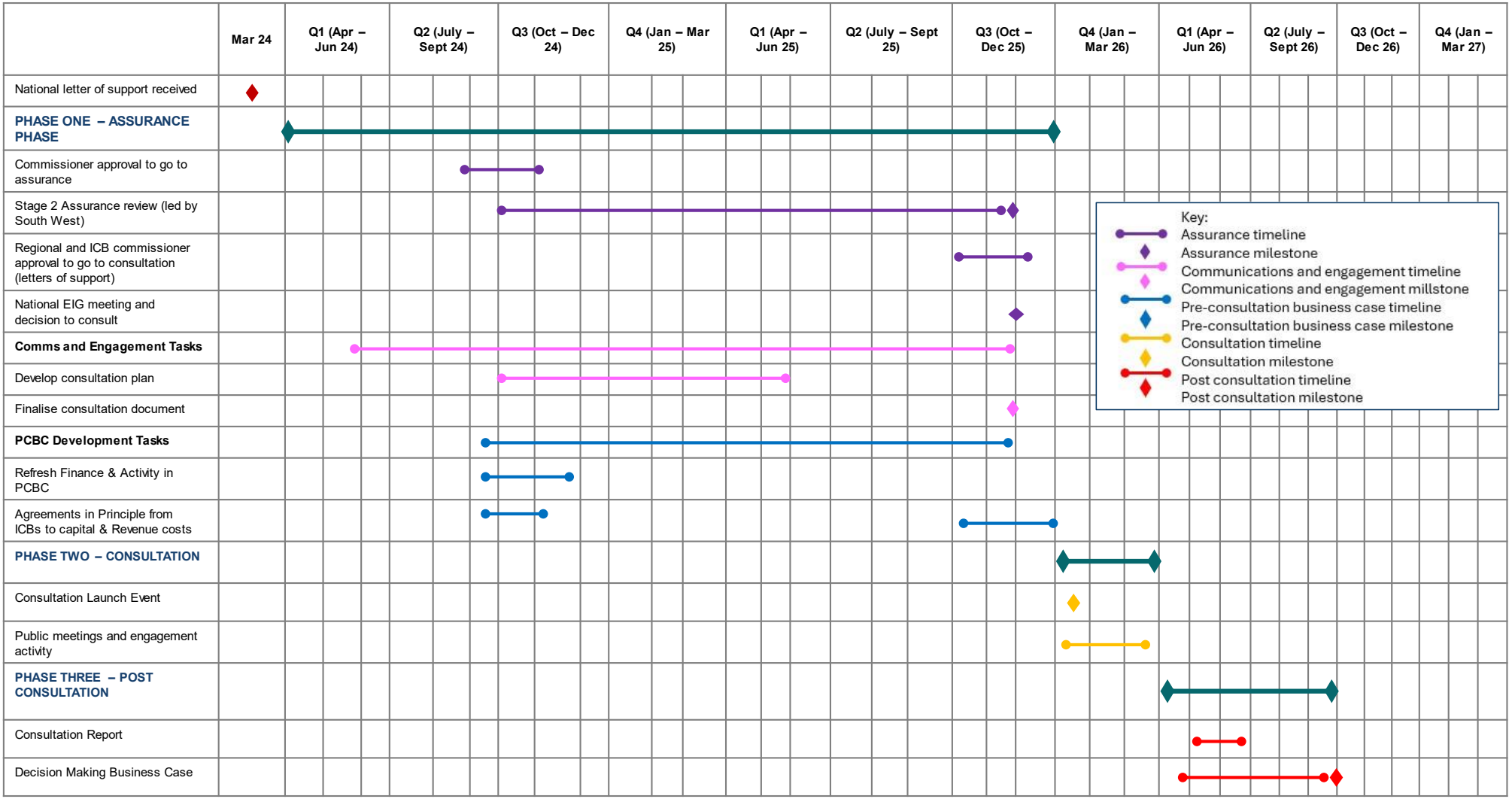
It should be noted that the consultation will not include:

- Michael Sobell Hospice which provides palliative care, as this is independent of Mount Vernon Cancer Centre and can continue on the current site with or without the cancer centre nearby.
- The non-cancer services run by Hillingdon Hospitals from other buildings on the site as these are run by the Hillingdon Hospitals Trust and are not affected by any changes to the specialist cancer services.
- The management of the new service. University College London Hospitals NHS Foundation Trust (UCLH) has been selected as the preferred future provider following the recommendation in the 2019 independent clinical review.

9.2 Timelines

The timeline for this public consultation process is as follows:

MVCC Consultation Project Plan Summary Timeline



9.3 Next steps

Following the public consultation, the Decision-Making Business Case (DMBC) development process will be led and the case produced by the commissioners of MVCC services, involving all key stakeholders, under the oversight of the MVCC Strategic Review Programme Board. As well as outlining consultation feedback, the impact of this feedback on proposals and therefore the decision about the plans for the future of MVCC, the DMBC will detail how the agreed option will be implemented.

The full range of impacts of the proposed changes will continue to be considered as the programme moves into decision making and then onto the resultant business cases to ensure legal duties are met. This will include but not be limited to update and review of the EHIA and integrated impact assessment including environmental and sustainability impacts of the proposals. It will also include a refresh of the relevant activity modelling and review of travel times impact of proposals, along with greater detail on the workforce strategy for the new facility.

Once the final proposal has been informed by feedback from the public consultation, outlined by commissioners in the DMBC and a decision made about the future of MVCC, the required future capital business cases will be led by the service providers, and will be developed in line with the HM Treasury Green Book and any other relevant guidance in place at that time. The Strategic Outline Case will be developed in parallel to the DMBC, to enable progress toward implementation as quickly as possible.

An implementation plan will support the programme moving through each business case phase. This process will be informed by the Mount Vernon Cancer Centre Joint Development Board which has already been constituted (as detailed in section 6.5.3) and will be monitored through the MVCC Strategic Review Programme Board. Key tasks of the Board will include agreeing handover of implementation to providers, pending outcome of consultation, optimum estates solution and configuration with the new Watford General Hospital, ensuring no duplication of cancer services on the Watford site and that clinical adjacencies and operational efficiencies have been optimised. In addition through work previously described between WHTH, UCLH and NHP, there will be an agreed programme plan reflecting delivery timelines and agreed governance.

A formal implementation team will be established to support delivery, once a decision has been made on the future for Mount Vernon Cancer Centre services following consultation. It has been agreed that implementation programme timelines will be reviewed and tested in parallel to the consultation process, with NHP, such that they can inform the Decision Making Business Case. The DMBC is targeted for completion and approval in summer 2026 and the

Joint Development Board is committed to support this timeline. Pending the outcome of consultation, SOC, OBC and FBC would then follow.

At each business case stage, the activity model and planning assumptions will be reviewed and re-tested to consider the impacts of changes in cancer care (that may have happened or be in the pipeline by that point in time) as well as further learning from other cancer centres. A joint clinical and operational workstream will be established (building on the MVCC clinical workstream which has informed development of these proposals) which will develop further detail on the proposed clinical model and working arrangements between the new Cancer Centre and Watford General Hospital teams, incorporating feedback from the consultation to ensure service models best meet the needs of patients and the populations that are served by this facility. It will ensure clinical governance is clearly defined, and final workforce models agreed. This work will be a continuous process to inform each of the business case development stages and right up until the transfer of the service into the new building, with later stages finalising detailed operational policies and re-location arrangements.

The Outline Business Case will require further work on financial impacts to assess affordability and demonstrate a strong economic case. The financial modelling work undertaken will form the basis on which the OBC will be further developed. Key tasks associated with the OBC will include operational SOCI analysis and updated integrated impact assessment. Further sensitivity analysis on finance and activity modelling will take place at OBC and Full Business Case (FBC) stages to ensure that by this stage there are clearly described and agreed costs and implementation plans.

The implementation planning will consider the way in which services will transfer and any costs associated. This detailed planning work has not been undertaken yet, as the nature of this transitional process will be heavily impacted by the outcome of consultation and decisions about reprovision (for example, decision and timeline on a Networked Radiotherapy unit would significantly change the radiotherapy transfer plan). Given the challenge that running across two sites presents, double running costs for the MVCC services are expected to be extremely limited. As a relatively small service, trying to run across two sites unnecessarily introduces safety risk to patients, and a transfer should be planned across a number of days only (thereby limiting double running costs). UCLH have recent experience of service transfer (haemato-oncology inpatient services to a new building) along with a number of other service transfers which would inform the planning of this process. The joint clinical and operational workstream will be responsible for this detailed work.

9.4 Managing Risks

The MVCC Strategic Review Programme is complex and the careful management of risk has, and will continue to be, essential in delivery of the aims of the programme. To date, programme risks have been grouped into three domains:

- Those affecting immediate term sustainability of services,
- Risks in the due diligence and transfer of management of services,
- Risks in relation to the proposed reprovision and securing a sustainable future for the service.

Managing risks across all of these domains will continue to be important to the programme and given the scale and complexity of stakeholders involved in the programme, managing these risks requires careful focus. The programme holds a comprehensive risk register which is managed with reporting to the MVCC Strategic Review Programme Board.

Programme risk refers to any uncertainty that could impact the achievement of a programme's objectives. Within the NHS commissioning environment, this might include changes in national policy, workforce shortages, digital challenges, or provider delivery risks. The risks within the MVCC Programme are unlike project risks that focus on tasks; the programme risks are broader in scope and often interconnected with wider NHS organisational impacts.

The MVCC programme has a number of stakeholders all with direct interest in the delivery of the programme:

- NHSE regions and ICBs as commissioners
- Acute providers who currently or in the future will run the service
- Acute providers who are part of the network of the cancer centre
- Cancer Alliances who have an interest in the quality of services provided and alignment with cancer strategy
- Other neighbouring cancer centres where any change to service provision could impact their delivery

Given the scale and complexity of stakeholders involved in the programme across three NHSE regions, managing these risks requires more than a siloed approach. The MVCC Delivery Task and Finish group agreed to undertake a review of the programme risks on behalf of the Programme Board which was completed in 2025. There are a number of risks on the programme risk register covering Due diligence, transfer or reprovision risk themes. Further detail can be seen at Appendix 29, where the latest version of the risk register is shared (December 2025).

List of Appendices

Reference	Document
1	**Clinical Advisory Panel Review and Recommendations** – July 2019
2	**The Clinical Model of Care for services at Mount Vernon Cancer Centre:** Proposal to MVCC Review Programme Board - 10th December 2020
3A	**Mount Vernon Cancer Centre: revised patient flow and accessibility modelling** - December 2020
3B	**Average drive times for high volume activity CCGs** – December 2020
4	**Mount Vernon Cancer Centre: Options Development Summary document** – December 2024
5A	**Our Integrated Care Systems; feedback on cancer strategic priorities and impact on the MVCC Review** - December 2020
5B	**Mount Vernon Cancer Centre: ICB Strategic Plans** – September 2024
6	**Assessing the case for Networked Radiotherapy** included in Appendix 6 file - Proposed process for decision making regarding Networked radiotherapy for Mount Vernon Cancer Centre (21 January 2021) included as separate files: **6.1** Networked Radiotherapy: Update for Programme Board & Stage One Assessment (23rd February 2021) **6.2** Networked Radiotherapy: Update for Programme Board & Stage Two Assessment (13th May 2021)
7	**NWL Health and Care Partnership Board Position Paper** Proposals for NWL service developments as supported by the Partnership Board on 11th May 2021
8	**MVCC Workforce: Current challenges and planning for the future** – October 2025
9	**Development of Essential Criteria for Shortlisting** - October 2020
9B	Options Appraisal Paper to MVCC Strategic Review Programme Board June 2019
10	**Stage 1 Patient and Public Engagement Report - 2020**
11	**Draft Interim Phase 2 Public and Patient Engagement Report** MVCC Strategic Review Programme Board - December 2020
11B	**Patient and Public Involvement Summary Report** MVCC Review Strategic Programme Board - November 2021
11C	**Addendum to Patient and Public Involvement Summary Report November 2021 –** September 2024
12	**Future siting of the central hub of the Mount Vernon Cancer Centre:** What directly adjacent clinical services best support optimal cancer care? – December 2020
13	**List of Key Organisations** – 2025
13B	**MVCC Public Consultation decision-making process** – Programme Board August 2024

14	**Impact Assessments**
14A	Equality and Health Inequalities Impact Assessment (EHIA) of the relocation of Mount Vernon Cancer Centre Services - update to EHIA Full Report 2021 document - September 2024
14B	MVCC Integrated Impact Assessment – April 2025 (includes EHIA summary, Travel, Environment and sustainability and Privacy Impact Assessment)
15	**MVCC Future Options Assessment – stakeholder scoring report** for Programme Board November 2021
16	**Mount Vernon Cancer Centre: revised clinical model with reprovision on an acute hospital site Report of the East of England Clinical Senate independent Clinical Review Panel** held on 23 June 2021
17	**Networked Radiotherapy update for Programme Board & Stage Three Assessment** November 2021
18	**Networked Radiotherapy** – Programme Board report December 2022 (includes appendix with patient and public engagement feedback)
19	**Independent Review of selection process for proposed Mount Vernon Networked Radiotherapy service** – Eastern AHSN June 2023
20	**Independent Clinical Review of proposal for Mount Vernon Cancer Centre Radiotherapy Reprovision –** Joint East of England and London Clinical Senate April 2022
21	**High-level impact assessment of the implications of closure of Mount Vernon Cancer Centre** – report for the national finance team October 2021
22	**Mount Vernon Cancer Centre Review Equality and Health Inequalities Initial Impact Analysis of the Regional Re-provision Options** (Luton, Stevenage, Watford) – July 2022
23	**Letter of support from Clinical Senate (East of England, London, South East) -** November 2024
24	**Mount Vernon Cancer Centre: Benefits Realisation –** January 2025
25	**MVCC PCBC Financial Modelling and revenue affordability –** November 2025
26	**Letters of Support** – January 2026 Letters of support from key stakeholders, including key ICBs and providers
27	**Consultation Plan** – November 2025
27B	**Consultation Document** – January 2026
27C	**Data Protection Impact Assessment** – September 2025
27D	**Consultation Questionnaire** – January 2026
28	**Terms of reference for the MVCC Joint Development Board** – July 2025
29	**MVCC Programme Risk Register –** December 2025
30	**Stage 2 Assurance panel: Final Letter of confirmation** – January 2026

Background Image: Architects Impression of the proposed new Mount Vernon Cancer Centre on the Watford General Hospital site, showing connecting link bridge between the two new facilities.

Mount Vernon Cancer Centre Pre-Consultation Business Case
January 2026