OBC Addendum for the Redevelopment of Ulster Hospital, Dundonald - Phase B

inpatient capacity

South Eastern Health & Social Care Trust

31 May 2019

South Eastern Health and Social Care Trust

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1 INTRODUCTION & BACKGROUND

1.1 Background

1.1.1 A final Outline Business Case (OBC) submission for the second stage (Phase B) of the site redevelopment for the Ulster Hospital was submitted by the South Eastern Health and Social Care Trust (the Trust) to the Department of Health (DOH) at the end of September 2009.

1.1.2 The OBC set out a clear set of proposals for this stage of site redevelopment with the preferred solution involving a single phase of development procured through the use of conventional capital finance.

1.1.3 The business case was approved by the Health and Social Care Board (HSCB) and Department of Health (DOH) in November 2009 and May 2010 respectively. In June 2010 the then Minister for Health, Michael McGimpsey, announced the £190m Phase B Redevelopment of the Ulster Hospital.

1.1.4 Following OBC approval, the economic recession impacted upon capital availability and the DOH completed a review of the capital investment requirements / priorities across the region.

1.1.5 As a result of the economic downturn and constraints on capital, in early summer 2011, the DOH indicated to the Trust that there was a shortfall in funding and that it would not be possible to complete the redevelopment in a single phase. At this time the Trust were asked to consider alternative options for project implementation via a phased implementation, thus allowing the capital expenditure associated with delivering the full scope of the redevelopment to be incurred over an extended timeframe. At this time the Trust was advised that the delay between the two phases would be likely to be in the region of five years.

1.1.6 In considering a phased approach the Trust did not seek to revisit the options presented within the 2009 OBC. It had already been clearly demonstrated that the OBC preferred option delivers the best overall value for money, however a review was required to establish how this could be delivered using a phased approach.

1.1.7 The Trust subsequently asked the design team to identify the potential alternative approaches available to the Trust in delivering the preferred OBC option (Option 4), in a phased manner. The design team proposed three phasing options, to build the Inpatient Ward Block first, to build the Acute Services Block first and to build both blocks with significant shell space.

1.1.8 A Workshop was held with representation from Trust Senior Management, clinical staff and the design team to discuss and analyse the potential phasing options.

1.1.9 Due to the anticipated delay of five years between the delivery of the two phases, the Trust reviewed the 2009 solution to ensure it could provide service continuity in the interim period, pending delivery of the second phase.

1.1.10 The Trust commenced work on an Addendum in September 2011 to reflect a phased implementation of the 2009 preferred option with a five year delay between the two phases. The Trust continued to work on this document until January 2012 in collaboration with DOH.

1.1.11 The Trust progressed the design development of phase one through to 1:200's which were completed in January 2011 and 1:50's which were completed in January 2012. The design for the second stage of the phased project (Acute Services Block) was put on hold due to the anticipated five year delay.

1.1.12 In April 2012, the Trust was advised that the DOH had identified sufficient funding to deliver the project through the allocations within the current Comprehensive Spending Review (CSR) and the delay between phase 1 and phase 2 should be reduced from five years to one year. The Trust therefore commenced detailed design development for the Acute Services Block over the Summer of 2012.

1.1.13 Due to the delay between the two buildings, the Trust found it necessary to make some essential changes to the proposals in order to ensure service continuity in the interim period, pending delivery of the second phase.

1.1.14 In November 2012, as requested, the Trust submitted an addendum to the OBC to outline potential alternative approaches to deliver the preferred OBC option (Option 4), in a phased manner. The preferred option in the OBC was to commence construction of the Inpatient Ward Block first, followed by the commencement of the Acute Services Block one year later.

1.1.15 The Trust commenced on site with the Inpatient Ward Block in June 2013. It was envisaged that the Acute Services Block would commence one year later in May 2014, in line with the approved business case. Unfortunately due to constraints in the capital programme, DHSSPS were unable to identify funding to facilitate the commencement of the Acute Services Block within the approved timescale.

1.1.16 The Trust met with DHSSPS representatives in May 2015 to advise of the financial implications associated with the delay in commencing the Acute Services Block. DHSSPS requested that a further addendum be completed by the Trust.

1.1.17 The primary aim of the 2015 addendum was to set out the implications which had arisen due to the delay in the commencement of the Acute Services Block, and in particular to:

- To set out the implications which a 33 month delay between the two blocks had on the model of care which was outlined in the approved business case, and the operational functioning of the acute hospital in the interim period;

- Provide details of the timeframe for delivering the Phase B redevelopment programme;
- To set the non-recurrent implications which would arise until completion of the Acute Services Block;
- Review the capital and revenue cost requirements;
- Establishment and measurements of the risks associated with the delay of 33 months; and
- Provide details of the key milestones and the proposals for delivering the benefits and managing the risks of a phased implementation.

1.1.18 This addendum was approved in January 2016.

1.1.19 The enabling works for the Acute Services Block commenced on site in August 2014, with the main scheme having commenced in April 2016 and is currently due to complete construction in November 2019. Following a period of commissioning, the building is currently scheduled to open to patients in Spring 2020.

1.1.20 The result of the original OBC and the subsequent 2012 and 2015 addendums was an approval limit of £260 million to complete the Phase B Redevelopment of the Ulster Hospital site.

1.1.21 The 2015 Addendum noted that the design development of Phase B4 had not been progressed since the 2012 Addendum.

1.1.22 During 2018, the Trust progressed the design development of Phase B4 to include works to retained estate to facilitate the reprovision of clinical services and ambulatory care work currently being undertaken in the main ward block at the Ulster Hospital. Costs to undertake these works were included in a paper prepared by the Central Procurement Directorate Health Projects (CPDHP) team in July 2018 for the Department of Finance (DoF).

1.1.23 Within the CPDHP paper, it was identified that the completion of Phase B4 would require approximately £21.2m. Within the overall £260m approved for Phase B, the Trust currently remains within its approval limits. It has been forecasted that completion of Phase B3 and the laundry project will amount to approximately £258m, therefore leaving £2m remaining to undertake the required Phase B4 works.

1.1.24 Further cost analysis undertaken by CPDHP in December 2018 following a more detailed review of design requirements[1], indicated that the total amount required to deliver Phase B4 is as follows:

[1] It should be noted that the area increased by approximately 1000 square metres, due to the fact that the required space for Phase B4 does not fit exactly within the original areas due to building control, circulation and fire safety requirements etc. In addition, the more detailed review of design requirements identified a number of areas that will require more extensive refurbishment.

	Retained Estates- Phase B4
2018 Design Development-Projected Final Costs December 2018 (CPDHP) excluding allowance for inflation	£22,474,773
2018 Design Development-Projected Final Costs December 2018 (CPDHP) including allowance for inflation	£26,592,391

1.1.25 The Trust is therefore unable to complete Phase B within approved limits and would require additional funding to complete Phase B3 and B4 as per this outline business case.

1.1.26 Post operational opening of the Acute Service Block, a series of works will be required to convert retained estates to facilitate the demolition of the existing main ward block which would complete the Phase B element of the overall Ulster Hospital redevelopment programme.

1.1.27 The table below details the Services that will remain in the existing Ward Block post Phase B3 and their proposed location within the retained estate to facilitate the required demolition of the existing main ward block.

Existing Main Ward Block based Service	Retained Estate Location
Medical Photography Diabetes Hub Cardiology Hub Cardiac Investigations Ophthalmology	Old ED
Children's Rapid Response	MacDermott Unit
Transition Unit	Neely Ward
Laser Suite	Level 1 adjacent to Neely Ward
DOSA	ASB/IWB
Discharge Lounge	Level 3 IWB
Medical Records/ PE Staff Change/ Admin	Old Kitchen
Admin/Specialist Nursing/ Medical Staff on Call/ Phlebotomy	Old Dining Room
Post Room	Ground Floor – Retained Estate
Bed Store	ASB Shell Space
Receipt and Distribution	ASB Shell Space
MacDermott Unit	COE Building – Spring 2020

1.1.28 Once these works are complete the existing Main Ward Block will be vacant and can be decommissioned and demolished. Failure to complete the Phase B re-development of the Ulster Hospital site would result in retention of the existing ward block,

1.1.29 The existing main ward block has been categorised as ceri davis score Dx, there are many issues with the physical condition and structural integrity of the building, these include, but are not limited to:

- Concrete cancer
- Asbestos
- Fire safety standards
- Hot water systems
- Many aspects of the building, which was constructed in 1962, have long since exceeded their useful life, these include roof coverings, cladding, insufficient drainage capacity, draughty windows and Mechanical and Electrical services

1.1.30 Over the last two years in particular the Trust has experienced a significant growth in demand for new and unplanned admissions. The reform of community care to support patient flow out of Hospital as envisaged in the original business case has not been realised. As a result there is a proven deficit in beds at the Ulster Hospital, as a result of which the Trust is currently capping elective care. Clearly this is not sustainable and does not offer our patients the high level of health and social care articulated in the Business Case model of care.

1.1.31 In light of the increased inpatient demand, the Trust has reviewed the options to complete Phase B3 and B4 of the Ulster Hospital site redevelopment and deliver the additional inpatient bed capacity required.

1.1.32 This addendum sets out options, which will address the shortfall in inpatient bed accommodation at the Ulster Hospital site.

1.1.33 The construction of Phase B will complete the development of an adult inpatient and emergency hospital at the north end of the site. Ambulatory care and children's services will continue to operate from buildings on the retained estate until the construction of Phase C element of the project completes the redevelopment of the Ulster Hospital.

1.2 Aims of 2019 Addendum

1.2.1 Whilst the primary aim of the addendum is to set out the implications which have arisen due to the requirement to provide additional inpatient accommodation at the Ulster Hospital to enable the Trust to provide the capacity required to achieve the original OBC objective:

To ensure that the Ulster Hospital can respond to the demand for its inpatient; daycase and outpatient services,

specifically the broader aims are:

- Maintain strategic alignment and deliver the vision and model of care outlined in the approved Phase B OBC including addressing the risks associated with the 1962 Existing main Ward Block.
- Provide effective management of Unscheduled and Elective services.
- Deliver safe, high quality services that provide positive outcomes and experience for service users, whilst minimising any risk to service users and staff.
- To set out changes in the proposed scope of the project since the development of the original OBC
- To fully review and cost the final phase of the project, B4. The costs for this element of the project were never fully costed. The 2015 addendum noted that these costs were uplifted to quarter 4 2015 levels only and were not been included in the OB Calculation
- Provision of accommodation which reflects current legislation and guidelines including Infection Prevention and Control and RQIA standards.
- Establish and assess a range of alternative options to provide the required level of inpatient accommodation to meet demand at the Ulster Hospital and provide a justification for the preferred solution
- To update the capital and revenue costs for the preferred solution reconciled against the current approvals for the project
- Provide details of the timeframe for delivering the Phase B redevelopment programme
- Provide the reader with details of the key milestones and the proposals for delivering the benefits and managing the risks of the project

1.3 Restatement of 2009 OBC Preferred Option

1.3.1 Following a robust OBC development process, carried out in line with latest Departmental guidance, the Trust selected, on the basis of overall value for money, Option 4: Alternative Design Solution as the preferred solution for delivering this stage of site redevelopment.

1.3.2 The key factors in selecting this as the preferred option were that it is able to:

- Deliver the objectives of the Phase B Redevelopment of the Ulster Hospital site
- Provide the best overall value for money as demonstrated through the option appraisal
- Deliver 21st Century acute healthcare with innovative models of care and provides the necessary capacity to meet current and future demand for services

- Provide modern, state of the art hospital facilities within a fully tailored and flexible design for the use of patients, staff and visitors.
- Meet national standards for single bedded ward accommodation.

The key features of the preferred option are:

- Redevelopment of two blocks on the existing hospital site via a single construction phase incorporating the following elements:
- A new build Acute Services Block (ASB) to the west of Phase A Critical Care Complex consisting of Emergency Department; Imaging Department; and acute ward accommodation including Assessment beds, Stroke, Plastics, Renal and Gynaecology Wards.
- A new build Inpatient Ward block (IWB), located on the ex-Health Estates Investment Group (HEIG) site, to the North of Phase A Critical Care Complex consisting of twelve Generic Wards, a Day Surgery Department including Theatres, Endoscopy and Cardiac procedures Suites and Support Services.

1.4 Restatement of 2012 Addendum Preferred Option

1.4.1 The preferred phasing solution provided the development of a Inpatient Ward Block in phase 1 followed by the Acute Services Block in Phase 2, one year later. The phases would comprise:

- Phase 1 – Inpatient Ward Block, comprising:
  - B1 – enabling works
  - B2 – construction of Inpatient Ward Block
- Phase 2 – Acute Services Block, comprising
  - B3 - Construction of Acute Services Block
  - B4 - Demolition of existing Main Ward Block and construction of entrance facility within retained estate

1.4.2 The preferred phasing solution provides for a total of 458 beds as detailed within the OBC capacity planning exercise. The configuration of services to be delivered on completion of the solution is as follows:

- Inpatient Ward Block (IWB) delivered in phase B1&2 to include 12 Generic Wards; Day Surgery/Endoscopy/ Cardiac procedures; Cardiac Investigations Unit; Pharmacy with total new bed capacity of 288 beds
- Acute Services Block delivered in phase B3&4 to include Acute Assessment Unit; Acute Wards (i.e. Stroke, Renal); ED, Imaging & Mortuary – total new bed capacity of 170 beds.

- Completion of stage B4 – retained estate conversion work and demolition of existing main ward block.

1.4.3 The preferred phasing option was selected as the provision of the Inpatient Ward Block followed by the Acute Services Block would:

- Ensure that the Trust is able to achieve the most benefit from the implementation of the identified models of care within the first phase as set out within the original OBC Benefits Realisation Plan Managing the clinical and service continuity risk of utilising the existing Main Ward Block
- Minimise the potential clinical risk issues arising from splitting the development into two phases.
- Ensure that the initial phase of development minimises disruption and maximises the improvement in the patient and staff environment
- Ensure that the phased solution is cost effective in capital and revenue terms whilst still delivering the full scope of Phase B services

1.4.4 The Addendum was approved in March 2013 for an additional £45.219m bringing the total Phase B approved sum (including OB) to £231.774m

1.5 Restatement of 2015 Addendum

1.5.1 This addendum was submitted to DoH in November 2015 and set out the impact which the prolongation of the delay between commencement of the construction of the Inpatient Ward Block and the Acute Services Block from 12 months to 33 months.

1.5.2 The additional capital requirement of £27.96m outlined in this addendum as approved by DoH in January 2016 taking the full Phase B approval to £260.588m

2 OPTIONS

This section of the OBC addendum identifies and analyses the approaches available to the Trust to provide the current inpatient capacity required to deliver the preferred OBC option (Option 4).

2.1 Strategic Context Update

2.1.1 Transforming Your Care (TYC) forecasted that the demand for acute services would grow by around 4% per year by 2015 and suggested that without change, this would require 23,000 extra hospital admissions across the region. TYC set out a broad new model of care, moving away from hospitals and into primary, community and social care services.

2.1.2 The expectations and predictions set out in TYC have not come to pass due to an unprecedented rise in unscheduled care admissions and the limited capacity within Community services to manage demand

2.1.3 Health and Wellbeing 2026: Delivering Together' (Department of Health) was launched by the Health Minister Michelle O'Neill in October 2016 which outlined the Minister's vision, in response to the Expert Panel's report, led by Professor Rafael Bengoa, 'Systems, Not Structures: Changing Health and Social Care' which clearly set out the need for changes in the delivery of health and social care services in Northern Ireland.

2.1.4 The Minister's vision describes a compelling case for change to deliver world class health and social care (HSC) services to the population of Northern Ireland. It acknowledges that for too long, HSC services have been planned and managed around structure and buildings and instead, the Minister's vision puts people at the forefront, focusing on enabling people to stay well for longer. In addition, where possible, care or support will be provided in the community setting. The Minister's vision also places users as a central focus, stating that HSC service users will play a key role in developing and implementing new services and care pathways.

2.1.5 Delivering Together set out a clear and unassailable case for change. The inability to meet the extraordinary demands and pressures created by an ageing population; the stark differential in health and social care outcomes between the most and least deprived areas; the current service delivery model being no longer fit for purpose and the challenges in attracting and retaining staff to prop up an outdated system means that transformation is not an option, it is an imperative.

2.1.6 In addition to a long term road map for the delivery of HSC services, Delivering Together outlined 18 specific actions to be taken forward over the first 12 months, to make a positive and ambitious start towards the stabilisation, reconfiguration and transformation of Northern Ireland's HSC system.

2.1.7 The requirement for a transformation oversight structure with membership drawn from within and out with the HSC was an explicit commitment of Delivering Together. In November 2016, a Transformation Implementation Group was established to provide leadership in driving forward transformation. A Transformation Advisory Board was also formed to provide strategic advice to the Minister on the direction of reform.

2.1.8 Delivering Together is driven by the Northern Ireland Executive's draft Programme for Government and sets out an ambition to support people to lead long, healthy and active lives.

2.1.9 The following key principles were identified in terms of the change needed:

- Build capacity in communities and in prevention to reduce inequalities and ensure the next generation is health and well;
- Provide more support to primary care to enable more preventive and proactive care, and earlier detection and treatment of physical and mental health problems;
- Reform our community and hospital services so that they are organised to provide care when and where it is needed; and
- Organise ourselves to deliver by ensuring that the administrative and management structures make it easier for staff to look after the public, patients and clients.

2.1.10 *'The Right Time, The Right Place'* report (2014) recommended an expert review of the configuration of HSC services. The Bengoa report *'Systems not Structures: Changing Health and Social Care'* (February 2017) demonstrated that the estimates made in TYC had been underestimated, with the actual comparison increase in inpatient admissions to hospital between 2010/11 and 2014/15 being 5.7%.

2.1.11 In 2017/18, 85.9% of inpatient admissions were non elective compared to 80.5% in 2010/11 (Department of Health, HIB, Northern Ireland Hospital Statistics: Inpatient And Daycase Activity Statistics);this increase in emergency and urgent admissions has had an impact on the SEHSCT bed capacity and the Ulster site has been seeing an increase in the numbers of trolley waits in ED, Outliers, corridor bed use and increasing gap in the Service and Budget Agreement for elective work.

2.1.12 All these factors are contributing to reduced quality and outcome measures for patients and can impact on their recovery and long term wellbeing beyond their stay (Kortebein et al, 2008).

2.2 Scope of Service Provision

2.2.1 The services that will be provided from the new facilities incorporated in Phase B of the site redevelopment are:

- Inpatient Services

    - Medical, Surgical and Acute Elderly Services
    - Plastics and Maxillofacial Services
    - Renal, Stroke and Gynaecology
    - Acute Assessment Beds
    - Coronary Care beds
- Emergency Department
- Imaging
    - Support to inpatient services
    - Support to Emergency Department
- Day Surgery, Endoscopy & Cardiac procedures Suite
- Pharmacy
- Support services

2.3 Model of Care

2.3.1 The Model of Care for the Ulster Hospital, as the single acute Hospital for the South Eastern Trust remains as per the approved 2009 OBC.

2.3.2 The Trust undertook a structured and rigorous process to develop the high level design brief and model of care. The process involved both clinical and non-clinical staff at each stage, leading to a high level of clinical commitment to the final outcomes.

2.3.3 In developing the model of care, account was taken of the phased nature of site redevelopment to ensure that each component is not developed in isolation from wider service changes which can only be fully secured once all phases are complete. As such, patient and service benefits accrue at each phase but do not end there and are augmented with subsequent phases of the development programme.

2.3.4 The Trust demonstrated its commitment to the results by the formal endorsement from both the Executive Management Team, Clinical Advisory Board and Capital Development Steering Group

2.3.5 The following is a diagrammatic representation of the Phase B model of care for adult acute services. A parallel model of care has also been developed for imaging:

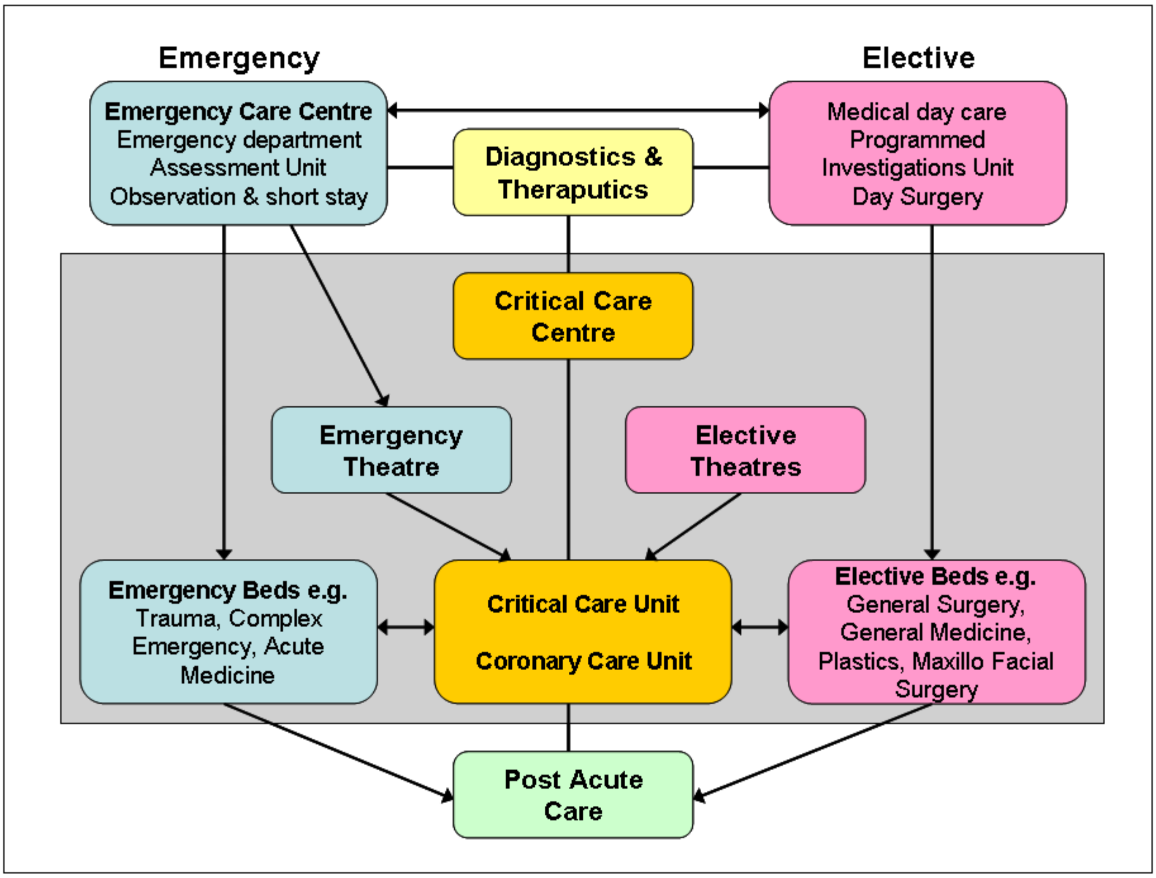

Figure 1: Phase B Model of Care Adult Acute Services

2.3.6 This diagram outlines:

- The entry point into adult care through either the emergency or elective routes, supported by diagnostics and therapeutics.
- Treatment in the core of the MOC, the Critical Care Complex (already provided under Phase A).
- Discharge into an appropriate post-acute setting.

2.3.7 The service model developed for the Ulster Hospital assumes a future focus on the management and treatment of acutely ill patients within the acute hospital setting. It is planned that each episode of acute care will address the needs of the individual patient rather than reflect the presenting diagnosis through the use of multi-disciplinary assessment (involving, for example, allied health professionals where appropriate). Thus, co-morbidities and other needs are identified at the time of presentation. This prevents inappropriate admissions, permits an early start to appropriate treatment and, where admission is required, also facilitates timely discharge planning.

2.3.8 Routine treatment, sub-acute care and rehabilitation to be undertaken in appropriate community based facilities,. It is anticipated that the impact of the care model development will be to decrease the demand on acute beds, reduce re-admission rates and lead to improved lengths of stay, whilst improving the patient journey and service quality / efficiency.

2.3.9 Unscheduled care is unplanned at the point at which the patient presents at hospital. The Ulster Hospital acute care model uses an Emergency Medical Complex (EMC), which combines the Emergency Department (ED) with an assessment unit, to provide the main point of access for most unscheduled care in order to ensure effective patient management. This model enables clinicians to identify both the presenting problem and any related social or medical issues/co-morbidities at the point of presentation or as soon as possible thereafter and thus initiate appropriate and timely treatment. All unscheduled patients are triaged in the Emergency Department (including GP referrals):

- Minor injuries will be treated and discharged
- Patients requiring assessment/treatment for up to four hours will be managed in the Emergency Department (maximum four hours stay - national standard)
- Patients who require a period of assessment, observation or treatment prior to discharge are transferred to the assessment unit; however, not all require admission (e.g. minor head injury)
- Those requiring inpatient care are admitted to a ward of the appropriate speciality;
- Where appropriate, patients will be transferred to other facilities (e.g. sub-acute) after assessment
- Acutely sick patients will receive resuscitation and stabilisation prior to transfer for further observation within the emergency medical complex, theatre, critical care or an appropriate specialty ward bed.

The EMC therefore becomes both the filter and the hub for all unscheduled care. Accordingly, its relationship with theatres, imaging, critical care and specialist wards is pivotal.

2.4 Capacity Planning

2.4.1 At the time of the development of the Phase B Business Case in 2009, a rigorous capacity planning exercise was carried out to establish the future requirements for beds, theatres, scoping suites and imaging. This captured both anticipated changes in demand arising through demography as well as improvements in overall performance resulting from the proposed models of care.

2.4.2 The 2009 Business Case identified commissioned beds of 433 and future requirements for 458 inpatient beds by 2017/18.

2.4.3 The capacity planning exercise was not repeated in either the 2012 or 2015 addendums as the expectation was that the Transforming Your Care initiative would significantly reform community based services, therefore reducing the requirement for acute services within Hospitals. As noted earlier, the pace and extent of reform articulated has not been realised.

2.4.4 At April 2019 there were 486 inpatient beds commissioned at the Ulster Hospital (not including 10 Critical care beds or 32 Maternity beds).

2.4.5 The table below summarises the 2009 business case bed position, the then anticipated requirements and actual beds commissioned at April 2019.

2.4.5 There is clearly now a demand and capacity gap between the beds which are to be provided as part of the Phase B Redevelopment project and the demand for inpatient services which needs to be addressed.

Speciality	Commissioned beds in 2009 OBC	Proposed Bed Numbers on Completion of Phase B	Commissioned Bed Numbers (2019)
Haematology	6	6	8
General Medical/Care of the Elderly	213	214	262
Cardiology	32	32	32
Critical Care	10	10	10
General Surgery	78	96	72
Plastics / Max	34	24	24
Gynaecology	20	18 (+3 day beds)	20
Orthopaedics	40	48	48
Emergency Department	10	20	20
Total	**443**	**468**	**496**

2.5 Bed Modelling

2.5.1 The Trust has compiled a new bed modelling exercise. Using the 2018/19 new and unplanned activity and the Elective activity the Trust is currently commissioned to deliver. The 2018/19 year includes any length of stay or admission avoidance savings gained though previous years commissioning investments.

2.5.2 Over the last 3 years the Trust has been unable to achieve its commissioned volume of elective activity at the Ulster Hospital Site. Due to the level of unscheduled demand, activity has been capped, with the 18/19 year having a capped elective limit for the full year. The Trust has included the Elective Care activity which is currently funded in the model, rather than 18/19 actual elective activity for this reason. This activity has not been uplifted for future demand.

2.5.3 The Trust has then adjusted the future bed requirement to reflect model of care developments which will impact on future admissions including Ambulatory Care and Enhanced Care at Home.

2.5.4 In 2009, the bed model was adjusted for peer length of stay. The Trust has reviewed its length of stay across benchmarked peers provided independently by CHKS. As the Trust performed above the peer group identified for Length of stay (gen med LOS of 6.2 against 6.3 and COE LOS of 11.2 against 12.1) the model has not been adjusted for peer LOS as this would impact negatively on the model.

2.5.5 The bed modelling approach adopted in summarised is figure 2 below

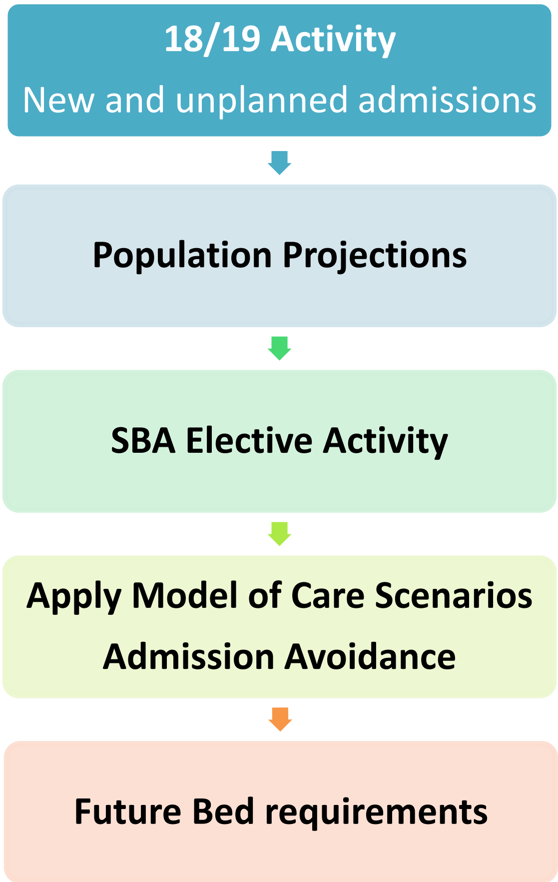

Figure 2: Bed Modelling Approach

2.6 Population Projections

2.6.1 The demand for health services across the Trust is increasing; driven by demographic changes, an increase in the number of people living with chronic conditions as well as the development of health technology and changing practices in healthcare. These combined factors have led to an increase in pressure across the system.

2.6.2 From 2011 to 2013, the total population of the South Eastern area increased by 8.5% with the largest percentage increase being recorded in the 85+ age band. This population growth and pattern is estimated to continue over the next 7 years, and the 85+ age band is projected to grow within the South Eastern area by 46% before 2025. The growth to date has resulted in an increasing demand for additional services, both in the acute setting, and in relation to care needs out of hospital.

2.6.3 This rise in population, change in demographics and re-profiling of services within the Trust area has led to an increase in the number of New and Unplanned Review attendances at the Ulster Hospital Emergency Department, resulting in continuous pressure across Acute and Primary Care services. The growth in demand on the Ulster Hospital site has outpaced the Trust’s effort to reform services and has led to an increase in patients waiting more than 12 hours in ED for admission to a hospital bed.

2.6.4 The resulting continuous pressure on the Ulster Hospital site has impacted on the timely, safe and effective flow of patients through the Ulster Hospital, and has increased the complexity in the management of unscheduled care. Reduced capacity in the Community setting to provide for the demand in domiciliary, residential and nursing home care has also led to delays in discharge rates, further escalating pressure on bed utilisation.

2.6.5 The capacity planning and bed model is based on NISRA 2029 projections for the Trust area. It is anticipated that the over 16 population will increase by 6.9% from 2018 to 2029 and the over 65 population will increase by 31.6% for the same period. This is summarised in the table below.

Table 2: Population Projections

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Children	72,837	73,192	73,288	73,318	73,255	72,833	72,229	71,683	71,211	70,652	69,993	69,513
Working age	220,035	222,036	224,195	224,811	224,853	225,071	225,337	225,519	226,086	228,254	229,734	229,254
Pension age	67,740	67,209	66,737	67,811	69,491	71,323	73,216	75,064	76,310	75,959	76,279	78,286
16-64	220,568	220,456	220,637	220,580	220,447	220,530	220,801	220,790	220,443	220,110	219,763	219,114
65 & over	67,207	68,789	70,295	72,042	73,897	75,864	77,752	79,793	81,953	84,103	86,250	88,426
% increase 65+ on 2018		0.0235	0.0459	0.0719	0.0995	0.1288	0.1569	0.1873	0.2194	0.2514	0.2833	0.3157
All 16+	287,775	289,245	290,932	292,622	294,344	296,394	298,553	300,583	302,396	304,213	306,013	307,540
% increase All 16+ on 2018		0.51	1.10	1.68	2.28	3.00	3.75	4.45	5.08	5.71	6.34	6.87
% Children	20.2	20.2	20.1	20.0	19.9	19.7	19.5	19.3	19.1	18.8	18.6	18.4
% Working age	61.0	61.3	61.6	61.4	61.2	61.0	60.8	60.6	60.5	60.9	61.1	60.8
% Pension age	18.8	18.5	18.3	18.5	18.9	19.3	19.7	20.2	20.4	20.3	20.3	20.8

Source: NISRA

2.7 Model of Care Scenarios

2.7.1 **Transformation Programme** - The ongoing political situation including the absence of a Health Minster and uncertainties in the financial position has meant that critical decisions that were expected to come from the Bengoa Report (2016) have not progressed to the extent expected.

2.7.2 The Transformation Implementation Group (TIG) are currently taking forward a range of work streams aligned to the Bengoa principles which will include service model changes and reconfiguration of health infrastructure. This is expected to create transformational change across the health service but it will take time to deliver and therefore the impact is not expected to be seen in the short to medium term.

2.7.3 **Reform in Community Care -** TYC (2011) endorsed the practice of delivering care in the right place at the right time. This vision meant that many services would shift left from being delivered in an Acute setting to a community setting, where it was appropriate to do so. As the scope and speed of reform to develop the Community infrastructure, systems and processes has not materialised as envisaged, this has impacted on the Trust's ability to implement this vision fully. Despite these challenges, the Trust continues to actively work to implement a programme of reform within the funding available.

2.7.4 **Enhanced Care at Home -** A key area has involved enhancing capacity in the Community through integrated pathways, which provide long-term improvement in the care of the frail elderly population of the SEHSCT. Through the partnership and collaboration of GPs, District Nurses, Allied Health Professionals and NIAS, an infrastructure has been developed to improve community care and reduce the need for hospital attendance and/or admission (Enhanced Care at Home).

2.7.5 The Trust implemented the ECAH model in 2017 and the use of the service is growing. The Trust has ensured that the full bed saving which could be realised through this investment has been netted off the future bed requirement. This would be calculated as an additional 17 beds worth of activity.

2.7.6 **Domiciliary Care -** Across the region, all Trusts are experiencing difficulties in obtaining capacity within domiciliary care with demand outstripping capacity. In the independent sector, where the Trust has approximately 85% of its provision, the issues are wide ranging but the most significant issues relate to recruitment and retention of staff, complexity of cases, contract terms and conditions and rates of pay. Many agencies report that they are struggling to attract staff, with those who are recruited tending to move on quickly or suffering from high levels of sick leave.

2.7.7 Regionally, all providers are issued a standard contract which Trusts have adapted, paying a range of hourly rates. Trusts have been asked to consider procurement in an effort to standardise rates and processes, however a regional approach has not been implemented. The Trust's own in-house service has been expanded to deal with pressures but recruitment is challenging.

2.7.8 Because of the pressures in capacity, the Trust has undertaken a range of measures such as offering block contracts, enhanced rates, improved terms and conditions and collaboration with other Trusts. This has helped to make small improvements in capacity. However, at any one time up to 350 people are waiting to have their package allocated and the time from referral to commencement of a package remains above the expected timeframe.

2.7.9 The Trust continues to prioritise Domiciliary Care provision as part of their overall capacity planning. Although the initiatives are demonstrating some contribution to reducing acute bed occupancy, to date the capacity in community services is not at a level to reduce the burden of bed utilisation on the Ulster Hospital site. As a result the Trust has currently commissioned 19 transition beds (with space for 20) for patients who are medically fit but who cannot be discharged from the Hospital due to Domiciliary Care. It is envisaged that once the Domiciliary care reform is complete that these transition beds would then be available for use by acute inpatients.

2.7.10 **Reform in Acute Care -** As part of the Trust's Reform and Service Improvement agenda much focus has been on the improvement of systems and processes to improve patient flow and reduce the demand burden on acute beds. This Reform programme has included the development of Ambulatory care models and Outpatient reform as well as utilising the enhanced capabilities of technology through the e-Health Strategy.

2.7.11 **Ambulatory Care -** Ambulatory care is defined by the Royal College of Physicians Acute Medicine Taskforce as *"clinical care which may include diagnosis, observation, treatment and rehabilitation, not provided within the traditional hospital bed base or within the traditional outpatient services that can be provided across the primary / secondary care interference"*. The intention is to move away from the traditional method of admission to await investigation and diagnosis, and instead undertake assessment and offer diagnosis on the same day in the outpatient setting.

2.7.12 NHS England (2015) stated each acute site should consider the introduction of an Ambulatory Emergency Care facility that is resourced to offer emergency care to patients in a non-bedded setting.

2.7.13 The Minister's report "*Health and Wellbeing 2026 – Delivering Together*" highlights that embracing a new model for health and social care is necessary for the future of healthcare in Northern Ireland as "*it is clear that the current model, even if optimally managed, will not be enough to meet future demand".*

2.7.14 Ambulatory unscheduled care models have continued to develop within Medical Specialities during 2017/2018. The current strategic vision for Ambulatory Care includes the following specialities:

- Respiratory
- Gastroenterology
- Cardiology
- Stroke Palliative Care
- Dermatology / Rheumatology / Neurology
- Frail Elderly Rapid Assessment
- Diabetes Centre (May 2018)
- Medical Investigation and Treatment Units

2.7.15 The Trust is committed to developing Ambulatory care across the Trust and are seeing increasing numbers of patients being treated using this model, resulting in admission avoidance for conditions that were traditionally managed through inpatient admission.

2.7.16 As yet, there is no regional agreement around the coding and data collection for Ambulatory Care, and the SEHSCT continue to lobby the HSCB to progress this agreement in order that robust analysis of the benefits delivered can be determined. The Trust has therefore assumed that the full 12.37 bed savings identified in the IPT funded ambulatory care can be realised in the future and has netted this off the future bed requirement.

2.8 Future Bed Requirement

2.8.1 The future beds required at the Ulster Hospital based on 2029 NISRA data is summarised in the table below.

	Commissioned Bed Numbers (2019)	**Future beds (2029) Demography only**
General Medicine*	261	320
Surgery**	164	159
Care of the Elderly	71	119
Total	**496**	**598**

* inc Critical Care

** inc gynae

2.8.2 Using demography alone, in 2029 the Trust would require an additional **102** beds at the Ulster Hospital.

2.8.3 As noted above, in section 2.8.5, there are an additional 17 beds which could be saved through enhanced care at home.

2.8.4 As noted above in section 2.8.16, there are 12.37 beds which could be saved through Ambulatory Care hubs.

2.8.5 The net impact of these projects which will avoid admission into Hospital is circa 29 beds.

2.8.6 The bed inpatient bed requirement at the Ulster Hospital in 2029 is therefore 102 minus 29. **The Trust therefore requires an additional 73 beds by 2029.**

2.8.7 It should be noted that by 2041 the Trust will require an additional 112 net beds. However, the Trust assumes that future service developments for chronic disease, palliative care and further admission avoidance projects will adequately reduce this additional demographic demand. Therefore, the Trust would then be able to manage with a total of 541 acute inpatient beds at the Ulster Hospital.

2.8.8 The additional beds required from operational opening up to 2029 by year is summarised in the table below:

Year	**Additional beds required**
2022	35
2023	40
2024	46
2025	52
2026	57
2027	62
2028	68
2029	73

2.9 Option Identification

2.9.1 All options which would enable the Trust to provide the required level of inpatient accommodation at the Ulster Hospital and fulfil the model of care as outlined above have been brought forward for financial and non-financial assessment, Options 2a-c, Option 4 and Option 5.

2.9.2 In addition, the following options have also been included:

- Option 1: status quo option- finish the project up to the end of the current phase B3 (completion of the ASB with existing bed complement and clinical support accommodation on level 6)
- Option 3: current approved project but brought up to current pricing

2.9.3 The inclusion of these options enables the reader to see the true impact of the additional inpatient accommodation versus the current approved scope at current prices. Each option is described in section 2.11 with the benefits and dis-benefits of each option also included.

2.9.4 It should be noted that the Trust, on the basis on CPDHD advice, has (on 7 May 2019) issued a PMI to the contractor to stop works on ASB level 6 and instructed to design team to complete detailed design development to convert level 6 into inpatient beds. Should the Trust not be successful in securing approval for the additional inpatient accommodation required, this will result in a claim for prolongation of contract to restart the planned works to this area at a cost of c£3m, however this prevents nugatory work and expenditure if approval to any of the options which deliver additional inpatient accommodation are approved.

2.10 Option Descriptions

2.10.1 Option 1 – Status Quo**– Finish the project at current stage (B3) as planned**

Complete ASB with 170 beds

Level 6 to be fitted for 221 clinical support staff as office accommodation (in line with PEL)

- Benefits: Essential clinical support staff will be collocated to main Hospital
- Dis-benefits: Insufficient inpatient capacity provided through the Phase B facilities, therefore the deficit of Inpatient accommodation would have to be provided in existing main ward block.

  Clinical services (DOSA, Discharge ward and Transition ward) will remain in Existing Ward Block

  The number of clinical support staff has grown to 350, therefore Clinical support staff will be split between ASB (221) and Existing ward block (129)

  Phase B4 does not progress

  Existing Ward block cannot be demolished, all risks associated with that category Dx building will remain

  Existing Ward block will require considerable MES funding to maintain clinical inpatient services

2.10.2 Option 2 – Finish the project at current stage B3 with additional inpatient accommodation provided in the Acute Services Block. There are a number of sub-options:

2.10.3 Option 2a assume that approval will be received by November 2019 to enable contractor to remain onsite, Conversion to Level 6 to provide the required 53 inpatient beds is progressed via a PMI to the existing GC works contract.

Complete ASB with 223 beds

Level 6 to be redesigned to provide 2 inpatient wards with a total of inpatient beds

Retain clinical support staff in current accommodation in Existing Ward Block

Other Clinical services (Day of Surgery Admission Unit, Discharge Lounge and Transition Ward to remain in Existing Ward Block

- **Benefits:** Model of inpatient care delivered

  Sufficient inpatient capacity provided

  All inpatients beds co-located as envisaged

  All acute inpatient services will be removed from the Existing Ward Block

- **Dis-benefits:** Clinical services (DOSA, Discharge ward and Transition ward) will remain in Existing Ward Block

  Clinical support staff will remain in existing main ward block

  Existing Ward block will require considerable MES funding

  Phase B4 does not progress- Existing Ward block cannot be demolished

  Existing Ward block will require considerable MES funding

  Full scope of project is not delivered, therefore not all benefits can be realised

2.10.4 Option 2b assume a 1 year delay, conversion of level 6 to be progressed via a new contract

Complete ASB with 223 beds

Level 6 to be 2 inpatient wards providing 53 inpatient beds

Retain clinical support staff in current accommodation in Existing Ward Block

Other Clinical services (Day of Surgery Admission Unit, Discharge Lounge and Transition Ward to remain in Existing Ward Block

- **Benefits:**

  Model of inpatient care will be delivered albeit over a longer period
  Sufficient inpatient capacity provided

  All inpatients beds collocated as envisaged

  All acute inpatient services will be removed from the Existing Ward Block

- **Dis-benefits:**

  Clinical services (DOSA, Discharge ward and Transition ward) will remain in Existing Ward Block

  Acute Services Block will be commissioned in two phases

  Clinical support staff will remain in existing main ward block

  Existing Ward block will require considerable MES funding

  Inpatient services will be delivered from 3 locations for c18 months
  Build process will be longer and more complex in an occupied building

  Phase B4 does not progress- Existing Ward block cannot be demolished

  New contract on site will prolongate the build

  Trust will have to take partial completion of the building

  Levels 0 to 4 will be commissioned and operational

  Retain clinical support staff in current accommodation in Existing Ward Block

2.10.5 Option 2c – as per 2a but with the inclusion of relocating other clinical services out of existing ward block.

Complete ASB with 223 beds

Level 6 to be redesigned to provide 2 inpatient wards with a total of inpatient beds

Retain clinical support staff in current accommodation in Existing Ward Block

Relocate any clinical service above level 1 in Existing Ward Block to alternative accommodation (DOSA, Transition Ward, Discharge lounge)

- **Benefits:** Model of inpatient care delivered

  Sufficient inpatient capacity provided

  All inpatients beds collocated as envisaged

  Clinical services (DOSA, Discharge ward and Transition ward) will be removed from Existing ward block and re-provided within retained estate

  All acute inpatient services will be removed from the Existing Ward Block

- **Dis-benefits:** Clinical support staff will remain in existing main ward block

  Existing Ward block will require considerable MES funding

  Phase B4 does not progress - Existing Ward block cannot be demolished

  Existing Ward block will require considerable MES funding

2.10.6 Option 3 - Finish full current approved project but brought up to current pricing

Complete B3 as is including ASB level 6 as clinical support accommodation for 221 staff

Complete phase B4:

Complete retained estate conversion work

Demolish old ward block

Inpatient accommodation (DOSA, Transition Ward, Discharge lounge) would have to close resulting in reduced inpatient capacity and restricted patient flow at the UHD, and we would have c100 staff with no identified accommodation.

- **Benefits**: Existing Main Ward Block is demolished, therefore risks associate with the facility are addressed

- **Dis-benefits**: Insufficient inpatient accommodation provided

A total of 458 beds would be provided, this is 38 beds below current commissioned bed levels, therefore services would have to relocate to another acute site, placing pressure on other Trusts in the region.

Other clinical Services (DOSA, Discharge ward and Transition ward) would have to close.

The model of care cannot be delivered.

2.10.7 Option 4 - Finish the project as per approved scope including stage B4 with the additional inpatient accommodation provided in the Acute Services Block

Complete stage B3 including conversion of level 6 ASB into 53 single rooms

Complete revised B4:

- retained estate conversion work
- relocation of EWB based clinical services to alternative accommodation (DOSA, Transition Ward, Discharge lounge)

Provide alternative accommodation for c350 clinical support staff via a new build at Ulster Hospital Site or via a lease

Demolish old ward block

- **Benefits:** Full Model of Care Delivered including appropriate levels of inpatient accommodation

  Existing Main Ward Block demolished – addressing risks associated with this facility

  Site cleared for final phase of redevelopment

  Full Benefits of project realised

- **Dis-Benefits:**

  Clinical support accommodation would not be co-located with clinical services.

2.10.8 Option 5- finish stage B3 (inc additional beds on L6 ASB), significant refurbishment of EWB for clinical support Accommodation for c350 staff, retaining the EWB rather than demolition.

Complete phase B3 including 53 beds on Level 6 ASB

Significant refurb work of existing ward block ground floor to level 3, MacDermott, Theatres and Neely. Clinical support staff to be relocated to levels 2/3. Ambulatory hubs to relocate to levels G/1

Refurb Neely to HTM / HBN standard for Transition ward

Discharge lounge to relocate to refurbished accommodation in Inpatient Ward Block

DOSA to relocate to refurbished accommodation in Inpatient Ward Block

- **Benefits**: Full Model of Care Delivered including appropriate levels of inpatient accommodation

  Clinical support staff are centrally located in main Hospital

- **Dis-benefits**: Existing Ward Block cannot be demolished so risks remain with the Dx facility, albeit inpatient services have been removed

  Complex build requiring significant decants

3 NON-FINANCIAL ASSESSMENT OF SHORTLISTED OPTIONS

3.1 Overview

3.1.1 A key component of any formal appraisal process is the assessment of the non-financial or qualitative benefits that are likely to accrue from the options under consideration.

3.1.2 Where possible costs and benefits should be valued in monetary or quantitative terms, however, this is not always cost effective or practical. Very often qualitative factors are crucial in informing the decision making process. It is therefore important that the option appraisal process captures these non-financial costs and benefits and presents them alongside the quantitative measures.

3.1.3 Whilst there are a range of techniques available to assess the non-monetary factors, in light of the scale of this project, and in line with the requirements of the NI Practical Guide to the Green Book, the Trust has adopted the weighted scoring method to assign non-financial benefits to the range of shortlisted options.

3.1.4 Although the relative non-financial benefits of the options presented allows for comparisons to be made in this area, the outcome is critical in assessing the overall value for money presented by each of the options.

3.1.5 As part of this process the Trust has sought to clearly set out how the options compare in regard to non-monetary factors through a range of measures, namely:

- Developing a range of attributes, or benefit criteria, which relate closely to the project objectives and constraints
- Clearly presenting the information relating to each option which allows a comparison to be made with regard to the benefit criteria
- Explaining clearly the reasoning behind the weights and scores assigned to the options as part of the non-financial benefits assessment

3.1.6 The Trust has elected to carry out the benefits appraisal in an open and transparent environment, inviting a range of stakeholders to participate in the process.

3.1.7 The weighted scoring method adopted to assess the comparative level of non-financial benefits has three main stages:

- Identification of the benefits criteria;
- Weighting of the benefits criteria and
- Scoring of the short-listed options against the benefits criteria.

3.1.8 The following sections provide a detailed description of the process used to assess the potential benefits of the short-listed options, along with the outcomes of the exercise.

3.2 The Workshop Format and Participants

3.2.1 A benefits appraisal scoring workshop was held to assess the relative level of benefits delivered by the short-listed options.

3.2.2 The aims of the workshop were to:-

- Establish a common understanding and agreed approach to the benefits appraisal process;
- Review and describe the list of options to be evaluated;
- Develop the list of criteria against which each of the options would be evaluated;
- Rank and weight the criteria using established mechanisms;
- Score the options against the agreed criteria using the assigned weightings.

3.2.3 To ensure that the views of stakeholders were at the forefront of the process; and that the benefits appraisal process was conducted in an open and transparent manner, a broadly representative group of individuals were invited to attend the workshop.

3.2.4 The role of the stakeholder group was as follows:

- Oversee the benefits appraisal process;
- Ensure the benefits appraisal was conducted rigorously and fairly;
- Agree the short-listed criteria;
- Allocate ranking and weighting to the criteria:
- Score the options.

3.2.5 The workshop was facilitated by a member Trust staff who has extensive experience in carrying out non-financial benefits appraisals.

3.3 The Benefit Criteria

3.3.1 The role of the benefit criteria in the non-financial appraisal is to provide a basis against which each of the options can be evaluated in terms of their potential for meeting the objectives of the proposed capital investment.

3.3.2 The criteria have been specifically developed in a manner which minimises the extent to which there may be double counting arising from overlap in the attributes or features. In addition due care has been taken of the need to ensure that the full range of attributes are covered even if they are likely to be common to all of the short listed options.

3.3.3 Individual criterion will, generally speaking, have differing degrees of importance in determining the preferred solution to emerge from the benefits appraisal. As a result it is necessary to rank the criteria in order of importance and then to allocate a weighting. This should reflect the degree to which each criterion will affect the outcome of the options scoring exercise.

3.3.4 The benefits criteria were developed by the Project Team, and were subsequently reviewed at the workshop. These are shown below, together with a description of the key features.

Benefit Criteria

Criteria	Description of Key Features
1: Clinical Quality and Integration	Strategic alignment to, and continued delivery of the vision and model of care outlined in the Phase B OBC. Continued effective management of Unscheduled and Elective services. Enabling and maximising clinical safety; Supporting an improved model of care through a range of services; Providing key/ essential clinical adjacencies; Enabling use of care pathways; Respecting patient privacy and dignity issues; Facilitating a streamlined patient journey.
2: Capacity, Safety, Quality and Experience	Providing buildings and facilities appropriate for client groups with appropriate functional content, layout and suitability; Providing good physical condition, elimination of backlog maintenance, and compliance with Health and Safety; Providing a modern, clean, therapeutic environment; Providing a safe and sustainable environment and facilities; Meeting national requirements in terms of layout and size e.g. privacy and single sex accommodation. Provide fit for purpose accommodation for Clinical Support Staff.

Criteria	Description of Key Features
3: Service Delivery	The ability of the Trust to deliver healthcare in accommodation which supports clinical teams to deliver evidence based services. The ability to provide flexible accommodation which responds to service delivery and service development to ensure patient centred outcomes and regional and organisational objectives are achieved. Ability to meet current and future demand for a full range of services; Ability to adapt to meet national, regional and local requirements in the future including any waiting time guarantees; Able to accommodate change in size of populations and length of life; Enables efficient staff management; Ability to accommodate any additional service developments;
4: Quality of Accommodation	Providing buildings and facilities appropriate for client groups with appropriate functional content, layout and suitability; Providing good physical condition, elimination of backlog maintenance, and compliance with Health and Safety; Providing a modern, clean, therapeutic environment; Providing a safe and sustainable environment and facilities; Access to external open space; Meeting national requirements in terms of layout and size e.g. privacy and single sex accommodation.

Criteria	Description of Key Features
5:Speed/disruption/impact of Implementation	Speed of implementation Potential impact of existing and future services Impact on Ulster Hospital for strategic vision for future redevelopment Minimises disruption considering decanting, building work, impact on patients and activity and timing of development.

3.4 Ranking the Benefit Criteria

3.4.1 As some criteria will have a greater bearing on the outcome of the benefits appraisal it is necessary to rank them in order of importance.

3.4.2 The ranking of the benefit criteria was undertaken as a group, involving all attendees. The results of this are shown below. The criterion deemed to be the most important is ranked number 1.

Results of the Ranking Exercise

Reference	Criteria Heading	Ranking
1	**Clinical Quality and Integration**	1
2	**Capacity, Safety, Quality and Experience**	1
3	**Service Delivery**	2
4	**Quality of Accommodation**	3
5	**Speed/disruption/impact of Implementation**	3

3.4.3 During the ranking exercise the group discussion was documented as a means of understanding and justifying why participants viewed particular attributes as being more important than others and thus being reflected in the ranking.

3.4.4 The participants felt that benefit criterion 1 and 2 should be of equal importance as they are fundamental to the purpose of project, the provision of the model of care and the provision of high quality care are integral and should be weighted accordingly. There was a view that if the quality of the operational environment dropped below a certain level that good quality could no longer be assured, therefore Criterion 2 was equally as important as criterion 1.

3.4.5 The group felt that criterion 3 was the next most important criterion, The group believed that if a solution was unable to meet service delivery in the future then it would have failed as an option and would be unable to deliver the model of care.

3.4.6 Finally the group felt that quality of the environment and Speed/disruption/impact of Implementation were of equal importance and should be ranked accordingly, what is the point of implementing an option in a timely manner if it does not provide accommodation which is of high quality to enable the delivery of safe and effective care.

Weighting the Criteria

3.4.7 Having ranked the criteria in order of importance prior to scoring the options, it is necessary to assess the relative standing or weighting of each criterion.

Weighted Benefits Criteria

Criteria Heading in Ranked Order	Score (%)
Clinical Quality and Integration	25
Capacity, Safety, Quality and Experience	25
Service Delivery	20
Quality of Accommodation	15
Speed/disruption/impact of Implementation	15
Total	**100.0**

3.4.8 Having reviewed the weights assigned to the criteria and the supporting rationale the Trust is confident that the weightings reflect the relative importance of the benefit criteria.

3.5 Process for Scoring the Options

3.5.1 The scoring of the options against the benefits criteria is designed to assess the extent to which the potential solutions meet the objectives of the proposed investment.

3.5.2 Scoring provides a means to assess how each of the options compares both in relation to the optimal position (i.e. meeting all the criteria in their totality) as well as with other options.

3.5.3 The benefits scores when contrasted with the lifetime cost (derived from the Economic Appraisal) provide a means by which the overall value for money delivered by the short-listed options can be assessed.

3.6 Scoring the Options

3.6.1 Scoring was undertaken by individual participants and the results aggregated and averaged to provide a score for each option.

3.6.2 Prior to scoring the options participants were taken through a detailed presentation of each of the shortlisted options.

3.6.3 Following the presentation of the options the group members were tasked with assessing the extent to which each option meets the criteria using the scoring scale detailed below:

Figure 3-1: Option Scoring Scale

Score	Evaluation
10	Could hardly be better
9	Excellently
8	Very well
7	Well
6	Quite well
5	Adequately
4	Somewhat inadequately
3	Badly
2	Very badly
1	Could hardly be worse

3.6.4 The application of a relatively wide scoring scale allows for significant scope to differentiate the options against each of the criteria, as such the resultant output should provide a more robust overall assessment of the options.

Assessment and Scoring of Non-Financial Benefits

Benefit criteria	Weighting	**Opt 1** Status Quo	WS	Opt 2a	WS	Opt 2b	WS	Opt 2c	WS
Model of Care/Strategic Alignment	25	2	50	7	175	7	175	8	200
Capacity, Safety, Quality and Experience	25	2	50	6	150	6	150	7	175
Service Delivery	20	2	40	7	140	7	140	8	160
Quality of Accommodation	15	1	15	6	90	6	90	7	105
Speed/Impact of Implementation	15	6	90	6	90	5	75	6	90
Total	**100**	13	**245**	32	**645**	31	**630**	36	**730**

Benefit criteria	W	Opt 3	WS	Opt 4	WS	Opt 5	WS
1.Model of Care/Strategic Alignment	25	*2*	50	10	250	9	225
2. Capacity and Safety, Quality and Experience	25	*6*	150	10	250	7	175
3. Service Delivery	20	*4*	80	10	200	8	160
4. Quality of Accommodation	15	*4*	60	10	150	6	90
5. Speed/Impact of Implementation	15	*5*	75	8	120	2	30
Total	**100**	21	**415**	48	**970**	32	**680**

3.6.5 Rationale for Scoring

3.6.6 Option 1: Do nothing – maintain the Status Quo

This option does not respond to the identified need for additional bed capacity on the Ulster Hospital site. In view of the impact of key drivers, without additional capacity, the SEHSCT will not be able to meet the increasing demands on services. This will impact negatively on Safety, Quality and Experience of services across the Ulster Hospital site as well as having a negative effect on the Organisation's overall performance targets.

Whilst this option would enable Phase B3 to complete, it would not be possible to continue to phase B4. Inpatient accommodation (53 beds) would have to be retained in the Existing Ward Block, as noted earlier in this document, there are significant risks associated with this category Dx facility which would not be addressed through this case.

Score: 13 (Weighted Score: 245)

3.6.7 Option 2a: Conversion of Level 6 Acute Services Block to ward accommodation comprising 53 beds

This option will provide 53 Inpatient beds in the Acute Services Block delivering optimal improvement in patient and staff environment. Provision of additional beds in this area will ensure clinical adjacencies and the model of care outlined in the Phase B OBC is achieved.

This option would require the clinical support staff to be retained in their current location within the Existing Ward Block. Although inpatient accommodation would all transfer out of the facility, other clinical services such as discharge lounge and Day of Surgery Admission Unit would remain, along with the clinical support staff. As noted earlier in this document, there are significant risks associated with this category Dx facility which would not be addressed through this case.

Score: 32 (Weighted Score: 645)

3.6.8 Option 2b: Conversion of Level 6 Acute Services Block to ward accommodation comprising 53 beds (with 1 year delay)

This option is the same as option 2 a, and will provide 53 Inpatient beds in the Acute Services Block delivering optimal improvement in patient and staff environment. However, this option would require inpatient accommodation to be retained in the existing main ward block for an additional year. Provision of additional beds in the ASB will ensure clinical adjacencies and the model of care outlined in the Phase B OBC is achieved.

This option would require the clinical support staff to be retained in their current location within the Existing Ward Block. Although inpatient accommodation would all transfer out of the facility, other clinical services such as discharge lounge and Day of Surgery Admission Unit would remain, along with the clinical support staff. As noted earlier in this document, there are significant risks associated with this category Dx facility which would not be addressed through this case.

Score: 31 (Weighted Score: 630)

3.6.9 Option 2c: Conversion of Level 6 Acute Services Block to ward accommodation comprising 53 beds and relocation of additional clinical services from Existing Ward Block

This option will provide 53 Inpatient beds in the Acute Services Block delivering optimal improvement in patient and staff environment. Provision of additional beds in this area will ensure clinical adjacencies and the model of care outlined in the Phase B OBC is achieved.

This option would also relocate other clinical services such as discharge lounge and Day of Surgery Admission Unit to alternative locations at the Ulster Hospital. This will mitigate the risks associated with having inpatient clinical services operation out of the Dx facility. However, the clinical support staff would be retained in their current location within the Existing Ward Block. As noted earlier in this document, there are significant risks associated with this category Dx facility which would not be addressed through this case.

Score: 36 (Weighted Score: 730)

3.6.10 Option 3: Finish the project as per approved business case.

This option will enable the Trust to complete the envisaged project based on the 2009 approved model of care and bed capacity. This option does not respond to the identified need for additional bed capacity on the Ulster Hospital site. In view of the impact of key drivers, without additional capacity, the SEHSCT will not be able to meet the increasing demands on services. This will impact negatively on Safety, Quality and Experience of services across the Ulster Hospital site as well as having a negative effect on the Organisation's overall performance targets. This is likely to put increased demand on other Hospitals and Trust's across the region.

The Trust would also have to close other clinical services such as the discharge lounge and Day of Surgery admission unit.

Score: 21 (Weighted Score: 415)

3.6.11 Option 4: Finish the full project including additional inpatient accommodation and clinical support accommodation

This option will provide 53 Inpatient beds in the Acute Services Block delivering optimal improvement in patient and staff environment. Provision of additional beds in this area will ensure clinical adjacencies and the model of care outlined in the Phase B OBC is achieved.

This option would also relocate other clinical services such as discharge lounge and Day of Surgery Admission Unit to alternative locations at the Ulster Hospital

A new build clinical support facility will be constructed on the Ulster Hospital Site (The Trust has ruled out the option to lease accommodation at this stage as no suitable accommodation is currently available within the Trust area)

The Existing Main Ward Block would be demolished once retained estates conversion works complete.

A link will then be provided to connect the front of the Hospital to the Phase B buildings.

Score: 48 (Weighted Score: 970)

3.6.12 Option 5- finish stage B3 (inc additional beds on L6 ASB), complete B4 but include significant refurbishment of EWB for clinical support Accommodation for c350 staff.

This option will provide 53 Inpatient beds in the Acute Services Block delivering optimal improvement in patient and staff environment. Provision of additional beds in this area will ensure clinical adjacencies and the model of care outlined in the Phase B OBC is achieved.

This option includes significant refurbishment to the category Dx existing main ward block to provide both Clinical support and ambulatory style accommodation which meets current standards.

Score: 32 (Weighted Score: 680)

4 ECONOMIC APPRAISAL

4.1 Capital Update

4.1.1 This section of the addendum provides a review of capital costs of the project to date reconciled against the approved values; this provides the baseline costs for the status quo option. The capital costs for the do something options are also provided.

4.2 Optimism Bias

4.2.1 In line with HM Treasury guidance and the NI Practical Guide to the Green Book the Trust has assessed the level of Optimism Bias associated with the do something options.

4.2.2 As the status quo option is based on finishing the project at the current stage which is nearing construction completion, this option has not been included in the optimism bias calculations. There is a 'risk' contingency within the forecasted costs for this option.

4.2.3 The Trust has re-assessed the optimism bias for the do something options through key members of the project team in conjunction with the project quantity surveyors.

4.2.4 Based on advice received from DOH and DOF, no separate allowance has been made for planning contingency within the capital costs. All 'risk' associated with the capital elements of the project have been captured via optimism bias.

4.2.5 In assessing optimism bias, the Trust has used the Mott MacDonald Optimism Bias methodology developed on behalf of HM Treasury. This approach is consistent with the requirements of the NIGEAE Guidance and the approach undertaken for the original OBC and addendums. This can be accessed at appendix 1.

4.3 Capital Costs

4.3.1 The following assumptions have been made with regard to capital costs:

- All costs have been provided by the CPD Quantity Surveyor.
- All Equipment and ICT allowances are based on current quotations in line with detailed schedules.
- Fees have been applied in-line with contractual arrangements.
- VAT is excluded
- Inflation is excluded.

4.4 Reconciliation of Capital Costs

4.4.1 This section sets out a reconciliation of status quo capital costs in comparison to the current approved costs, and the reasons for the changes. For ease of understanding, this section has been broken down into 4 key stages:

- Stage B1 – Inpatient Ward Block Enabling Works
- Stage B2 – Inpatient Ward Block Construction
- Stage B3 – Acute Services Block Construction
- Stage B4 – Retained estate conversion works and demolition of existing Main Ward Block

4.5 Phase B1 - Inpatient Ward Block Enabling Works

Phase B1 Capital Costs

Costs	**Approved costs (£000)**	**Updated Costs (£000)**	**Increase / (Decrease)**
multistorey carpark	1,345,058.01	1,345,058.01	-
preenabling works	1,072.7	1,072.7	-
enabling works	5,701.3	5,701.3	-
Fees	1,110.5	1,110.5	-
Total	**9,229.5**	**9,229.5**	**-**

4.5.1 As can be seen in table above, Stage B1 was completed within the approved funding

4.6 Phase B2 - Inpatient Ward Block Construction

Phase B2 Capital Costs

Costs	Approved costs (£000)	Updated costs (£000)
Construction	80,390	86,008.7
OB	3,000	0
Art	88	88
ICT	3,699.7	3,814.7
Office works	600	0
Fees	14,294.2	15,007.2
non-works costs	2,670.9	2,735.9
Equipment	7,475.9	6,599.4
Phase B2 a - EWB works	750	250
Total	**112,968.69**	**114,503.83**

4.6.1 The table above demonstrates that the Inpatient Ward Block required a net additionality of £1.535m. The main reasons for this additionality are explained in the table below

Costs	Overspend (£000)	Notes
Construction Works		
Agreed Final Account with GBHP	320.1	Due to regulatory changes, clinical standards and building control standards required post design completion e.g lighting levels, M&E changes and ceiling and door changes required to achieve building control certification
Generator Flues- moved to external location	400	Due to health and safety issues, these needed to be moved, this could not have been anticipated at design stage.
Vertical fire cavity barrier rectification	655	Due to recent developments around fire insulations/ cladding.
Extension of fences	160	Fencing height had to be extended due to patient safety concerns mainly related to the proximity of the inpatient mental health inpatient area.
Total	**1535.1**	

4.7 Phase B3 – Acute Services Block Construction

4.7.1 The total capital cost requirement for the Phase B3 is set out in the table below

	Approved costs (£000)	**Updated costs (£000)**
Enabling works & Interim Mortuary	2,040.4	1,893.4
Decentralisation	1,915.3	0
Construction	94,266.1	104,500
Construction enabling Phase 1	836.3	883.7
OB	4,000	125
Art	95	95
ICT	3,596.2	3,506.3
Laundry	2,376.19	2,486
Equipment	10,796.8	11,633.2
Fees	10,658.58	11,839.3
Non Works Cost	389.1	324.1
Total	**130,970**	**137,285.9**

4.7.2 The above table demonstrates that the Acute Services Block is currently estimated to require an additional £6.3m on top of the current approved amount. The key reasons for this increase are outlined in the table below:

4.7.3

Area	Cost Increase £000	Reason for Change
Statutory / regulatory / legislative Changes		
Communications and Alarms	438	Fire Strategy Report required changes to critical alarms, emergency voice communications systems due to the BS 7846:2009 update to BS 7846:2015.
Architecture	361.8	Architectural changes including external pathways required for DDI access externally via wheelchair to ED.
Ventilation Issues	462.5	Changes associated with regulatory changes such as compliance with ErP regulations (energy efficiency).
Post Grenfell/ Fire Requirements	2527.4	Review following Grenfell. Changes required to: Fire cavity barrier Plantroom cladding Fire Glazing Review Shutters Envelope insulation (allowance of 1500)
Drainage	398	Second pump within nuclear medicine as backup for H&S Strom line Rain foul
Clinical Need/ HTM/ Other Requirement		
Lessons Learned from other Trust schemes	455	MRI Chillers Chilled water schematic Changes to sanitary ware ie bedpan washer

Finishes specification	418	Changes to add resilience including: Lead-lining Additional protection to high risk areas Changes to doors
M&E changes	711.2	M&E changes including: • Endoscopy reprocessing • Resus pendants • Domestic water
Clinical Developments	385	Radiology fully developed area
Risk allowance	159	Allowance for any additional unforeseen issues which may arise in remainder of project.
Total	**6315.9**	

4.7.4 The table above demonstrates that over £4.6m of the additional costs forecasted are due to Statutory / regulatory or legislative changes which have occurred since the original approvals.

4.7.5 By the end of the current stage in construction, phase B3, the Acute Services Block, the Trust will require £430k on top of the current approved amount of £260.588m. The Trust would be unable to progress the project to stage B4 as envisaged within the current approved capital, therefore this option has been included in this addendum (option 3).

4.7.6 Therefore the Trust requires an updated approval amount of £260,989,577 in order to finish the Acute Services Block.

4.8 Project Management Costs

4.8.1 The project management costs for the Ulster Hospital Phase B Redevelopment project were included in the 2009 OBC.

4.8.2 These costs were not updated in either the 2012 or 2015 addendums.

4.8.3 The table below details the Project management costs which were approved as part of the January 2010 approval.

Year	Cost (£)
1	466,000
2	660,000
3	660,000
4	660,000
5	660,000
6	353,000
7	353,000
Total	**3,812,000**

4.8.4 By 31 March 2016, the Trust had incurred the following expenditure against these approvals

Year	Task	Cost (£)
1 – 2010/11	Planning for both blocks as per 2009 OBC	£673,639
2 – 2011/ 12	Planning for both blocks and preparing 2012 addendum	538,264
3 – 2012/13	Preparing new separate contract for Inpatient Ward Block / redesign of Acute Services Block	668,685
4 – 2013/14	Start on-site with Inpatient Ward Block / design of Acute Services Block	754,430
5 – 2014/15	Manage Inpatient Ward Block on-site / finalise design of Acute Services Block	793,115
6 – 2015/16	Complete addendum for prolongation / manage Inpatient Ward Block on-site	362,438
TOTAL		**3,790,571**

4.8.5 In May 2017, the Trust submitted a paper entitled a paper detailing the Ulster Hospital Phase B Project Management costs required to support the Ulster Hospital Phase B Redevelopment to completion.

4.8.6 This paper outlined a request for additional project management costs to complete the project of £3,770,274.

4.8.7 On 6 September 2017, the Trust received DOH approval for £2.5m Trust project management costs

4.8.8 The table below outlines the approved funding by year and expenditure to date:

Year	Approved funding (£000)	Expenditure (£000)
2016/17	580	580
2017/18	520	520
2018/19	530	530
2019/20	540	
2020/21	250	
2021/22	80	
Total	2500	1630

4.8.9 Trust Project Management costs for all do something options are included within the additional capital requirements outlined in section 4.9 and are detailed in the OB forms at appendix 1.

4.8.10 CPD project management costs for each of the do something options are also included in the capital costs outlined for each of the do something options and are detailed in the OB forms at appendix 1.

4.9 Capital Costs of Options

4.9.1 OB forms detailing the full capital costs for all do something options are included at appendix 1.

4.9.2 The capital costs outlined for all do something options are the additional capital required on-top of the baseline costs of £260,989,577.

4.9.3 A table summarising the capital costs of all options is provided below:

Option	Additional Capital Costs Required
1	431,577
2a	14,969,376
2b	15,425,103
2c	16,197,059
3	24,930,753
4	54,541,935
5	36,776,393

4.10 Revenue Update

4.10.1 This section of the addendum provides an update of the updated revenue costs revenue costs for a 'like for like' transfer of services to the Acute Services Block.

4.10.2 The Revenue Costs for level 6 of the Acute Services Block to provide 53 beds has been detailed separately.

4.11 'Like for Like' Transfer

4.11.1 The HSCB were provided with the recurrent revenue estimates for a 'like for like' transfer excluding service developments for the preferred option for within the 2015 addendum.

4.11.2 The revenue costs included for the Acute Services Block were £7,646,912

4.11.3 The Trust has updated these costs in the tables below.

4.11.4 It should be noted that the clinical cost assumptions within this table are very high level. The non-clinical costs are accurate

Clinical costs	£'000
Nursing	2089
Radiology	846
Medical Equipment Maintenance	400
Emergency Department	500

Other Clinical Staff	246
Total	**4082**

Non- Clinical costs	**£'000**
Patient Experience	3674
Estates	2962
ICT	436
Total	**7072**

Total Requirement ('000)	**11,154**

4.11.5 The total additional revenue required for a 'like for like' transfer of services to the Acute Services Block is therefore **£11,154,000.**

4.12 Level 6 revenue costs for 53 inpatients beds

4.12.1 The total recurrent revenue required to provide 53 inpatient beds on level 6 is £9,872,893. See appendix 2 for breakdown.

4.13 Objectives Update

4.13.1 The Trust has reviewed the objectives for project to evaluate what impact the status quo option would have, considering Phase B4 would not be progressed.

4.13.2 The objectives for the project were:

1. To ensure that the Ulster Hospital provides services, which are clinically effective over the long term i.e. 25 years
2. To ensure that the Ulster Hospital can respond to the demand for its inpatient; day case and outpatient services
3. To maximise access to District General Hospital services for its local population
4. To facilitate the provision of services in a high quality environment which is 'fit for purpose' for staff, patients and visitors
5. To deliver services, which meet Regional priorities and the objectives of the Trust's main commissioner
6. To ensure that the hospital is developed in such a way as to maximise performance and improve efficiency.
7. To ensure that secondary care services facilitate joint planning in the development of appropriate services in a community setting

4.13.3 To finish the project at stage B3, would have a minimal impact on the following objectives:

- objective 4, clinical support staff would have the admin base retained within the existing main ward block which would be 'fit for purpose', would not be defined as a 'high quality environment';
- objective 6, the retention of a category Dx facility would impact on the overall site performance and efficiency.

4.13.4 It is the Trust view that over 95% of the objectives of the original project would be achieved by the end of Phase B3.

4.13.5 The Benefits Realisation Plan for the project was updated in 2012, to ascertain the impact that phasing the project would have on the realisation of the benefits outlined in the 2009 case. It was noted that 100% of the benefits would be realised upon commissioning of the Acute Services Block. The only benefit which would be impacted is:

- 100% single bedrooms

The status quo option facilitates 488 inpatient beds within the Phase B accommodation, 53 beds would remain within the existing Main Ward Block and 20 beds within the retained estate (Neely Ward), therefore the status quo option delivers 87% single bedroom accommodation at the Ulster Hospital Site.

5 FINANCIAL AFFORDABILITY

5.1 Summary

5.1.1 A summary of the financial affordability is provided in the table below, the full detail can be found in appendix 3.

	Non-Optimism Bias	Optimism Bias	NPC Ranking	Non-financial Benefit Scores	NPC Per Benefit Point	Final Rankings
	NPC	NPC				
	£	£			£	
Option 1 – Status Quo	1,248,826,721	1,248,826,721	2	245	5,097,251.92	7
Option 2a	1,423,713,350	1,424,632,150	6	645	2,208,732.02	4
Option 2b	1,412,206,766	1,413,146,918	4	630	2,243,090.35	5
Option 2c	1,425,287,034	1,426,286,559	7	730	1,953,817.20	2
Option 3	1,202,849,289	1,204,357,200	1	415	2,902,065.54	6
Option 4	1,388,624,146	1,392,266,183	3	970	1,435,325.96	1
Option 5	1,414,997,607	1,417,855,956	5	680	2,085,082.29	3

5.1.2 This table clearly demonstrates that option 4 is the Trust's preferred option.

6 CONCLUSION

The Trust is requesting approval from DOH for:

- an additional £431,577 capital funding to complete Phase B3 of the Ulster Hospital Phase B Redevelopment, the Acute Services Block
- an additional £54,541,935 to complete the Ulster Hospital Phase B Redevelopment including the demolition of the Existing Main Ward Block via the preferred option 4.

The total additional net capital allocation required to complete the Phase B Redevelopment project is **£54.97m**.